

CHABOT-LAS POSITAS COMMUNITY COLLEGE DISTRICT

**INVITATION FOR BID
FOR BID NO.: B22/23-04**

**LANDSCAPE RENOVATION PROJECT
AT
LAS POSITAS COLLEGE**

Bids Due:

March 1, 2023 at 2:00 PM



Return Bids To: Marie Hampton, Purchasing and Warehouse Manager

**District Office
Purchasing & Warehouse Services Department
Attn: Marie Hampton
7600 Dublin Blvd., 3rd Floor
Dublin, CA 94568**

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NOTICE TO APPROVED CONTRACTORS, CALLING FOR BIDS

DISTRICT	CHABOT-LAS POSITAS COMMUNITY COLLEGE DISTRICT
PROJECT DESCRIPTION	BID NO.: B22/23-04 Landscape Renovation Project
LATEST TIME/DATE FOR RFI'S SUBMITTALS	February 14, 2023 at 4:00 PM
LATEST TIME/DATE FOR SUBMISSION OF BIDS PROPOSALS	March 1, 2023 at 2:00 PM
LOCATION FOR SUBMISSION OF BID PROPOSALS	Chabot-Las Positas Community College District 7600 Dublin Blvd., 3rd, Floor Dublin, CA 94568 Attn: Marie Hampton, Purchasing and Warehouse Manager

NOTICE IS HEREBY GIVEN that the above-named California Community College District, acting by and through its Board of Trustees, hereinafter "the District" will receive up to, but not later than the above-stated date and time, sealed Bid Proposals for the Contract for the Work of the Project generally described as: **BID NO.: B22/23-04 Landscape Renovation Project**

1. Submittal of Bid Proposals. All Bid Proposals shall be submitted on forms furnished by the District. Bid Proposals must conform with, and be responsive to, the Bid and Contract Documents, copies of which may be obtained from the District's website as set forth above. Only Bid Proposals submitted to the District at or prior to the date and time set forth above for the public opening and reading of Bid Proposals shall be considered.

2. Bid and Contract Documents. The Bid and Contract Documents are available at the District's website at: <http://www.clpccd.org/business/open.php> under Bid No. B22/23-04 Landscape Renovation Project.

3. Documents Accompanying Bid Proposal. Each Bid Proposal shall be accompanied by: (a) the required Bid Security; (b) Subcontractors List; (c) Non-Collusion Affidavit; (d) Certification of Pre-Bid Site Visit; and (e) Public Works Contractor Registration Certification Form. All information or responses of a Bidder in its Bid Proposal and other documents accompanying the Bid Proposal shall be complete, accurate and true; incomplete, inaccurate or untrue responses or information provided therein by a Bidder shall be grounds for the District to reject such Bidder's Bid Proposal for non-responsiveness.

4. Prevailing Wage Rates. Pursuant to California Labor Code §1773, the Director of the Department of Industrial Relations of the State of California has determined the generally prevailing rates of wages in the locality in which the Work is to be performed. Copies of these determinations, entitled "PREVAILING WAGE SCALE" are filed at the District's Administrative Offices located at 7600 Dublin Blvd., 3rd Floor, Dublin, CA 94568, and are available to any interested party upon request. Alternatively, prevailing wage rate classifications and determinations may be viewed and obtained by accessing the Division of Labor Standards Enforcement database at <http://www.dir.ca.gov/dirdatabases.html>. The

Contractor awarded the Contract for the Work shall post a copy of all applicable prevailing wage rates for the Work at conspicuous locations at the Site of the Work. The Contractor and all Subcontractors performing any portion of the Work shall pay not less than the applicable prevailing wage rate for the classification of labor provide by their respective workers in prosecution and execution of the Work.

5. Contractors License Classification. In accordance with the provisions of California Public Contract Code §3300, the District requires that Bidders possess the following classification(s) of California Contractors License A and/or B. Any Bidder not so duly and properly licensed shall be subject to all penalties imposed by law. No payment shall be made for work, labor, materials or services provided under the Contract for the Work unless and until the Registrar of Contractors verifies to the District that the Bidder awarded the Contract is properly and duly licensed to perform the Work.

6. Contract Time. The date(s) for completion of portions of the Work, if applicable, and for achieving Substantial Completion of the Work shall be achieved as set forth in the Special Conditions. Failure to complete designated portions of the Work within the time(s) established in the Special Conditions and/or failure to achieve Substantial Completion and Final Completion of the Work within the Contract Time established in the Special Conditions shall subject the Contractor to assessment of Liquidated Damages as set forth in the Special Conditions.

7. Labor Compliance Program (AB 1506). The District has established a Labor Compliance Program ("LCP") pursuant to Labor Code §1771.5. The Contractor awarded the Contract for the Work shall comply with the LCP and provisions of the Contract Documents relating to implementation, compliance with, and enforcement of the LCP. This project is subject to compliance monitoring and enforcement by the Department of Industrial Relations.

8. Bid Security. Each Bid Proposal shall be accompanied by Bid Security in an amount not less than ten percent (10%) of the maximum amount of the Bid Proposal, inclusive of any additive Alternate Bid Item(s). Failure of any Bid Proposal to be accompanied by Bid Security in the form and in the amount required shall render such Bid Proposal to be non-responsive and rejected by the District.

9. No Withdrawal of Bid Proposals. Bid Proposals shall not be withdrawn by any Bidder for a period of sixty (60) days after the opening of Bid Proposals. During this time, all Bidders shall guarantee prices quoted in their respective Bid Proposals.

10. Job-Walk. The District will conduct **one (1) Mandatory Job Walk**. Job walk will be held on **Wednesday, February 1, 2023, beginning at 10:00 AM. Bidders must attend the job walk.** Bidders are to meet at Las Positas College, 3000 Campus Hill Drive, Facilities Management Office Trailer, Conference Room 1, adjacent to Building 1300, Livermore, California 94551. **Bidders must attend the Site Walk to be eligible to participate in the bid.** Campus maps are available at www.laspositascollege.edu/. The Job and Site Walk is mandatory. If a Bid Proposal is submitted by a Bidder whose representative(s) did not attend the entirety of the Mandatory Job and Site Walk, such bid will be rejected by the District as being non-responsive.

11. Substitute Security. In accordance with the provisions of California Public Contract Code §22300, substitution of eligible and equivalent securities for any monies withheld by the District to ensure the Contractor's performance under the Contract will be permitted at the request and expense of the Contractor and in conformity with California Public Contract Code §22300. The foregoing notwithstanding, the Bidder to whom the Contract is awarded shall submit its written request to the District to permit the substitution of securities for retention under California Public Contract Code §22300 prior to the submission of its first Application for Progress Payment. The failure of such Bidder to make such written request to the District prior to submission of its first Application for Progress Payment shall be deemed a waiver of the Bidder's rights under California Public Contract Code §22300.

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

13. Award of Contract. The Contract for the Work, if awarded, will be by action of the District's Board of Trustees to the responsible and responsive Bidder submitting the lowest priced Bid Proposal. If Alternate Bid Items are included in the bidding, the lowest total priced Bid Proposal will be determined on the basis of the Base Bid Proposal (only) in accordance with the applicable provisions of the Instructions for Bidders.

CHABOT-LAS POSITAS COMMUNITY COLLEGE DISTRICT

Publication Dates:

**January 20, 2023
January 27, 2023**

ADVERTISEMENT

NOTICE IS HEREBY GIVEN that the Board of Trustees of the Chabot-Las Positas Community College District, State of California, hereby calls for bids – **Request for Proposals for Bid No.: B22/23-04 Landscape Renovation Project at Las Positas College.**

Bids are to be delivered to Ms. Marie Hampton, Manager of Purchasing and Warehouse Services or to Mr. Michael McClung, Buyer – Bond Program, at 7600 Dublin Blvd., 3rd Floor, Dublin, California 94568 until **Wednesday, March 1, 2023, by 2:00 P.M.** Faxed or emailed bids will not be accepted. Bids delivered by USPS, Fed Ex, or UPS are not guaranteed to be received by the Bond Buyer prior to submittal cut time.

All bids shall be submitted in sealed envelopes clearly marked on the outside “**RFP Bid No.: B22/23-04 Landscape Renovation Project at Las Positas College**”.

It is the bidder's responsibility to ensure delivery prior to 2:00PM Bid submission time on **Wednesday, March 1, 2023, by 2:00 P.M.** Please plan for time accordingly.

There will be a **Mandatory**, Pre-Bid Conference and Job Walk, **Wednesday, February 1, 2023 at 10:00AM** at the Las Positas College, Facilities Management Office, 3000 Campus Hill Drive California 94551. Bidders must attend the full Mandatory Job Walk. Bidders must be in attendance by 10:00AM and sign in by 10:15AM. Anyone late will not be allowed to bid. Bidders must attend the Campus Site Walk to be eligible to participate in the bid. The Campus map is available at : <https://map.concept3d.com/?id=1994#!ct/59651?s/>

Bid Documents will be available by **Friday, January 20, 2023**, at the Purchasing website at <http://districtazure.clpccd.org/business/open.php> (Adobe Reader is required for downloading document).

Inquiries regarding this bid should be directed to the Purchasing Department, Marie Hampton, Purchasing Manager, e-mail at mhampton@clpccd.org . Reference Bid No. **RFP Bid No.: B22/23-04 Landscape Renovation Project at Las Positas College** on all inquiries.

No contractor or subcontractor may be awarded a contract for public work on a public works project unless registered with the Department of Industrial Relations pursuant to Labor Code section 1725.5.

The Board of Trustees reserves the right to reject any and all bids and any and all items of such bids. This bid shall also be subject to any and all applicable laws, regulations and standards. This project is subject to compliance monitoring and enforcement by the Department of Industrial Relations.

For more information, please refer to the Purchasing Website at <http://districtazure.clpccd.org/business/purchasing.php>

Run Dates: January 20, 2023 and January 27, 2023

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INSTRUCTIONS FOR BIDDERS

1. **Preparation and Submittal of Bid Proposal.**
 - 1.1 **Bid Proposal Preparation.** All information required by the bid forms must be completely and accurately provided. Numbers shall be stated in both words and figures where so indicated in the bid forms; conflicts between a number stated in words and in figures are governed by the words. Partially completed Bid Proposals or Bid Proposals submitted on other than the bid forms included herein are non-responsive and will be rejected. Bid Proposals not conforming to these Instructions for Bidders and the Notice to Contractors Calling for Bids (“Call for Bids”) may be deemed non-responsive and rejected.
 - 1.2 **Bid Proposal Submittal.** Bid Proposals shall be submitted at the place designated in the Call for Bids in sealed envelopes bearing on the outside the Bidder’s name and address along with an identification of the Work for which the Bid Proposal is submitted. Bidders are solely responsible for timely submission of Bid Proposals to the District at the place designated in the Call for Bids.
 - 1.3 **Date and Time of Bid Proposal Submittal.** The District will place a clock (“the District Clock”) in a conspicuous location at the place designated for submittal of Bid Proposals. For purposes of determining the time that a Bid Proposal is submitted, the District Clock shall be controlling. 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.
2. **Bid Security.** 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) a Bid Bond, in the form and content attached hereto, 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 the percentage of the maximum amount of the Bid Proposal. 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 is in the form and content included herein and the Surety is an Admitted Surety Insurer under Code of Civil Procedure §995.120.
3. **Documents Accompanying Bid Proposal; Signatures.** The Bid Proposal must be submitted with: Bid Security, Subcontractors List, Statement of Qualifications, Certification of Pre-Bid Site Visit, Public Works Contractor Registration Certification Form and Non-Collusion Affidavit. The Bid Proposal, and the Non-Collusion Affidavit shall be executed by an individual duly authorized to execute the same on behalf of the Bidder.
4. **Modifications.** Changes to the bid forms which 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 actually received by the District prior to the scheduled closing time for receipt of Bid Proposals and the public opening thereof.
5. **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, interlineations 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 to be 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 a Bid Proposal as being non-responsive.

6. **Examination of Site and Contract Documents.** Each Bidder shall, at its sole cost and expense, inspect the Site and to 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.
7. **Withdrawal of Bid Proposal.** Any Bidder may withdraw its Bid Proposal by of written request actually 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 written notice of withdrawal of a submitted Bid Proposal received after the scheduled closing time for receipt of Bid Proposals or the District's public opening and reading of Bid Proposals shall not be considered by the District, nor effective to withdraw such Bid Proposal.
8. **Agreement and Bonds.** The Agreement which the successful Bidder, as Contractor, will be required to execute along with the forms and amounts of the Labor and Material 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.
9. **Interpretation of Drawings, Specifications or Contract Documents.** Any Bidder in doubt as to 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, a written request for an interpretation or correction thereof may be submitted to the District. It is the sole and exclusive responsibility of the Bidder to submit such request not less than three (3) 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 issued by the District or the Architect. A copy of any such addendum will be mailed, faxed, emailed or delivered to each Bidder receiving a set of the Contract Documents. 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.
10. **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.
11. **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 will render the Bid Proposal non-responsive.

12. Award of Contract.

- 12.1 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.
- 12.2 Award to Lowest Responsive and Responsible Bidder.** The award of the Contract, if made by the District through action of its Board of Trustees, will be to the responsible Bidder submitting the lowest priced responsive Bid Proposal on the basis of the Base Bid Proposal, in accordance with these Instructions for Bidders. The low bidder will be determined by the sum of Bid Line Items 1, 2 and 5 (Alternate 3).
- 12.3 Selection of Alternate Bid Items.** The selection of Alternate Bid Items for inclusion in the scope of the Work of the Contract to be awarded at the discretion of the District.
- 12.4 Alternate Bid Items Not Included in Award of Contract.** Bidders are referred to the provisions of the Contract Documents permitting the District, during performance of the Work, to add or delete from the scope of the Work any or all of the Alternate Bid Items with the cost or credit of the same being the amount(s) set forth by in the Alternate Bid Items Proposal.
- 12.5 Responsive Bid Proposal.** A responsive Bid Proposal shall mean a Bid Proposal which conforms, in all material respects, to the Bid and Contract Documents.
- 12.6 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, judgement, experience and efficiency of the Bidder; (iv) the quality of performance of the Bidder on previous contracts, by way of example only, the following information will be considered: (a) the administrative, consultant or other cost overruns incurred by the District on previous contracts with the Bidder; (b) the Bidder's compliance record with contract general conditions on other projects; (c) the submittal by the Bidder of excessive and/or unsubstantiated extra cost proposals and claims on other projects; (d) the Bidder's record for completion of work within the contract time and the Bidder's compliance with the scheduling and coordination requirements on other projects; (e) the Bidder's demonstrated cooperation with the District and other contractors on previous contracts; (f) whether the work performed and materials furnished on previous contracts was in accordance with the Contract Documents; (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 projects. The ability of a Bidder to provide the required bonds will not of itself demonstrate responsibility of the Bidder.

12.7 District Project Labor Agreement. N/A for this project.

13. Subcontractors.

13.1 Designation of Subcontractors; Subcontractors List. Each Bidder shall submit a list of its proposed Subcontractors for the proposed Work as required by the Subletting and Subcontracting Fair Practices Act (California Public Contract Code §§4100 et seq.) on the form furnished. The failure of any Bid Proposal to include all information required by the Subcontractors List will result in rejection of the Bid Proposal for non-responsiveness. Each Subcontractor shall maintain annual compliance with Senate Bill 854 and Workers Compensation/Employers Liability Insurance and Commercial General Liability Insurance as required by the Contract.

13.2 Work of Subcontractors. All Bidders refer 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. Dissemination of the Contract Documents to sub-bidders and dissemination of addenda issued during the bidding process is solely the responsibility of each Bidder.

13.3 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).

14. 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 the following certificate prior to performing any of the Work under the Contract:

"I am aware of the provisions of §3700 of the California Labor Code which require every employer to be insured against liability for worker's 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 the Contract."

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

15. Bid Security Return. The Bid Security of the three or more low Bidders, the number being solely at the discretion of the District, will be held by the District for ten (10) days after the period for which Bid Proposals must be held open (which is set forth in the Call for Bids) or until posting by the successful Bidder(s) of the bonds, certificates of insurance required and return of executed copies of the Agreement, whichever first occurs, at which time the Bid Security of such other Bidders will be returned to them.

16. Forfeiture of Bid Security. If the Bidder awarded the Contract fails or refuses to execute the Agreement within ten (10) 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 Bid Proposal or may call for new bids, in its sole and exclusive discretion.

17. **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, in accordance with the Contractors 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 Trustees. The required California Contractor's License classification(s) for the Work is/are set forth in the Call for Bids.
18. **Anti-Discrimination.** It is the policy of the District that there is 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.
19. **Bidder's Qualifications.** Each Bidder shall submit with its Bid Proposal the form of Statement of Bidder's Qualifications, which is included within the Contract Documents. All information required by Statement of Bidder's Qualifications shall be completely and fully provided. Any Bid Proposal not accompanied by the Statement of Bidder's Qualifications completed with all information required and bearing the signature of the Bidder's duly authorized representative under penalty of perjury will render the Bid Proposal non-responsive and rejected. If the District determines that any information provided by a Bidder in the Statement of Bidder's Qualifications is false or misleading, or is incomplete so as to be false or misleading, the District may reject the Bid Proposal submitted by such Bidder as being non-responsive.
20. **Job-Walk.** The District will conduct a Job-Walk at the time(s) and place(s) designated in the Call for Bids. The District may, in its sole and exclusive discretion, elect to conduct one or more Job-Walk(s) in addition to that set forth in the Call for Bids, in which event the District shall notify all Bidders who have theretofore obtained the Contract Documents pursuant to the Call for Bids of any such additional Job-Walk. If the District elects to conduct any Job-Walk in addition to that set forth in the Call for Bids, the District shall, in its notice of any such additional Job-Walk(s), indicate whether Bidders' attendance at such additional Job-Walk(s) is/are mandatory. 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. The District will reject the Bid Proposal of a Bidder who obtains the Bid and Contract Documents after the date of the Mandatory Job-Walks set forth in the Call for Bids unless a Job-Walk is requested by such Bidder and a Job-Walk is conducted by the District in accordance with the following provisions. The District may, in its sole and exclusive discretion, conduct such requested Job-Walk taking into consideration factors such as the time remaining prior to the scheduled opening of Bid Proposals. Any such requested Job Walk will be conducted only upon the requesting Bidder's agreement to reimburse the District for the actual and/or reasonable costs for the District's staff and its agents and representatives in arranging for and conducting such additional Job-Walk.
21. **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 issues the Notice of Intent to award the Contract pursuant to these Instructions for Bidders, all Bid

Proposals and other documents submitted in response to the Call for Bids become a matter of public record and shall be 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 information provided in response to the Statement of Qualifications. A Bidder that indiscriminately marks all or most of its Bid Proposal as exempt from disclosure as a public record, whether by the notations of "Trade Secret," "Confidential," "Proprietary," or otherwise, may result render the Bid Proposal non-responsive and rejected. The District is not liable or responsible for the disclosure of such records, including those exempt from disclosure if disclosure is deemed required by law, by an order of Court, or which occurs through inadvertence, mistake or negligence on the part of the District or its officers, employees or agents. At such time as Bid Proposals are deemed a matter of public record, pursuant to the above, any Bidder or other party shall be afforded access for inspection and/or copying of such Bid Proposals, by request made to the District in conformity with the California Access to Public Records Act, California Government Code §§6250, et. seq. 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.

22. **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.
23. **Public Works Contractor Registration Certificate.** Pursuant to California Senate Bill 854, the qualified Contractor shall be registered with the California's Department of Industrial Relations (DIR) and its subcontractors who intend to bid or perform work on any public works project, as defined under Labor Code Section 1720. The qualified Contractor shall sign and deliver to the District the form of Public Works Contractor Registration Certification included with the Contract Documents.
24. **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.
25. **Notice of Intent to Award Contract.** Following the public opening and reading of Bid Proposals, the District will issue a Notice of Intent to Award the Contract, identifying the Bidder to whom the District intends to award the Contract and the date/time/place of the District's Board of Trustees meeting at which award of the Contract will be considered.
26. **Bid Protest.** Any Bidder submitting a Bid Proposal to the District may file a protest of the District's intent to award the Contract provided that each and all of the following are complied with:
 - (i) The bid protest is in writing;

- (ii) The bid protest is filed and received by the District's Vice-Chancellor, Facilities Planning and Management not more than five (5) calendar days following the date of issuance of the District's Notice of Intent to Award the Contract; and
- (iii) The written bid protest sets forth, in detail, all grounds for the bid protest, including without limitation all facts, supporting documentation, legal authorities and argument in support of the grounds for the bid protest; any matters not set forth in the written bid protest shall be deemed waived. All factual contentions must be supported by competent, admissible and creditable evidence.

Any bid protest not conforming to the foregoing shall be rejected by the District as invalid. Provided that a bid protest is filed in strict conformity with the foregoing, the District's Vice-Chancellor, Facilities Planning and Management or such individual(s) as may be designated by him/her, shall review and evaluate the basis of the bid protest. Either, the District's Vice-Chancellor, Facilities Planning and Management or other individual designated by him/her shall provide the bidder submitting the bid protest with a written statement concurring with or denying the bid protest. The District's Board of Trustees will render a final determination and disposition of a bid protest by taking action to adopt, modify or reject the disposition of a bid protest as reflected in the written statement of the District's Vice-Chancellor, Facilities Planning and Management or his/her designee. Action by the District's Board of Trustees relative to a bid protest shall be final and not subject to appeal or reconsideration by the District's Vice-Chancellor, Facilities Planning and Management any other employee or officer of the District or the District's Board of Trustees. The rendition of a written statement by the District's Vice-Chancellor, Facilities Planning and Management (or his/her designee) and action by the District's Board of Trustees to adopt, modify or reject the disposition of the bid protest reflected in such written statement shall be express conditions precedent to the institution of any legal or equitable proceedings relative to the bidding process, the District's intent to award the Contract, the District's disposition of any bid protest or the District's decision to reject all Bid Proposals. In the event that any such legal or equitable proceedings are instituted and the District is named as a party thereto, the prevailing party(ies) shall recover from the other party(ies), as costs, all attorneys' fees and costs incurred in connection with any such proceeding, including any appeal arising therefrom.

End of Section

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SUBCONTRACTORS LIST

Bidder: _____

Address: _____

Telephone: _____

Fax: _____

Bidder's Authorized Representative: _____

PROJECT: BID NO.: **B22/23-04 LANDSCAPE RENOVATION PROJECT**

NAME OF SUBCONTRACTOR	BUSINESS LOCATION/ ADDRESS OF SUBCONTRACTOR	TRADE OR PORTION OF THE WORK

PHOTOCOPY THIS PAGE AS NECESSARY TO LIST ADDITIONAL SUBCONTRACTORS

In accordance with Public Contract Code §4104, General Contractors submitting bids on California public projects should submit subcontractors license numbers with all bids. Pursuant to California Senate Bill 854, any subcontractor(s) who intend to bid on any public works project must be registered with the California's Department of Industrial Relations (DIR).

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NON-COLLUSION AFFIDAVIT

STATE OF CALIFORNIA)
COUNTY OF _____)

PROJECT BID NO.: B22/23-04 LANDSCAPE RENOVATION PROJECT

I, _____, being first duly sworn, deposes and says that I
(Typed or Printed Name)
am the _____ of _____, the party
(Title) (Bidder Name)
submitting the foregoing Bid Proposal ("the Bidder"). In connection with the foregoing Bid Proposal, the undersigned declares, states and certifies that:

1. The Bid Proposal is not made in the interest of, or on behalf of, any undisclosed person, partnership, company, association, organization or corporation.
2. The Bid Proposal is genuine and not collusive or sham.
3. The bidder has not directly or indirectly induced or solicited any other bidder to put in a false or sham bid, and has not directly or indirectly colluded, conspired, connived, or agreed with any other bidder or anyone else to put in sham bid, or to refrain from bidding.
4. The bidder has not in any manner, directly or indirectly, sought by agreement, communication, or conference with anyone to fix the bid price, or that of any other bidder, or to fix any overhead, profit or cost element of the bid price or that of any other bidder, or to secure any advantage against the public body awarding the contract or of anyone interested in the proposed contract.
5. All statements contained in the Bid Proposal and related documents are true.
6. The bidder has not, directly or indirectly, submitted 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 person, corporation, partnership, company, association, organization, bid depository, or to any member or agent thereof to effectuate a collusive or sham bid.

Executed this ____ day of _____, 2023 at _____.
(City, County and State)

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

Signature

(Address)

Name Printed or Typed

(City, County and State)

(_____) _____
(Area Code and Telephone Number)

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BID BOND

KNOW ALL MEN BY THESE PRESENTS that we, _____, as Surety and _____, as Principal, are jointly and severally, along with their respective heirs, executors, administrators, successors and assigns, held and firmly bound unto **CHABOT-LAS POSITAS COMMUNITY COLLEGE DISTRICT**, hereinafter "the Obligee," for payment of the penal sum hereof in lawful money of the United States, as more particularly set forth herein.

THE CONDITION OF THIS OBLIGATION IS SUCH THAT:

WHEREAS, the Principal has submitted the accompanying Bid Proposal to the Obligee for the Work commonly described as the **BID NO.: B22/23-04 LANDSCAPE RENOVATION PROJECT**

WHEREAS, subject to the terms of this Bond, the Surety is firmly bound unto the Obligee in the penal sum of **ten percent (10%)** of the maximum amount of the Bid Proposal submitted by the Principal to the Obligee, as set forth above.

NOW THEREFORE, if the Principal shall not withdraw said Bid Proposal within the period specified therein after the opening of the same, or, if no period be specified, for sixty (60) days after opening of said Bid Proposal; and if the Principal is awarded the Contract, and shall within the period specified therefor, or if no period be specified, within five (5) days after the prescribed forms are presented to him for signature, enter into a written contract with the Obligee, in accordance with the Bid Proposal as accepted and give such bond(s) with good and sufficient surety or sureties, as may be required, for the faithful performance and proper fulfillment of such Contract and for the payment for labor and materials used for the performance of the Contract, or in the event of the withdrawal of said Bid Proposal within the period specified for the holding open of the Bid Proposal or the failure of the Principal to enter into such Contract and give such bonds within the time specified, if the Principal shall pay the Obligee the difference between the amount specified in said Bid Proposal and the amount for which the Obligee may procure the required Work and/or supplies, if the latter amount be in excess of the former, together with all costs incurred by the Obligee in again calling for Bids, then the above obligation shall be void and of no effect, otherwise to remain in full force and effect.

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, the Work to be performed thereunder, the Drawings or the Specifications accompanying the same, or any other portion of the Contract Documents shall in no way affect its obligations under this Bond, and it does hereby waive notice of any such change, extension of time, alteration or addition to the terms of said Contract, the Call for Bids, the Work, the Drawings or the Specifications, or any other portion of the Contract Documents.

In the event suit or other proceeding is brought upon this Bond by the Obligee, the Surety shall pay to the Obligee all costs, expenses and fees incurred by the Obligee in connection therewith, including without limitation, attorney's fees.

IN WITNESS WHEREOF, the Principal and Surety have executed this instrument this _____ day of _____, 2023 by their duly authorized agents or representatives.

(Principal's Corporate Seal)

(Principal Name)

By: _____

(Typed or Printed Name)

Title: _____

(Surety's Corporate Seal)

(Surety Name)

By: _____
(Signature of Surety)

(Attach Attorney-in-Fact Certificate)

(Typed or Printed Name)

() _____
(Area Code and Telephone Number of Attorney-in-Fact for Surety)

Contact name, address, telephone number and email address for notices to the Surety

(Contact Name)

(Address)

(Telephone)

(Email address)

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CERTIFICATION OF PRE-BID SITE VISIT

The Honorable Board of Trustees
Chabot-Las Positas Community College District
7600 Dublin Blvd., 3rd Floor
Dublin, California 94568

RE: BID NO.: **B22/23-04 LANDSCAPE RENOVATION PROJECT**

Ladies and Gentlemen:

In connection with submitting a Bid Proposal for the Work described as BID NO.: **B22/23-04 LANDSCAPE RENOVATION PROJECT** I visited the Site of the Work on Wednesday, February 1, 2023 at 10:00am

on behalf of _____
Bidder Name

to inspect the Site of the proposed work, which will be turned over to the Bidder, if awarded the Contract, in its present condition, with a representative of the Chabot-Las Positas Community College, in order to acquaint the Bidder with the proposed Work so that the Bidder fully understands the facilities, difficulties, and restrictions attendant to execution and completion of the Work. I have also reviewed on behalf of the Bidder, the as-built drawings and/or previous Contract Documents, site conditions and Bid Documents with District representatives and/or Construction Manager for the Project.

I certify all conditions provided for my review and their effect on the Work as called for in the Contract Documents are included and accounted for in the Bid Proposal amounts submitted to the District.

I understand that a Bidder who fails to submit this Certification of Pre-Bid Site Visit, fully executed, with the Bidder's Bid Proposal form, will result in rejection of the Bid Proposal for non-responsiveness.

Name of Bidder

Authorized Signatory

Address

Phone Number

Date

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BID PROPOSAL

TO: **CHABOT-LAS POSITAS COMMUNITY COLLEGE DISTRICT**, a California Community College District, acting by and through its Board of Trustees (“the District”).

FROM:

(Name of Bidder)
(Address)
(City, State, Zip Code)
(Telephone/Fax)
(E-Mail Address of Bidder’s Representative(s))
(Name(s) of Bidder’s Authorized Representative(s))

1. Bid Proposal

1.	Base Bid	\$
2.	Owner’s Non-Specified Allowance	\$ 100,000.00
3.	Add Alternate #1 - Stone Amphitheater	
4.	Add Alternate #2 – Labyrinth	
5.	Add Alternate #3 – Trees along sidewalk	
6.	Total Bid Amount (Sum of Lines 1 + 2 +5 (Alternate 3))	\$

1.1 Bid Proposal Amount. The undersigned Bidder proposes and agrees to perform the Contract including, without limitation, providing and furnishing any and all of the labor, materials, tools, equipment and services necessary to complete in a workmanlike manner all of the Work and other obligations required by the Contract Documents for the sum of _____ Dollars (\$ _____) (Line 6 of Table above). The Bidder confirms that it has checked all of the above figures and understands that neither the District nor any of its agents, employees or representatives shall be responsible for any errors or omissions on the part of the undersigned Bidder in preparing and submitting this Bid Proposal. The Bidder confirms that the bid proposal includes the Owner’s Non-Specified

Allowance in the amount of One Hundred Thousand Dollars and No Cents (\$100,000.00).

1.2 Owner’s Non-Specified Allowance. Bidder shall include in Bid Proposal the stipulated sum of **One Hundred Thousand Dollars and No Cents (\$100,000.00)** for non-specified work to be performed ONLY at the determination and direction of the District. Work performed at the determination and direction of the District under this Allowance shall be documented by Contractor and submitted to Construction Manager per the requirements specified in Article 9 of the General Conditions. Contractor shall include a separate line item in Contractor’s Schedule of Values as “Allowance” with the value of **One Hundred Thousand Dollars and No Cents (\$100,000.00)**. At closeout of Contract, any funds remaining in the Allowance shall be credited to Owner through a Change Order.

1.3 Acknowledgment of Bid Addenda. The Bidder confirms that this Bid Proposal incorporates and is inclusive of, all items or other matters contained in Bid Addenda issued by or on behalf of the District.

_____ **Addenda Nos.** _____ received, acknowledged
(initial) and incorporated into this Bid Proposal.

2. Documents Accompanying Bid. The Bidder has submitted with this Bid Proposal the following: (a) Bid Security; (b) Subcontractors List; (c) Statement of Qualifications; (d) Certification of Pre-Bid Site Visit; (e) Non-Collusion Affidavit; and (f) Public Works Contractor Registration Certification Form. The Bidder acknowledges that if this Bid Proposal and the foregoing documents are not fully in compliance with applicable requirements set forth in the Call for Bids, the Instructions for Bidders and in each of the foregoing documents, the Bid Proposal may be rejected as non-responsive.

3. Award of Contract. If the Bidder submitting this Bid Proposal is awarded the Contract, the undersigned will execute and deliver to the District the Contract in the form attached hereto within ten (10) days after notification of award of the Contract. Concurrently with delivery of the executed Agreement to the District, the Bidder awarded the Contract shall deliver to the District: (a) Certificates of Insurance evidencing all insurance coverages required under the Contract Documents; (b) the Performance Bond; (c) the Labor and Material Payment Bond; (d) the Certificate of Workers’ Compensation Insurance; and (e) the Drug-Free Workplace Certificate. Failure of the Bidder awarded the Contract to strictly comply with the preceding may result in the District’s rescission of the award of the Contract and/or forfeiture of the Bidder’s Bid Security. In such event, the District may, in its sole and exclusive discretion elect to award the Contract to the responsible Bidder submitting the next lowest Bid Proposal, or to reject all Bid Proposals.

4. Contractor's License. The undersigned Bidder is currently and duly licensed in accordance with the California Contractors License Law, California Business & Professions Code §§7000 et seq., under the following classification(s) _____ bearing License Number(s) _____, with expiration date(s) of _____. The Bidder certifies that: (a) it is duly licensed, in the necessary class(es), for performing the Work of the Contract Documents; (b) that such license shall be in full force and effect throughout the duration of the performance of the Work under the Contract Documents; and (c) that all Subcontractors providing or performing any portion of the Work shall be so properly licensed to perform or provide such portion of the Work.

5. Acknowledgment and Confirmation. The undersigned Bidder acknowledges its receipt, review and understanding of the Drawings, the Specifications and other Contract Documents

pertaining to the proposed Work. The undersigned Bidder certifies that the Contract Documents are, in its opinion, adequate, feasible and complete for providing, performing and constructing the Work in a sound and suitable manner for the use specified and intended by the Contract Documents. The undersigned Bidder certifies that it has, or has available, all necessary equipment, personnel, materials, facilities and technical and financial ability to complete the Work for the amount bid herein within the Contract Time and in accordance with the Contract Documents.

By: _____

(Signature)

(Corporate Seal)

(Typed or Printed Name)

Title: _____

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AGREEMENT

THIS AGREEMENT is made this ____ day of _____, 2023, in the City of Dublin, County of Alameda, State of California, by and between **CHABOT-LAS POSITAS COMMUNITY COLLEGE DISTRICT**, a California Community College District hereinafter "District" and _____ ("Contractor") doing business at _____.

WITNESSETH, that the District and the Contractor in consideration of the mutual covenants contained herein agree as follows:

The Work. Within the Contract Time and for the Contract Price, subject to adjustments thereto pursuant to the Contract Documents, the Contractor shall perform and provide all necessary labor, materials, tools, equipment, utilities, services and transportation to complete in a workmanlike manner all of the Work required in connection with the work of improvement commonly referred to as **BID NO.: B22/23-04 LANDSCAPE RENOVATION PROJECT**

1. Contractor shall complete all Work covered by the Contract Documents, including without limitation, the Drawings and Specifications prepared by Catalyst Consulting Group and other Contract Documents enumerated in Article 5 below, along with all modifications and addenda thereto issued in accordance with the Contract Documents.
2. **Contract Time.** The Work shall be commenced on the date stated in the District's Notice to Proceed; the Contractor shall achieve Substantial Completion of the Work within the Contract Time set forth in the Contract Documents.
3. **Contract Price.** The District shall pay the Contractor as full consideration for the Contractor's full, complete and faithful performance of the Contractor's obligations under the Contract Documents, subject to adjustments of the Contract Price in accordance with the Contract Documents, the Contract Price of _____ Dollars (\$ _____), which includes the Owner's Non-Specified Allowance of \$100,000.00. The Contract Price is based upon the Contractor's Base Bid Proposal.

The District's payment of the Contract Price shall be in accordance with the Contract Documents.

4. **Liquidated Damages.** If the Contractor fails to achieve Substantial Completion of the Work within the Contract Time, including adjustments thereto authorized by the Contract Documents, the Contractor shall be subject to assessment of Liquidated Damages in accordance with the Contract Documents. Failure of the Contractor to complete Punchlist items noted upon Substantial Completion within the time established to complete the Punchlist items will result in the District's assessment of Liquidated Damages in accordance with the Contract Documents.
5. **The Contract Documents.** The documents forming a part of the Contract Documents consist of the following, all of which are component parts of the Contract Documents.

- | | |
|---|--------------------------------------|
| Notice to Approved Contractors For Bids | Statement of Bidder's Qualifications |
| Instructions For Bidders | Bid Bond |
| Bid Proposal | Bid Addenda Nos. _____ |
| Subcontractors List | Agreement |
| Non-Collusion Affidavit | Performance Bond |

Labor and Materials Payment Bond
Drug-Free Workplace Certification
Certificate of Workers Compensation
Insurance Certification
General Conditions
Special Conditions
Change Order Form
Asbestos and Other Hazardous Materials

Debris Recycling Statement
Project Labor Agreement
Certification of Pre-Bid Site Visit
Public Works Contractor Registration
Certification Form
Guarantee
Specifications
Drawings

6. **Authority to Execute.** The individual(s) executing this Agreement on behalf of the Contractor is/are duly and fully authorized to execute this Agreement on behalf of Contractor and to bind the Contractor to each and every term, condition and covenant of the Contract Documents.

CONTRACTORS ARE REQUIRED BY LAW TO BE LICENSED AND REGULATED BY THE CONTRACTORS' STATE LICENSE BOARD. ANY QUESTIONS CONCERNING A CONTRACTOR MAY BE REFERRED TO THE REGISTRAR, CONTRACTORS' STATE LICENSE BOARD, P.O. BOX 2600, SACRAMENTO, CALIFORNIA 95826

IN WITNESS WHEREOF, this Agreement has been duly executed by the District and the Contractor as of the date set forth above.

**“DISTRICT”
CHABOT-LAS POSITAS COMMUNITY
COLLEGE DISTRICT**

**“CONTRACTOR”
(CONTRACTOR NAME)**

By: _____
Date
Mr. Jonah Nicholas
Vice Chancellor, Business Services

By: _____
Date
Title:

(CORPORATE SEAL)

PERFORMANCE BOND

KNOW ALL MEN BY THESE PRESENTS that we, _____, as Principal, and _____ as Surety, are held and firmly bound unto **CHABOT-LAS POSITAS COMMUNITY COLLEGE DISTRICT** hereinafter "the Obligee", in the penal sum of _____ Dollars (\$_____) in lawful money of the United States, well and truly to be made, we bind ourselves, our heirs, executors, administrators, successors and assigns, jointly and severally.

THE CONDITION OF THIS OBLIGATION IS SUCH THAT:

WHEREAS, the Obligee, by resolution of its Board of Trustees has awarded to the Principal a Contract for the Work described as **BID NO.: B22/23-04 LANDSCAPE RENOVATION PROJECT**

WHEREAS, the Principal, has entered into an agreement with the Obligee for performance of the Work; the Agreement and all other Contract Documents set forth therein are incorporated herein and made a part hereof by this reference.

WHEREAS, by the terms of the Contract Documents, the Principal is required to furnish a bond ensuring the Principal's prompt, full and faithful performance of the Work of the Contract Documents.

NOW THEREFORE, if the Principal shall promptly, fully and faithfully perform each and all of the obligations and things to be done and performed by the Principal in strict accordance with the terms of the Contract Documents as they may be modified or amended from time to time; and if the Principal shall indemnify and save harmless the Obligee and all of its officers, agents and employees from any and all losses, liability and damages, claims, judgments, liens, costs, and fees of every description, which may be incurred by the Obligee by reason of the failure or default on the part of the Principal in the performance of any or all of the terms or the obligations of the Contract Documents, including all modifications, and amendments, thereto, and any warranties or guarantees required thereunder; then this obligation shall be void; otherwise, it shall be, and remain, in full force and effect.

The Surety, for value received, hereby stipulates and agrees that no change, adjustment of the Contract Time, adjustment of the Contract Price, alterations, deletions, additions, or any other modifications to the terms of the Contract Documents, the Work to be performed thereunder, or to the Specifications or the Drawings shall limit, restrict or otherwise impair Surety's obligations or Obligee's rights hereunder; Surety hereby waives notice from the Obligee of any such changes, adjustments of Contract Time, adjustments of Contract Price, alterations, deletions, additions or other modifications to the Contract Documents, the Work to be performed under the Contract Documents, or the Drawings or the Specifications.

In the event of the Obligee's termination of the Contract due to the Principal's breach or default of the Contract Documents, within thirty (30) days after written notice from the Obligee to the Surety of the Principal's breach or default of the Contract Documents and Obligee's termination of the Contract, the Surety shall notify Obligee in writing of Surety's assumption of obligations hereunder by its election to either remedy the default or breach of the Principal or to take charge of the Work of the Contract Documents and complete the Work at its own expense ("the Notice of Election"); provided, however, that the procedure by which the Surety undertakes to discharge its obligations under this Bond shall be subject to the advance written approval of the Obligee, which approval shall not be unreasonably withheld, limited or restricted. The insolvency of the Principal or the Principal's mere denial of a failure of performance or default under the Contract Documents shall not by itself, without the Surety's prompt,

diligent inquiry and investigation of such denial, be justification for Surety's failure to give the Notice of Election or for its failure to promptly remedy the failure of performance or default of the Principal or to complete the Work.

In the event the Surety shall fail to issue its Notice of Election to Obligee within the time provided for hereinabove, the Obligee may thereafter cause the cure or remedy of the Principal's failure of performance or default or to complete the Work. The Principal and the Surety shall be each jointly and severally liable to the Obligee for all damages and costs sustained by the Obligee as a result of the Principal's failure of performance under the Contract Documents or default in its performance of obligations thereunder, including without limitation the costs of cure or completion exceeding the then remaining balance of the Contract Price; provided that the Surety's liability hereunder for the costs of performance, damages and other costs sustained by the Obligee upon the Principal's failure of performance under or default under the Contract Documents shall be limited to the penal sum hereof, which shall be deemed to include the costs or value of any Changes to the Work which increases the Contract Price.

In the event suit or other proceeding is brought upon this Bond by the Obligee, the Surety shall pay to the Obligee all costs, expenses and fees incurred by the Obligee therewith, including without limitation, attorneys fees.

IN WITNESS WHEREOF, the Principal and Surety have executed this instrument this ____ day of _____, 2023 by their duly authorized agent or representative.

(Principal's Corporate Seal)

(Principal Name)

By: _____

(Typed or Printed Name)

Title: _____

(Surety's Corporate Seal)

(Surety Name)

By: _____
(Signature of Attorney-in-Fact for Surety)

(Attach Attorney-in-Fact Certificate)

(Typed or Printed Name)

() _____
(Area Code and Telephone Number of Attorney-in-Fact for Surety)

Contact name, address, telephone number and email address for notices to the Surety

(Contact Name)

(Address)

(Telephone)

(Email address)

LABOR AND MATERIAL PAYMENT BOND

KNOW ALL MEN BY THESE PRESENTS that we, _____ as Principal, and _____ as Surety, are held and firmly bound unto **CHABOT-LAS POSITAS COMMUNITY COLLEGE DISTRICT** hereinafter "the Obligee", in the penal sum of _____ Dollars (\$_____) in lawful money of the United States, well and truly to be made, we bind ourselves, our heirs, executors, administrators, successors and assigns, jointly and severally.

THE CONDITION OF THIS OBLIGATION IS SUCH THAT:

WHEREAS, the Obligee, by resolution of its Board of Trustees has awarded to the Principal a Contract for the Work described as **BID NO.: B22/23-04 LANDSCAPE RENOVATION PROJECT**

WHEREAS, the Principal, has entered into an Agreement with the Obligee for performance of the Work, the Agreement and all other Contract Documents set forth therein are incorporated herein by this reference and made a part hereof.

WHEREAS, by the terms of the Contract Documents, the Principal is required to furnish a bond for the prompt, full and faithful payment to any Claimant, as hereinafter defined, for all labor materials or services used, or reasonably required for use, in the performance of the Work.

NOW THEREFORE, if the Principal shall promptly, fully and faithfully make payment to any Claimant for all labor, materials or services used or reasonably required for use in the performance of the Work then this obligation shall be void; otherwise, it shall be, and remain, in full force and effect.

The term "Claimant" shall refer to any person, corporation, partnership, proprietorship or other entity including without limitation, all persons and entities described in California Civil Code §3181, providing or furnishing labor, materials or services used or reasonably required for use in the performance of the Work under the Contract Documents, without regard for whether such labor, materials or services were sold, leased or rented. This Bond shall inure to the benefit of all Claimants so as to give them, or their assigns and successors, a right of action upon this Bond.

In the event suit is brought on this Bond by any Claimant for amounts due such Claimant for labor, materials or services provided or furnished by such Claimant, the Surety shall pay for the same and reasonable attorneys fees pursuant to California Civil Code §3250.

The Surety, for value received, hereby stipulates and agrees that no change, extension of time, alteration, deletion, addition, or any other modification to the terms of the Contract Documents, the Work to be performed thereunder, the Specifications or the Drawings, or any other portion of the Contract Documents, shall in any way limit, restrict or otherwise affect its obligations under this Bond; the Surety hereby waives notice from the Obligee of any such change, extension of time, alteration, deletion, addition or other modification to the Contract Documents, the Work to be performed under the Contract Documents, the Drawings or the Specifications of any other portion of the Contract Documents.

IN WITNESS WHEREOF, the Principal and Surety have executed this instrument this _____ day of _____, 2023 by their duly authorized agent or representative.

(Principal's Corporate Seal)

(Principal Name)

By: _____
(Signature)

(Type or Print Name)

Title: _____

(Surety's Corporate Seal)

(Surety Name)

By: _____
(Signature of Attorney-in-Fact for Surety)

(Attach Attorney-in-Fact Certificate)

(Type or Print Name of Attorney-in-Fact)

() _____
(Area Code and Telephone Number of Attorney-in-Fact for Surety)

Contact name, address, telephone number and email address for notices to the Surety

(Contact Name)

(Address)

(Telephone)

(Email address)

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CERTIFICATE OF WORKERS' COMPENSATION INSURANCE

PROJECT: BID NO.: B22/23-04 LANDSCAPE RENOVATION PROJECT

I, _____ the _____ of
(Name) (Title)

_____, declare, state and certify that:
(Contractor Name)

1. I am aware that California Labor Code §3700(a) and (b) provides:

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

- (a) By being insured against liability to pay compensation in one or more insurers duly authorized to write compensation insurance in this state.
- (b) By securing from the Director of Industrial Relations a certificate of consent to self-insure either as an individual employer, or one employer in a group of employers, 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 or her employees.”

2. I am aware that the provisions of California Labor Code §3700 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 this Contract.

(Contractor Name)

By: _____
(Signature)

(Typed or printed name)

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DRUG-FREE WORKPLACE CERTIFICATION

PROJECT: BID NO.: B22/23-04 LANDSCAPE RENOVATION PROJECT

I, _____, am the _____ of
(Print Name) (Title)

_____. I declare, state and certify to all of the following:
(Contractor Name).

1. I am aware of the provisions and requirements of California Government Code §§8350 et seq., the Drug Free Workplace Act of 1990.
2. I am authorized to certify, and do certify, on behalf of Contractor that a drug free workplace will be provided by Contractor by doing all of the following:
 - A. Publishing a statement notifying employees that the unlawful manufacture, distribution, dispensation, possession or use of a controlled substance is prohibited in Contractor's workplace and specifying actions which will be taken against employees for violation of the prohibition;
 - B. Establishing a drug-free awareness program to inform employees about all of the following:
 - i. The dangers of drug abuse in the workplace;
 - ii. Contractor's policy of maintaining a drug-free workplace;
 - iii. The availability of drug counseling, rehabilitation and employee-assistance programs; and
 - iv. The penalties that may be imposed upon employees for drug abuse violations;
 - C. Requiring that each employee engaged in the performance of the Contract be given a copy of the statement required by subdivision (A), above, and that as a condition of employment by Contractor in connection with the Work of the Contract, the employee agrees to abide by the terms of the statement.
 - D. Contractor agrees to fulfill and discharge all of Contractor's obligations under the terms and requirements of California Government Code §8355 by, inter alia, publishing a statement notifying employees concerning: (a) the prohibition of any controlled substance in the workplace, (b) establishing a drug-free awareness program, and (c) requiring that each employee engaged in the performance of the Work of the Contract be given a copy of the statement required by California Government Code §8355(a) and requiring that the employee agree to abide by the terms of that statement.
3. Contractor and I understand that if the District determines that Contractor has either: (a) made a false certification herein, or (b) violated this certification by failing to carry out and to implement the requirements of California Government Code §§8355, the Contract awarded herein is subject to termination, suspension of payments, or both. Contractor and I further understand that, should Contractor violate the terms of the Drug-Free Workplace Act of 1990, Contractor may be subject to debarment in accordance with the provisions of California Government Code §§8350, et seq.
4. Contractor and I acknowledge that Contractor and I are aware of the provisions of California Government Code §§8350, et seq. and hereby certify that Contractor and I will adhere to, fulfill, satisfy and discharge all provisions of and obligations under the Drug-Free Workplace Act of 1990.

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

Executed at _____ this ____ day of _____, 2023
(City and State)

(Signature)

(Handwritten or Typed Name)

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GENERAL CONDITIONS

**GENERAL CONDITIONS
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GENERAL CONDITIONS

ARTICLE 1: DEFINITIONS; GENERAL

- 1.1 District.** The “District” refers to CHABOT-LAS POSITAS COMMUNITY COLLEGE DISTRICT and unless otherwise stated, includes the District's authorized representatives, including the Construction Manager, if a Construction Manager is designated, the District's Board of Trustees and the District’s officers, employees, agents and representatives.
- 1.2 Contractor.** The Contractor is the person or entity identified as such in the Agreement; references to “Contractor” include the Contractor's authorized representative.
- 1.3 Architect.** The Architect is the person or entity identified as such in the Agreement; references to the “Architect” include the Architect's authorized representative.
- 1.4 The Work.** The “Work” is the construction and services required by the Contract Documents, whether completed or partially completed, and includes all other labor, materials, equipment or services provided or to be provided by the Contractor to fulfill the Contractor's obligations under the Contract Documents. The Work may constitute the whole or a part of the Project.
- 1.5 The Project.** The Project is the total construction of which the Work performed by the Contractor under the Contract Documents which may be the whole or a part of the Project and which may include construction by the District or by separate contractors.
- 1.6 Surety.** The Surety is the person or entity that executes, as surety, the Contractor's Labor and Material Payment Bond and/or Performance Bond.
- 1.7 Subcontractors; Sub-Subcontractors.** A Subcontractor is a person or entity who has a direct contract with the Contractor to perform a portion of the Work. “Subcontractor” does not include a separate contractor to the District or subcontractors of any separate contractor. A Sub-Subcontractor is a person or entity of any tier, who has a direct or indirect contract with a Subcontractor to perform a portion of the Work at the site.
- 1.8 Material Supplier.** A Material Supplier is any person or entity who only furnishes materials, equipment or supplies for the Work without fabricating, installing or consuming them in the Work.
- 1.9 Drawings and Specifications.** The Drawings are the graphic and pictorial portions of the Contract Documents, wherever located and whenever issued, showing generally, the design, location and dimensions of the Work and may include without limitation, plans, elevations, sections, details, schedules or diagrams. The Specifications are that portion of the Contract Documents consisting of the written requirements for materials, equipment, construction systems, standards, criteria and workmanship for the Work and related services. The Drawings and Specifications are intended to delineate and describe the Work and its component parts so as to permit skilled and competent contractors to bid upon the Work and prosecute the same to completion. Large scale Drawings shall take precedence over smaller scale Drawings as to shape and details of construction. Figured dimensions on Drawings shall govern, but Work which is not dimensioned shall be as directed or required by field conditions. Specifications shall govern as to materials, workmanship and installation procedures.

1.10 Special Conditions; Supplemental Conditions. If made a part of the Contract Documents, Special Conditions and Supplemental Conditions are special or supplemental provisions, not otherwise provided for in the Agreement or the General Conditions.

1.11 Contract Documents. The Contract Documents consist of the Agreement between the District and the Contractor, Conditions of the Contract (whether General, Special, Supplemental or otherwise), Drawings, Specifications, including addenda thereto issued prior to execution of the Agreement and any other documents listed in the Agreement. The Contract Documents shall include modifications issued after execution of the Agreement. The Contract Documents form the Contract for Construction.

1.12 Intent and Correlation of Contract Documents.

1.12.1 Work of the Contract Documents. The intent of the Contract Documents is to include all items necessary for the proper execution and completion of the Work by the Contractor. The Contract Documents are complementary and what is required by one shall be as binding as if required by all; performance by the Contractor shall be required to the extent consistent with the Contract Documents and reasonably inferable therefrom as being necessary to produce the intended results. Organization of the Specifications into divisions, sections or articles, and the arrangement of Drawings shall not control the Contractor in dividing the Work among Subcontractors or in establishing the extent of Work to be performed by any trade. Where any portion of the Contract Documents is silent and information appears elsewhere in the Contract Documents, such other portions of the Contract Documents shall control.

1.12.2 Technical Terms. Unless otherwise stated in the Contract Documents, words or terms which have well-known technical or construction industry meanings are used in the Contract Documents in accordance with such recognized meanings.

1.12.3 Conflict in Contract Documents. Conflicts, inconsistencies or ambiguities in the Contract Documents shall be resolved by the Architect in accordance with Article 3.1.9 of the General Conditions; where conflicts or inconsistencies arise between the Drawings and the Specifications, in resolving such conflicts or inconsistencies, the Architect will be governed generally by the following standards: the Drawings are intended to describe matters relating to placement, type, quantity and the like; the Specifications are intended to describe matters relating to quality, materials, compositions, manufacturers and the like. If conflicts exist between portions of the Contract Documents regarding the quality of any item, product, equipment or materials, unless otherwise directed or authorized by the District, the Contractor shall provide the item, product, equipment or material of the highest or more stringent quality.

1.13 Shop Drawings; Samples; Product Data (“Submittals”). Shop Drawings are diagrams, schedules and other data specially prepared for the Work by the Contractor or a Subcontractor, Sub-Subcontractor, manufacturer, Material Supplier, or distributor to illustrate some portion of the Work. Samples are physical examples of materials, equipment or workmanship forming a part of, or to be incorporated into the Work. Product Data are illustrations, standard schedules, performance charts, instructions, brochures, diagrams and other information furnished by the Contractor to illustrate materials or equipment for some portion of the Work. Shop Drawings, Samples and Product Data prepared or furnished by the

Contractor or any of its Subcontractors or Material Suppliers are collectively referred to as "Submittals".

- 1.14 Division of State Architect ("DSA").** The DSA is the California Division of the State Architect including without limitation the DSA's Office of Construction Services, Office of Design Services and the Office of Regulatory Services; references to the DSA in the Contract Documents shall mean the DSA, its offices and its authorized employees and agents. The authority of the DSA over the Work and the performance thereof shall be as set forth in the Contract Documents and Title 24 of the California Code of Regulations.
- 1.15 Project Inspector.** The Project Inspector is the individual designated and employed by the District in accordance with the requirements of Title 24 of the California Code of Regulations. The Project Inspector shall be authorized to act on behalf of the District as provided for in the Contract Documents and in Title 24 of the California Code of Regulations, as the same may be amended from time to time.
- 1.16 Contract Document Terms.** The term "provide" means "provide complete in place" or to "furnish and install" such item. Unless otherwise provided in the Contract Documents, the terms "approved;" "directed;" "satisfactory;" "accepted;" "acceptable;" "proper;" "required;" "necessary" and "equal" shall mean as approved, directed, satisfactory, accepted, acceptable, proper, required, necessary and equal, in the opinion of the Architect. The term "typical" as used in the Drawings shall require the installation or furnishing of such item(s) of the Work designated as "typical" in all other areas similarly marked as "typical"; Work in such other areas shall conform to that shown as "typical" or as reasonably inferable therefrom.
- 1.17 Contractor's Superintendent.** The Contractor's Superintendent is the individual employed by the Contractor whose principal responsibility shall be the supervision and coordination of the Work; the Contractor's Superintendent shall not perform routine construction labor.
- 1.18 Record Drawings.** The Record Drawings are a set of the Drawings marked by the Contractor during the performance of the Work to indicate completely and accurately the actual as-built condition of the Work. The Record Drawings shall be sufficient for a capable and qualified drafter to modify the Drawings to reflect and indicate the Work actually in place at Final Completion of the Work.
- 1.19 Construction Manager.** The Construction Manager is an independent contractor retained by the District and is authorized and empowered to act on behalf of the District as set forth in the Contract Documents. The District reserves the right to remove or replace the Construction Manager prior to completion of the Work without adjustment of the Contract Price or the Contract Time or otherwise affect, limit or restrict Contractor's obligations hereunder.
- 1.20 Construction Equipment.** "Construction Equipment" is equipment utilized for the performance of any portion of the Work, but which is not incorporated into the Work.
- 1.21 Site.** The Site is the physical area designated in the Contract Documents for Contractor's performance, construction and installation of the Work.
- 1.22 Field Clarifications.** A written or graphic document consisting of supplementary details, instructions or information issued on behalf of the District which clarifies or supplements the Contract Documents and which becomes a part of the Contract Documents upon issuance. Field Clarifications do not constitute an adjustment of the Contract Time or the Contract Price,

unless a Change Order relating to a Field Clarification is authorized and issued under the Contract Documents.

- 1.23 Defective or Non-Conforming Work.** Defective or non-conforming Work is any Work which is unsatisfactory, faulty or deficient by: (a) not conforming to the requirements of the Contract Documents; (b) not conforming to the standards of workmanship of the applicable trade or industry; (c) not being in compliance with the requirements of any inspection, reference, standard, test, or approval required by the Contract Documents; or (d) damage occurring prior to Final Completion of all of the Work.
- 1.24 Delivery.** The term “delivery” used in conjunction with any equipment, materials or other items to be incorporated into the Work shall mean the unloading and storage in a protected condition pending incorporation into the Work.
- 1.25 Notice to Proceed.** The Notice to Proceed is the written notice issued by or on behalf of the District to the Contractor authorizing the Contractor to proceed with commencement of the Work and which establishes the date for commencement of the Contract Time.
- 1.26 Progress Reports; Verified Reports.** Progress Reports, if required, are written reports prepared by the Contractor and periodically submitted to the District in the form and content as required by the Contract Documents. Verified Reports are periodic written reports prepared by the Contractor and submitted to the DSA; Verified Reports shall be in such form and content as required by the applicable provisions of Title 24 of the California Code of Regulations. A material obligation of the Contractor is the preparation of complete and accurate Progress Reports, if required, and Verified Reports as well as the timely submission of the same.

ARTICLE 2: DISTRICT

2.1 Information Required of District.

- 2.1.1 Surveys; Site Information.** Information, if any, concerning physical characteristics of the Site, including without limitation, surveys, soils reports, and utility locations, to be provided by the District are set forth in the Contract Documents. Information not provided by the District or necessary information in addition to that provided by the District concerning physical characteristics of the Site which is required shall be obtained by Contractor without adjustment to the Contract Price or the Contract Time.
- 2.1.2 Permits; Fees.** Except as otherwise provided in the Contract Documents, the District shall secure and pay for necessary approvals, easements, assessments and charges required for construction, use or occupancy of permanent structures or for permanent changes in existing facilities which relate to the Work of the Contractor under the Contract Documents. If permits and fees are designated as the responsibility of the Contractor under the Contract Documents, the Contractor shall be solely responsible for obtaining the same; the cost of such permits or fees and any costs incurred by the Contractor in obtaining such permits shall be included within the Contract Price.
- 2.1.3 Drawings and Specifications.** Except as otherwise provided for in the Contract Documents, the District shall furnish the Contractor, free of charge, the number of copies of the Drawings and the Specifications as set forth in the Special Conditions. All of the Drawings and the Specifications provided by the District to the Contractor remain the property of the District; the Contractor shall not use the Drawings or the Specifications in

connection with any other work of improvement other than the Work of the Project.

2.1.4 Furnishing of Information. Information or services to be provided by the District under the Contract Documents shall be furnished by the District with reasonable promptness to avoid delay in the orderly progress of the Work. Information about existing conditions furnished by the District under the Contract Documents is obtained from sources believed to be reliable, but the District neither guarantees nor warrants that such information is complete and accurate. The Contractor shall verify all information provided by the District. To the extent that the Contract Documents depict existing conditions on or about the Site, or the Work involves the renovation, removal or remodeling of existing improvements or the Work involves any tie-in or other connection with any existing improvements, the conditions and/or existing improvements depicted in the Contract Documents are as they are believed to exist. Contractor shall bear the risk of any variations between conditions or existing improvements depicted in the Contract Documents and those conditions or existing improvements actually encountered in the performance of the Work. Subject to the provisions of Article 4.2.3, the existence of any variations between conditions or existing improvements depicted in the Contract Documents and those actually encountered in the performance of the Work shall not result in any District liability therefor, nor shall any such variations result in an adjustment of the Contract Time or the Contract Price.

2.2 District's Right to Stop the Work. In addition to the District's right to suspend the Work or terminate the Contract pursuant to the Contract Documents, the District, may, by written order, direct the Contractor to stop the Work, or any portion thereof, until the cause for such stop work order has been eliminated if the Contractor. If the Contractor fails within seven (7) days to correct Work which is not in conformity and in accordance with the requirements of the Contract Documents, or (ii) otherwise fails to carry out the Work in conformity and accordance with the Contract Documents, the District reserves the right to remedy such action. The right of the District to stop the Work hereunder shall not be deemed a duty on the part of the District to exercise such right for the benefit of the Contractor or any other person or entity, nor shall the District's exercise of such right waive or limit the exercise of any other right or remedy of the District under the Contract Documents or at law.

2.3 Partial Occupancy or Use.

2.3.1 District's Right to Partial Occupancy. The District may occupy or use any completed or partially completed portion of the Work, provided that: (i) the District has obtained the consent of, or is otherwise authorized by, public authorities with jurisdiction thereof, to so occupy or use such portion of the Work and (ii) the District and the Contractor have accepted, in writing, the responsibilities assigned to each of them for payments, retainage, if any, security, maintenance, utilities, damage to the Work, insurance and the period for correction of the Work and commencement of warranties required by the Contract Documents for such portion of the Work partially used or occupied by the District. If the Contractor and the District are unable to agree upon the matters set forth in (ii) above, the District may nevertheless use or occupy any portion of the Work, with the responsibility for such matters subject to resolution in accordance with the Contract Documents. Immediately prior to such partial occupancy or use of the Work, or portions thereof, the District, the Project Inspector, the Contractor and the Architect shall jointly inspect the portions of the Work to be occupied or to be used to determine and record the condition of the Work. Repairs, replacements or other corrective action noted in such inspection shall be promptly performed and completed by the Contractor so that the portion of the Work to

be occupied or used by the District is in conformity with the requirements of the Contract Documents and the District's occupancy or use thereof is not impaired. The District's use or occupancy of the Work or portions thereof pursuant to the preceding shall not be deemed "completion" of the Work as that term is used in Public Contract Code §7107.

2.3.2 No Acceptance of Defective or Nonconforming Work. Unless otherwise expressly agreed upon by the District and the Contractor, the District's partial occupancy or use of the Work or any portion thereof, shall not constitute the District's acceptance of the Work not complying with the requirements of the Contract Documents or which is otherwise defective.

2.4 The Project Inspector. In addition to the authority and rights of the Project Inspector as provided for elsewhere in the Contract Documents, all of the Work shall be performed under the observation of the Project Inspector. The performance of the duties of the Project Inspector under the Contract Documents shall not relieve or limit the Contractor's performance of its obligations under the Contract Documents.

2.4.1 Access to Work. The Contractor shall provide the Project Inspector with access to all parts of the Work at any time, wherever located and whether partially or completely fabricated, manufactured, furnished or installed. The Project Inspector shall have the authority to stop Work if the Work is not in conformity with the Contract Documents.

2.4.2 Limitations on Project Inspector. The Project Inspector does not have authority to interpret the Contract Documents or to modify the Work depicted in the Contract Documents. No Work inconsistent with the Contract Documents shall be performed solely on the basis of the direction of the Project Inspector, and the Contractor shall be liable to the District for the consequences of all Work performed on such basis.

ARTICLE 3: ARCHITECT; CONSTRUCTION MANAGER

3.1 Administration of the Contract.

3.1.1 Role of the Architect and Construction Manager. The Architect and the Construction Manager will provide administration of the Contract as described in the Contract Documents, and will be the District's representatives during construction until the time that Final Payment is due the Contractor under the Contract Documents. The Architect and Construction Manager will advise and consult with the District and the Project Inspector with respect to the administration of the Contract and the Work. The Architect is authorized to act on behalf of the District to the extent provided for in the Contract Documents; and shall have the responsibilities and powers established by law, including Title 24 of the California Code of Regulations. The Architect and Construction Manager are authorized to stop the Work whenever deemed necessary in the sole discretion of the Architect or the Construction Manager to insure that the Work is completed in accordance with the Contract Documents.

3.1.2 Architect's Periodic Site Visits. The Architect will visit the Site at intervals appropriate to the stage of construction to become generally familiar with the progress and quality of the completed Work and to determine, in general, if the Work is being performed in a manner indicating that the Work, when completed, will be in accordance with the Contract Documents. The Architect will not be required to make exhaustive or continuous Site inspections to check quality or quantity of the Work. On the basis of Site observations as

an architect, the Architect will keep the District informed of the progress of the Work, and will endeavor to guard the District against defects and deficiencies in the Work.

3.1.3 Contractor Responsibility for Construction Means, Methods and Sequences.

Neither the Architect or the Construction Manager will have control over or charge of and be responsible for construction means, methods, techniques, sequences or procedures, or for safety precautions and programs in connection with the Work, these being solely the Contractor's responsibility. Neither the Architect nor Construction Manager will have control over or charge of and be responsible for acts or omissions of the Contractor, Subcontractors, or their agents or employees, or of any other persons performing portions of the Work.

3.1.4 Review of Applications for Payment. In accordance with Article 8 hereof, the Architect and Construction Manager will review the Contractor's Applications for Progress Payments and for Final Payment, evaluate the extent of Work performed and the amount properly due the Contractor on such Application for Payment.

3.1.5 Rejection of Work. The Architect is authorized to reject Work which is defective or does not conform to the requirements of the Contract Documents. Whenever the Architect considers it necessary or advisable, for implementation of the intent of the Contract Documents, the Architect will have authority to require additional inspections or testing of the Work, whether or not such Work is fabricated, installed or completed. Neither this authority of the Architect nor a decision made in good faith by the Architect to exercise or not to exercise such authority shall give rise to a duty or responsibility to the Contractor, Subcontractors, Material Suppliers, their agents or employees, or other persons performing portions of the Work.

3.1.6 Submittals.

3.1.6.1 Processing of Submittals Through Construction Manager. Submittals required by the Contract Documents shall be prepared by or on behalf of the Contractor in accordance with the requirements of the Contract Documents. Submittals shall be transmitted by the Contractor to the Construction Manager for distribution by the Construction Manager to the Architect and the District. Upon completion of the Architect's review of a Submittal, the Construction Manager shall transmit the reviewed Submittal to the Contractor for the Contractor's distribution to its Subcontractor(s) and other affected parties.

3.1.6.2 Architect's Review. The Architect will review and approve or take other appropriate action upon the Contractor's Submittals, but only for the limited purpose of checking for general conformance with information given and the design concept expressed in the Contract Documents. Review of Submittals is not conducted for the purpose of determining the accuracy and completeness of other details such as dimensions and quantities, or for substantiating instructions for installation or performance of equipment or systems, all of which remain the responsibility of the Contractor as required by the Contract Documents. The Architect's review of the Contractor's Submittals shall not relieve the Contractor of its obligations under the Contract Documents. The Architect's review of Submittals shall not constitute approval of safety measures, programs or precautions or, unless otherwise specifically stated by the Architect, of any construction means, methods, techniques, sequences or procedures. The Architect's approval of a specific item in a Submittal

shall not indicate approval of an assembly of which the item is a component with the Submittal(s) required and relating to such assembly have been reviewed by the Architect.

3.1.6.3 Time for Architect's Review. The Architect's review of Submittals will be conducted promptly so as not to delay or hinder the progress of the Work or the activities of the Contractor, the District or the District's separate contractors while allowing sufficient time, in the Architect's reasonable professional judgment, to permit adequate review of Submittals. The foregoing notwithstanding, the Architect's review and return of Submittals will conform with the time limits and other conditions, if any, set forth in the Specifications or the Submittal Schedule if the Submittal Schedule is required by other provisions of the Contract Documents.

3.1.7 Changes to the Works. The Architect and Construction Manager will prepare Change Orders, and with the written approval of the District, may authorize minor Changes in the Work which do not result in adjustment of the Contract Time or the Contract Price.

3.1.8 Completion. The Architect will conduct observations to determine the date(s) of Substantial Completion and the date of Final Completion. The Construction Manager will assess and review, written warranties and related documents required by the Contract Documents and assembled by the Contractor, and will verify that the Contractor has complied with all requirements of the Contract Documents and forward to the District, recommendations to the District, the Contractor is entitled to receipt of Final Payment.

3.1.9 Interpretation of Contract Documents; Architect as Initial Arbiter of Disputes. The Architect will interpret and decide matters concerning the requirements of the Contract Documents on written request of either the District or the Contractor. The Architect's response to such requests will be made with reasonable promptness and within the time limits agreed upon, if any. If no agreement is reached establishing the time for the Architect's review and response to requests under this Article 3.1.9, the Architect shall be afforded a fifteen (15) day period after receipt of such request to review and respond thereto. Interpretations and decisions of the Architect will be consistent with the intent of and reasonably inferable from the Contract Documents and will be in writing or in the form of drawings. When making such interpretations and decisions, the Architect will endeavor to secure faithful performance by both the District and the Contractor, will not show partiality to either and will not be liable for results of interpretations or decisions so rendered in good faith. The Architect's decisions on matters relating to aesthetic effect will be final if consistent with the intent expressed in the Contract Documents. If there is any disagreement, dispute or other matter in controversy between the District and the Contractor, in addition to other requirements established by the Contract Documents or by law, the submission of the same to the Architect for its decision shall be a condition precedent to initiation of dispute resolution procedures.

3.1.10 Request for Information. If the Contractor encounters any condition which the Contractor believes, in good faith and with reasonable basis, is the result of an ambiguity, conflict, error or omission in the Contract Documents (collectively "the Conditions"), it shall be affirmative obligation of the Contractor to timely notify the Architect, in writing, of the Conditions encountered and to request information from the Architect necessary to address and resolve any such Conditions before proceeding with any portion of the Work affected or which may be affected by such Conditions. If the Contractor fails to timely notify the Architect in writing of any Conditions encountered and the Contractor proceeds to

perform any portion of the Work containing or affected by such Conditions the Contractor shall bear all costs associated with or required to correct, remove, or otherwise remedy any portion of the Work affected thereby without adjustment of the Contract Time or the Contract Price. In requesting information of the Architect to address and resolve any Conditions the Contractor shall act with promptness in submitting any such written request so as to allow the Architect a reasonable period of time to review, evaluate and respond to any such request, taking into account the then current status of the progress and completion of the Work and the actual or potential impact of any such Conditions upon the completion of the Work within the Contract Time. The Contract Time shall not be subject to adjustment in the event that the Contractor shall fail to timely request information from the Architect. The Architect's responses to any such Contractor request for information shall conform to the standards and time frame set forth in Article 3.1.9 of these General Conditions. The foregoing provisions notwithstanding, in the event that the Architect reasonably determines that any of Contractor's request(s) for information: (i) does not reflect adequate or competent supervision or coordination by the Contractor or any Subcontractor; or (ii) does not reflect the Contractor's adequate or competent knowledge of the requirements of the Work or the Contract Documents; or (iii) is not justified for any other reason, Contractor shall be liable to the District for all costs incurred by the District associated with the processing, reviewing, evaluating and responding to any such request for information, including without limitation, fees of the Architect and any other design consultant to the Architect or the District. In responding to any of Contractor's request(s) for information, the Architect shall, in the response, indicate if the Architect has made the determination pursuant to the preceding sentence and, if so, the amount of costs to be borne by the Contractor for the processing, review, evaluation and response to the request for information. Thereafter, the District is authorized to deduct such amount from any portion of the Contract Price then or thereafter due the Contractor.

3.1.11 Detail Drawings and Instructions.

3.1.11.1 Architect's Additional Details. In case of ambiguity, conflict, or lack of information, Architect shall furnish additional instructions by means of drawings or otherwise, necessary for proper execution of the Work. All such drawings and instructions shall be consistent with Contract Documents, true developments thereof, and reasonably inferable therefrom. Such additional instructions shall be furnished with reasonable promptness, but not more than fourteen (14) days, provided that Contractor informs Architect and District in writing of the relationship of the requested critical path of the Construction Schedule. Architect will furnish necessary additional details to more fully explain the Work, which details shall be deemed part of the Contract Documents.

3.1.11.2 Contractor Notice of Impacts. If the Contractor believes that detail drawings issued by the Architect reflects a change to the scope of work or additional work beyond that reflected in the Contract Documents or reasonably referable therefrom, the Contractor shall give written notice thereof to the Architect and Construction Manager for the District within five (5) days of the receipt of same. If the Contractor does not give the Architect and District such written notice within five (5) days, the details shall be deemed to be reasonable development of the Work depicted in the Contract Documents without adjustment of the Contract Time or the Contract Price. If notice is given by the Contractor, the Contractor shall set forth in detail the extent of Contract Price or Contract Time adjustments resulting from such details along with the basis upon which the requested Contract Time/Contract Price adjustment is

computed. The Architect/Construction Manager will review any such notice and request for adjustment of the Contract Time/Contract Price and render the Architect's decision in accordance with the Contract Documents.

- 3.2 Communications; Role of Construction Manager (CM) and Architect.** All communications regarding the Work, the performance thereof or the Contract Documents shall be in writing; verbal communications shall be reduced to writing. Communications between the Contractor and the District or the Architect shall be through the Construction Manager. Communications between separate contractors, if any, shall be through the Construction Manager. All written communications between the Contractor and any Subcontractor, Material Supplier or others directly or indirectly engaged by the Contractor to perform or provide any portion of the Work shall be available to the District, the Construction Manager and the Architect for review, inspection and reproduction as may be requested from time to time. Failure or refusal of the Contractor to permit the District, the Construction Manager or Architect to review, inspect or reproduce such written communications may be deemed a default of Contractor hereunder.
- 3.3 Termination of Architect or Construction Manager; Substitute Architect or Construction Manager.** In case of termination of employment of the Architect or the Construction Manager, the District shall appoint a substitute architect or substitute construction manager whose status under the Contract Documents shall be that of the Architect or the Construction Manager, as applicable.

ARTICLE 4: THE CONTRACTOR

4.1 Contractor Review of Contract Documents.

- 4.1.1 Examination of Contract Documents.** The Contractor shall carefully study and compare the Contract Documents with each other and with information furnished by the District pursuant to the Contract Documents and shall at once report to the Architect any errors, inconsistencies or omissions discovered. If the Contractor performs any Work knowing, or with reasonable diligence should have known that, it involves an error, inconsistency or omission in the Contract Documents without prior notice to the Architect of the same, the Contractor shall assume full responsibility for such performance and shall bear all attributable costs for correction of the same.
- 4.1.2 Field Measurements.** Prior to commencement of the Work, or portions thereof, the Contractor shall take field measurements and verify field conditions at the Site and shall carefully compare such field measurements and conditions and other information known to the Contractor with information provided in the Contract Documents. Errors, inconsistencies or omissions discovered shall be reported to the Architect at once.
- 4.1.3 Dimensions; Layouts and Field Engineering.** Unless otherwise expressly provided, dimensions indicated in the Drawings are intended for reference only. The Drawings are intended to be diagrammatic and schematic in nature; the Contractor shall be solely responsible for coordinating the Work of the Contract Documents. All field engineering required for laying out the Work and establishing grades for earthwork operations shall be by the Contractor at its expense. Any field engineering or other engineering to be provided or performed by the Contractor under the Contract Documents and required or necessary for the proper execution or installation of the Work shall be provided and performed by the an engineer duly registered under the laws of the State of California in the engineering

discipline for such portion of the Work. Upon commencement of any item of the Work, the Contractor is responsible for dimensions of such item of Work and related Work; without adjustment of the Contract Time or Contract Price, the Contractor is responsible for making component parts of the Work fit together properly.

4.1.4 Work in Accordance With Contract Documents. The Contractor shall perform all of the Work in strict conformity with the Contract Documents and approved Submittals.

4.2 Site Investigation; Subsurface Conditions.

4.2.1 Contractor Investigation. The Contractor shall be responsible for, and by executing the Agreement acknowledges, that it has carefully examined the Site and has taken all steps it deems reasonably necessary to ascertain all conditions which may effect the Work, or the cost thereof, including, without limitation, conditions bearing upon transportation, disposal, handling or storage of materials; availability of labor and materials; access to the Site; and the physical conditions and the character of equipment, materials, labor and services necessary to perform the Work. Any failure of the Contractor to do so will not relieve it from the responsibility for fully and completely performing all Work without adjustment to the Contract Price or the Contract Time. The District assumes no responsibility to the Contractor for any understandings or representations concerning conditions or characteristics of the Site, or the Work, made by any of its officers, employees or agents prior to the execution of the Agreement, unless such understandings or representations are expressly set forth in the Agreement.

4.2.2 Subsurface Data. By executing the Agreement, the Contractor acknowledges that it has examined the boring data and other subsurface data available and satisfied itself as to the character, quality and quantity of surface and subsurface materials, including without limitation, obstacles which may be encountered in performance of the Work, insofar as this information is reasonably ascertainable from an inspection of the Site, review of available subsurface data and analysis of information furnished by the District under the Contract Documents. Subsurface data or other soils investigation report provided by the District hereunder are not a part of the Contract Documents. Information contained in such data or report regarding subsurface conditions, elevations of existing grades, or below grade elevations are approximate only and is neither guaranteed or warranted by the District to be complete and accurate. The Contractor shall examine all boring and other subsurface data to make its own independent interpretation of the subsurface conditions and acknowledges that its bid is based upon its own opinion of the conditions which may be encountered.

4.2.3 Subsurface Conditions. If the Work under the Contract Documents involves digging trenches or other excavations that extend deeper than four feet below the surface, the Contractor shall promptly and before the following conditions are disturbed, notify the Project Inspector, in writing, of any: (i) material that the Contractor believes may be material that is hazardous waste, as defined in California Health and Safety Code §25117, that is required to be removed to a Class I or Class II or Class III disposal site in accordance with provisions of existing law; (ii) subsurface or latent physical conditions at the site differing from those indicated; or (iii) unknown physical conditions at the site of any unusual nature, different materially from those ordinarily encountered and generally recognized as inherent in the Work or the character provided for in the Contract Documents. If upon notice to the District of the conditions described above and upon the District's investigation thereof, the District determines that the conditions so materially differ or involve such hazardous

materials which require an adjustment to the Contract Price or the Contract Time, the District shall issue a Change Order in accordance with Article 9 hereof. In accordance with California Public Contract Code §7104, any dispute arising between the Contractor and the District as to any of the conditions listed in (i), (ii) or (iii) above, shall not excuse the Contractor from the completion of the Work within the Contract Time and the Contractor shall proceed with all Work to be performed under the Contract Documents. The District reserves the right to terminate the Contract pursuant to Article 15.2 hereof should the District determine not to proceed because of any condition described in (i), (ii) or (iii) above.

4.3 Supervision and Construction Procedures.

4.3.1 Supervision of the Work. The Contractor shall supervise and direct performance of the Work, using the Contractor's best skill and attention. The Contractor shall be solely responsible for, and have control over, construction means, methods, techniques, sequences and procedures and for coordinating all portions of the Work under the Contract Documents, unless Contract Documents give other specific instructions concerning these matters. The Contractor shall be responsible for inspection of completed or partially completed portions of Work to determine that such portions are in proper condition to receive subsequent Work.

4.3.2 Responsibility for the Work. The Contractor shall be responsible to the District for acts and omissions of the Contractor's employees, Subcontractors and their agents and employees, and all other persons performing any portion of the Work under a contract with the Contractor. The Contractor shall not be relieved of the obligation to perform the Work in accordance with the Contract Documents either by activities or duties of the Construction Manager, Project Inspector or the Architect in the Architect's administration of the Contract, or by tests, inspections or approvals required or performed by persons other than the Contractor.

4.3.3 Layouts. The Contractor is solely responsible for laying-out the Work so that construction of the Work conforms to the requirements of the Contract Documents and so that all component parts of the Work are coordinated. The Contractor shall be responsible for maintenance and preservation of benchmarks, reference points and stakes for the Work. The cost of maintenance and preservation of benchmarks, reference points and stakes shall be included within the Contract Price. The Contractor shall be solely responsible for all loss or costs resulting from the loss, destruction, disturbance or damage of benchmarks, reference points or stakes.

4.3.4 Construction Utilities. The District will furnish and pay the costs of utility services for the Work as set forth in the Special Conditions; all other utilities necessary to complete the Work and to completely perform all of the Contractors' obligations shall be obtained by the Contractor without adjustment of the Contract Price. The Contractor shall furnish and install necessary or appropriate temporary distributions of utilities, including utilities furnished by the District. Any such temporary distributions shall be removed by the Contractor upon completion of the Work. The costs of all such utility services, including the installation and removal of temporary distributions thereof, shall be borne by the Contractor and included in the Contract Price.

4.3.5 Existing Utilities; Removal, Relocation and Protection. In accordance with California Government Code §4215, the District shall assume the responsibility for the timely removal, relocation, or protection of existing main or trunkline utility facilities located

on the Site which are not identified in the Drawings, Specifications or other Contract Documents. Contractor shall be compensated for the costs of locating, repairing damage not due to the Contractor's failure to exercise reasonable care, and removing or relocating such utility facilities not indicated in the Drawings, Specifications and other Contract Documents with reasonable accuracy and for equipment on the Site necessarily idled during such work. Contractor shall not be assessed Liquidated Damages for delay in completion of the Work when such delay is caused by the failure of the District or the District of the utility to provide for removal or relocation of such utility facilities. Nothing in this Article 4.3.5 shall be deemed to require the District to indicate the presence of existing service laterals or appurtenances whenever the presence of such utilities on the Site can be inferred from the presence of other visible facilities, such as buildings, meters and junction boxes, on or adjacent to the Site. If the Contractor encounters utility facilities not identified by the District in the Drawings, Specifications, or other Contract Documents, the Contractor shall immediately notify, in writing, the District, the Project Inspector, the Architect, the Construction Manager and the utility owner. In the event that such utility facilities are owned by a public utility, the public utility shall have the sole discretion to perform repairs or relocation work or permit the Contractor to do such repairs or relocation work at a reasonable price.

4.3.6 Conferences and Meetings. A material obligation of the Contractor under the Contract Documents is the attendance at required meetings by the Contractor's supervisory personnel for the Work and the Contractor's management personnel as required by the Contract Documents or as requested by the District. The Contractor's personnel participating in conferences and meetings relating to the Work shall be authorized to act on behalf of the Contractor and to bind the Contractor. The Contractor is solely responsible for arranging for the attendance by Subcontractors, Material Suppliers at meetings and conferences relating to the Work as necessary, appropriate or as requested by the District.

4.3.6.1 Pre-Construction Conference. The Contractor's representatives (and representatives of Subcontractors as requested by the District) shall attend a Pre-Construction Conference at such time and place as designated by the District. The Pre-Construction Conference will generally address the requirements of the Work and Contract Documents, and to establish construction procedures. Subject matters of the Pre-Construction Conference will include as appropriate: (a) administrative matters, including an overview of the respective responsibilities of the District, Architect, Construction Manager, Contractor, Subcontractor, Project Inspector and others performing any part of the Work or services relating to the Work; (b) Submittals; (c) Changes and Change Order processing; (d) employment practices, including Certified Payroll preparation and submission and prevailing wage rate responsibilities of the Contractor and Subcontractors; (e) Progress Schedule development and maintenance; (f) development of Schedule of Values and payment procedures; (g) communication procedures, including the handling of Requests for Information; (h) emergency and safety procedures; (i) Site visitor policies; (j) conduct of Contractor/Subcontractor personnel at the Site; and (k) punchlist/close-out procedures.

4.3.6.2 Progress Meetings. Progress meetings will be conducted on regular intervals (weekly unless otherwise expressly indicated elsewhere in the Contract Documents). The Contractor's representatives and representatives of Subcontractors (as requested by the District) shall attend Progress Meetings. Progress Meetings will be

chaired by the Construction Manager and will generally include as agenda items: Site safety, field issues, coordination of Work, construction progress and impacts to timely completion, if any. The purposes of the Progress Meetings include: a formal and regular forum for discussion of the status and progress of the Work by all Project participants, a review of progress or resolution of previously raised issues and action items assigned to the Project participants, and reviews of the Progress Schedule and Submittals.

4.3.6.3 Special Meetings. As deemed necessary or appropriate by the District, Special Meetings will be conducted with the participation of the Contractor, Subcontractors and other Project participants as requested by the District.

4.3.6.4 Minutes of Meetings. Following conclusion of the Pre-Construction Conference, Progress Meetings and Special Meetings, the Construction Manager or Architect will prepare and distribute minutes reflecting the items addressed and actions taken at a meeting or conference. Unless the Contractor notifies the Architect and the Construction Manager in writing of objections or corrections to minutes prepared hereunder within five (5) dates of the date of distribution of the minutes, the minutes as distributed shall constitute the official record of the meeting or conference. No objections or corrections of any Subcontractor or Material Supplier shall be submitted directly to the Architect or the Construction Manager; such objections or corrections shall be submitted to the Architect and the Construction Manager through the Contractor. If the Contractor timely interposes objections or notes corrections, the resolution of such matters shall be addressed at the next scheduled Progress Meeting.

4.3.7 Temporary Sanitary Facilities. At all times during Work at the Site, the Contractor shall obtain and maintain temporary sanitary facilities in conformity with applicable law, rule or regulation. The Contractor shall maintain temporary sanitary facilities in a neat and clean manner with sufficient toilet room supplies. Personnel engaged in the Work are not permitted to use toilet facilities at the Site.

4.3.8 Noise and Dust Control.

4.3.8.1 Noise Control. The Contractor shall install noise reducing devices on construction equipment. Contractor shall comply with the requirements of the city and county having jurisdiction with regard to noise ordinances governing construction sites and activities. Construction Equipment noise at the Site shall be limited and only as permitted by applicable law, rule or regulation. If classes are in session at any point during the progress of the Work, and, in the District's reasonable discretion, the noise from any Work disrupts or disturbs the students or faculty or the normal operation of the college, at the District's request, the Contractor shall schedule the performance of all such Work around normal college hours or make other arrangements so that the Work does not cause such disruption or disturbance. In no event shall such arrangements result in adjustment of the Contract Price or the Contract Time.

4.3.8.2 Dust Control. The Contractor shall be fully and solely responsible for maintaining and upkeeping all areas of the Site and adjoining areas, outdoors and indoors, free from flying debris, grinding powder, sawdust, dirt and dust as well as any other product, product waste or work waste, that by becoming airborne may cause

respiratory inconveniences to persons, particularly to students and District personnel. Additionally, the Contractor shall take specific care to avoid deposits of airborne dust or airborne elements. Such protection devices, systems or methods shall be in accordance with the regulations set forth by the EPA and OSHA, and other applicable law, rule or regulation. Additionally, the Contractor shall be the sole party responsible to regularly and routinely clean up and remove any and all deposits of dust and other elements. Damage and/or any liability derived from the Contractor's failure to comply with these requirements shall be exclusively at the cost of the Contractor, including, without limitation, any and all penalties that may be incurred for violations of applicable law, rule or regulation, and any amounts expended by the District to pay such damages shall be due and payable to the District on demand. Contractor shall replace any damages property or part thereof and professionally clean any and all items that become covered or partially covered to any degree by dust or other airborne elements. If classes are in session at any point during the progress of Work, and, in the District's reasonable discretion, flying debris, grinding powder, sawdust, dirt or dust from any Work disrupts or disturbs the students or faculty or the normal operation of the college, at the District's request, the Contractor shall schedule the performance of all such Work around normal college hours and make other arrangements so that the Work does not cause such disruption or disturbance. In no event shall such arrangements result in adjustment of the Contract Price or the Contract Time.

4.3.8.3 Contractor Failure to Comply. If the Contractor fails to comply with the requirements for dust control, noise control, or any other maintenance or clean up requirement of the Contract Documents, upon notice from the District, Architect, Project Inspector or Construction Manager to the Contractor, the Contractor shall take immediate action. Should the Contractor fail to respond with immediate and responsive action and not later than twenty-four (24) hours from such notification, the District shall have the absolute right to proceed as it may deem necessary to remedy such matter. Any and all costs incurred by the District in connection with such actions shall be the sole responsibility of, and be borne by, the Contractor; the District may deduct such amounts from the Contract Price then or thereafter due the Contractor.

4.3.9 Debris Recycling; Contractor Submittal of Debris Recycling Statement. The Contractor and all Subcontractors shall maintain current, complete and accurate records of debris and other waste (collectively "Waste Materials") resulting from performance of the Work. The Contractor shall compile the records of the Contractor and all Subcontractors on a monthly basis. Based on such compilation, the Contractor shall, each month during performance of the Work, complete the form of Debris Recycling Statement (Attachment C to the Special Conditions) for itself and all Subcontractors performing Work at the Site. The Debris Recycling Statement must be executed by the Contractor's Superintendent, Construction Manager or other authorized employee; the completed/executed form of Debris Recycling Statement shall be submitted by the Contractor to the District each month during the Work concurrently with the Contractor's submission of its Applications for Progress Payment. During the Contract term, monthly records for each calendar year shall be compiled by the Contractor's Superintendent and submitted to the College's Project Manager, no later than January 15th of the following year.

4.4 Labor and Materials.

4.4.1 Payment for Labor, Materials and Services. Unless otherwise provided in the Contract Documents, the Contractor shall provide and pay for labor, materials, equipment, tools, Construction Equipment and machinery, water, heat, utilities, transportation, and other facilities and services necessary for proper execution and completion of the Work, whether temporary or permanent and whether or not incorporated in the Work.

4.4.2 Employee Discipline. The Contractor shall enforce strict discipline and good order among the Contractor's employees, the employees of any Subcontractor or Sub-subcontractor, and all other persons performing any part of the Work at the Site. The Contractor shall not permit employment of unfit persons or persons not skilled in tasks assigned to them. The Contractor shall dismiss from its employ and direct any Subcontractor or Sub-subcontractor to dismiss from their employment any person deemed by the District to be unfit or incompetent to perform Work and thereafter, the Contractor shall not employ nor permit the employment of such person for performance of any part of the Work without the prior written consent of the District, which consent may be withheld in the reasonable discretion of the District.

4.4.3 Contractor's Superintendent. Contractor shall employ a competent Superintendent who is fluent in spoken and written English along with necessary assistants who shall be in attendance at the Site at all times during the performance of Work at the Site. Before commencing the Work, Contractor shall designate in writing the name, qualifications, experience and references from owners and architects on previous projects for Contractor's proposed Superintendent who, on approval of District, shall have full authority to represent and act for Contractor. All directions given to the Superintendent shall be as binding as if given to Contractor. A facsimile of the signatures of the authorized representatives of Contractor shall be submitted to Architect and District. The Contractor's communications relating to the Work or the Contract Documents shall be through the Contractor's Superintendent. The Superintendent shall represent the Contractor and communications given to the Superintendent shall be binding as if given to the Contractor. The Contractor shall dismiss the Superintendent or any of his/her assistants if they are deemed, in the sole reasonable judgment of the District, to be unfit, incompetent or incapable of performing the functions assigned to them. In such event, the District shall have the right to approve of the replacement superintendent or assistant. Unless expressly excused by the District, the Contractor's Superintendent shall attend all Project meetings as the Contractor's representative.

4.4.4 Prohibition on Harassment.

4.4.4.1 District's Policy Prohibiting Harassment. The District is committed to providing a campus and workplace free of sexual harassment and harassment based on factors such as race, color religion, national origin, ancestry, age, medical condition, marital status, disability or veteran status. Harassment includes without limitation, verbal, physical or visual conduct which creates an intimidating, offensive or hostile environment such as racial slurs; ethnic jokes; posting of offensive statements, posters or cartoons or similar conduct. Sexual harassment includes without limitation the solicitation of sexual favors, unwelcome sexual advances, or other verbal, visual or physical conduct of a sexual nature.

4.4.4.2 Contractor's Adoption of Anti-Harassment Policy. Contractor shall adopt

and implement all appropriate and necessary policies prohibiting any form of discrimination in the workplace, including without limitation harassment on the basis of any classification protected under local, state or federal law, regulation or policy. Contractor shall take all reasonable steps to prevent harassment from occurring, including without limitation affirmatively raising the subject of harassment among its employees, expressing strong disapproval of any form of harassment, developing appropriate sanctions, informing employees of their right to raise and how to raise the issue of harassment and informing complainants of the outcome of an investigation into a harassment claim. Contractor shall require that any Subcontractor or Sub-subcontractor performing any portion of the Work to adopt and implement policies in conformity with this Article 4.4.4.

4.4.4.3 Prohibition on Harassment at the Site. Contractor shall not permit any person, whether employed by Contractor, a Subcontractor, Sub-subcontractor, or any other person or entity, performing any Work at or about the Site to engage in any prohibited form of harassment. Any such person engaging in a prohibited form of harassment directed to any individual performing or providing any portion of the Work at or about the Site shall be subject to appropriate sanctions in accordance with the anti-harassment policy adopted and implemented pursuant to Article 4.4.4.2 above. Any person, performing or providing Work on or about the Site engaging in a prohibited form of harassment directed to any student, faculty member or staff of the District or directed to any other person on or about the Site shall be subject to immediate removal and shall be prohibited thereafter from providing or performing any portion of the Work. Upon the District's receipt of any notice or complaint that any person employed directly or indirectly by Contractor in performing or providing the Work has engaged in a prohibited form of harassment, the District will promptly undertake an investigation of such notice or complaint. In the event that the District, after such investigation, reasonably determines that a prohibited form of harassment has occurred, the District shall promptly notify the Contractor of the same and direct that the person engaging in such conduct be immediately removed from the Site. Unless the District's determination that a prohibited form of harassment has occurred is grossly negligent or without reasonable cause, District shall have no liability for directing the removal of any person determined to have engaged in a prohibited form of harassment nor shall the Contract Price or the Contract Time be adjusted on account thereof. Contractor and the Surety shall defend, indemnify and hold harmless the District and its employees, officers, board of trustees, agents, and representatives from any and all claims, liabilities, judgments, awards, actions or causes of actions, including without limitation, attorneys' fees, which arise out of, or pertain in any manner to: (i) the assertion by any person dismissed from performing or providing work at the direction of the District pursuant to this Article 4.4.4.3; or (ii) the assertion by any person that any person directly or indirectly under the employment or direction of the Contractor has engaged in a prohibited form of harassment directed to or affecting such person. The obligations of the Contractor and the Surety under the preceding sentence are in addition to, and not in lieu of, any other obligation of defense, indemnity and hold harmless whether arising under the Contract Documents, at law or otherwise; these obligations survive completion of the Work or the termination of the Contract.

4.5 Taxes. The Contractor shall pay, without adjustment of the Contract Price, all sales, consumer, use and other taxes for the Work or portions thereof provided by the Contractor under the Contract Documents.

4.6 Permits, Fees and Notices; Compliance with Laws.

4.6.1 Payment of Permits, Fees. The District shall secure and pay for the building permits, other permits, governmental fees, licenses and inspections necessary or required for the proper execution and completion of the Work, except as otherwise provided in the Special Conditions. If permits/approvals are designated in the Special Conditions as the Contractor's responsibility, the Contractor shall obtain such permits/approvals at its sole cost and expense without adjustment of the Contract Price. Fees, costs or other expenses associated with or arising in connection with Deferred Approval Items shall be the responsibility of the Contractor without adjustment of the Contract Price.

4.6.2 Compliance With Laws. The Contractor shall comply with and give notices required by laws, ordinances, rules, regulations and other orders of public authorities bearing on performance of the Work.

4.6.3 Notice of Variation From Laws. If the Contractor knows, or has reason to believe, that any portion of the Contract Documents are at variance with applicable laws, statutes, ordinances, building codes, regulations or rules, the Contractor shall promptly notify the Architect, Construction Manager and the Project Inspector, in writing, of the same. If the Contractor performs Work knowing, or with reasonable diligence should have known, it to be contrary to laws, statutes, ordinances, building codes, rules or regulations applicable to the Work without such notice to the Architect and the Project Inspector, the Contractor shall assume full responsibility for such Work and shall bear the attributable costs arising or associated therefrom, including without limitation, the removal, replacement or correction of the same.

4.7 Submittals.

4.7.1 Purpose of Submittals. Shop Drawings, Product Data, Samples and similar submittals (collectively "Submittals") are not Contract Documents. The purpose for submission of Submittals is to demonstrate, for those portions of the Work for which Submittals are required, the manner in which the Contractor proposes to provide or incorporate such item of the Work in conformity with the information given and the design concept expressed in the Contract Documents.

4.7.2 Contractor's Submittals.

4.7.2.1 Prompt Submittals. The Contractor shall review, approve and submit to the Architect or such other person or entity designated by the District, the number of copies of Submittals required by the Contract Documents. All Submittals required by the Contract Documents shall be prepared, assembled and submitted by the Contractor to the Architect within the time frames set forth in the Submittal Schedule incorporated and made a part of the Approved Construction Schedule prepared and submitted by the Contractor pursuant to Article 7 of these General Conditions. Contractor's submission of Submittals in conformity with the Submittal Schedule is a material obligation of the Contractor. In the event of Contractor's failure or refusal to deliver Submittals to the Architect in accordance with the Submittal Schedule, the Contractor shall be subject to per diem assessments in the amount set forth in the Special Conditions for each day of delayed submission for any Submittal beyond the date set forth in the Submittal Schedule for Contractor's submission of such Submittal. Contractor and District acknowledge and agree that if Contractor shall fail to deliver

Submittals in accordance with the Submittal Schedule, the District will incur costs and expenses not contemplated by the Contract Documents, the exact amount of which are difficult to ascertain and fix. Contractor and the District acknowledge and agree that the per diem assessment for delayed submission of Submittals set forth in the Special Conditions represents a reasonable estimate of costs and expenses the District will incur as a result of delayed submission of Submittals and that the same is not a penalty. Notwithstanding Contractor's submission of all required Submittals in accordance with the Submittal Schedule, in the event that the District or the Architect reasonably determines that all or any portion of such Submittals fail to comply with the requirements of Articles 4.7.2.2, 4.7.2.3 and 4.7.2.4 of these General Conditions and/or such Submittals are not otherwise complete and accurate so as to require re-submission, Contractor shall bear all costs associated with the review and approval of the second resubmitted Submittals, including without limitation Architect's fees incurred in connection therewith; provided that such costs are in addition to, and not in lieu of, any per diem assessments imposed under this Article 4.7.2.1 for Contractor's delayed submission of Submittals. In the event of the District's imposition of the per diem assessments due to the Contractor's delayed submission of Submittals or in the event of the District's assessment of costs and expenses incurred to review incomplete or inaccurate Submittals, the District may deduct the same from any portion the Contract Price then or thereafter due the Contractor. Submittals not required by the Contract Documents or which do not otherwise conform to the requirements of the Contract Documents may be returned without action. No adjustment to the Contract Time or the Contract Price shall be granted to the Contractor on account of its failure to make timely submission of any Submittal.

4.7.2.2 Approval of Subcontractor Submittals. All Submittals prepared by Subcontractors, of any tier, Material Suppliers, manufacturers or distributors shall bear the written approval of the Contractor thereto prior to submission to the Architect for review. Any Submittal not bearing the Contractor's written approval shall be subject to return to the Contractor for re-submittal in conformity herewith, with the same being deemed to not have been submitted. Any delay, impact or cost associated therewith shall be the sole and exclusive responsibility of the Contractor without adjustment to the Contract Time or the Contract Price.

4.7.2.3 Verification of Submittal Information. By approving and submission of Submittals, the Contractor represents to the District and Architect that the Contractor has determined and verified materials, field measurements, field construction criteria, catalog numbers and similar data related thereto and has checked and coordinated the information contained within such Submittals with the requirements of the Work and of the Contract Documents. Each Submittal shall include the following certification duly executed by the Contractor's Superintendent or Construction Manager for the Work:

"The Contractor has reviewed and approved the field dimensions and construction criteria of the attached Submittal. The Contractor has verified that the Submittal includes notations of any portion of the Work depicted in the Submittal which is not in strict conformity with the Contract Documents. The information in the attached Submittal has been reviewed and coordinated by the Contractor with information included in other Submittals."

4.7.2.4 Contractor Responsibility for Deviations. The Contractor shall not be

relieved of responsibility for correcting deviations from the requirements of the Contract Documents by the Architect's review of Submittals unless the Contractor has specifically informed the Architect in writing of such deviation at the time of submission of the Submittal and the Architect has given written approval to the specific deviation. A material obligation of the Contractor is its specific/detailed identification and notation on the transmittal cover-sheet of each submission of Submittals any deviation between the Work as indicated in the Contract Documents and as indicated in the Submittal. The Contractor shall not be relieved of responsibility for errors or omissions in Submittals by the Architect's review thereof.

4.7.2.5 No Performance of Work Without Architect Review. The Contractor shall perform no portion of the Work requiring the Architect's review of Submittals until the Architect has completed its review and returned the Submittal to the Contractor indicating "No Exception Taken" to such Submittal. The Contractor shall not perform any portion of the Work forming a part of a Submittal or which is affected by a related Submittal until the entirety of the Submittal or other related Submittal has been fully processed. Such Work shall be in accordance with the final action taken by the Architect in review of Submittals and other applicable portions of the Contract Documents.

4.7.3 Architect Review of Submittals. The purpose of the Architect's review of Submittals and the time for the Architect's return of Submittals to the Contractor shall be as set forth elsewhere in the Contract Documents. If the Architect returns a Submittal as rejected or requiring correction(s) with re-submission, the Contractor, so as not to delay the progress of the Work, shall promptly thereafter resubmit a Submittal conforming to the requirements of the Contract Documents; the resubmitted Submittal shall indicate the portions thereof modified in accordance with the Architect's direction. When professional certification of performance criteria of materials, systems or equipment is required by the Contract Documents, the Architect shall be entitled to rely upon the accuracy and completeness of such calculations and certifications accompanying Submittals. The Architect's review of the Submittals is for the limited purposes described in the Contract Documents.

4.7.4 Deferred Approval Items. In the event that any portion of the Work is designated in the Contract Documents as a "Deferred Approval" item, Contractor shall be solely and exclusively responsible for the preparation of Submittals for such item(s) in a timely manner so as not to delay or hinder the completion of the Work within the Contract Time.

4.8 Materials and Equipment.

4.8.1 Specified Materials, Equipment. References in the Contract Documents to any specific article, device, equipment, product, material, fixture, patented process, form, method or type of construction, by name, make, trade name, or catalog number, with or without the words "or equal" shall be deemed to establish a minimum standard of quality or performance, and shall not be construed as limiting competition.

4.8.2 Approval of Substitutions or Alternatives. The Contractor may propose to furnish alternatives or substitutes for a particular item specified in the Contract Documents, provided that such proposed substitution or alternative complies with the requirements of the Specifications relating to substitutions of specified items and the Contractor certifies to the Architect that the quality, performance capability and functionality (including visual and/or aesthetic effect) of the proposed alternative or substitute will meet or exceed the

quality, performance capability and functionality of the item or process specified, and must demonstrate to the Architect that the use of the substitution or alternative is appropriate and will not delay completion of the Work or result in an increase to the Contract Price. The Contractor shall submit engineering, construction, dimension, visual, aesthetic and performance data to the Architect to permit its proper evaluation of the proposed substitution or alternative. If requested by the Architect, Contractor shall promptly furnish any additional information or data regarding a proposed substitution or alternative which the Architect deems reasonably necessary for the evaluation of the proposed substitution or alternative. The Contractor shall not provide, furnish or install any substitution or alternative without the Architect's review and final action on the proposed substitution or alternative; any alternative or substitution installed or incorporated into the Work without first obtaining the Architect's review and final action of the same shall be subject to removal pursuant to Article 12 hereof. The Architect's decision evaluating the Contractor's proposed substitutions or alternatives shall be final. Neither the Contract Time nor the Contract Price shall be increased on account of any substitution or alternative proposed by the Contractor and which is accepted by the Architect; provided, however, that in the event a substitution or alternative accepted by the Architect and purchase, fabrication and/or installation or such accepted substitution or alternative shall be less expensive than the originally specified item, the Contract Price shall be reduced by the actual cost savings realized by the Contractor's furnishing and/or installation of such approved substitution or alternative. The Contractor shall be solely responsible for all costs and fees incurred by the District to review a proposed substitution or alternative, including without limitation fees of the Architect, of the Architect's consultant(s) and/or governmental agencies to review and/or approve any proposed substitution or alternative. The Contractor shall be solely responsible for any increase in the cost of any accepted substitution or alternative or any Work affected by such alternative or substitution. The foregoing notwithstanding, all requests for the Architect's review and approval of any proposed substitution or alternative and all engineering, construction, dimension and performance data substantiating the equivalency of the proposed substitution or alternative shall be submitted by Contractor not later than thirty-five (35) days following the date of the District's award of the Contract to Contractor by action of the District's Board of Trustees; any request for approval of proposed alternatives or substitutions submitted thereafter may be rejected summarily. The foregoing process and time limits shall apply to any proposed substitution or alternative regardless of whether the substitute or alternate item is to be provided, furnished or installed by Contractor, any Subcontractor, any Sub-Subcontractor, Material Supplier or Manufacturer.

4.8.3 "Sole Source" Products. If any material, equipment, product or other item is designated in the Contract Documents as a "District Standard" or similar words/terms, the District shall be deemed to have made a finding that such material, equipment, product or other item is designated and specified to match other materials, equipment, products, or other item in use in a completed or to be completed work of improvement and not subject to substitution. If any material, equipment, or other item is identified in the Contract Documents as being the only source of the material, equipment or other item necessary to accomplish the intended result(s), such material, equipment or other item shall not be subject to substitution.

4.8.4 Placement of Material and Equipment Orders. Contractor shall, after award of the Contract, promptly and timely place all orders for materials and/or equipment necessary for completion of the Work so that delivery of the same shall be made without delay or interruption to the timely completion of the Work. Contractor shall require that any

Subcontractor or Sub-Subcontractor performing any portion of the Work similarly place orders for all materials and/or equipment to be furnished by any such Subcontractor or Sub-Subcontractor in a prompt and timely manner so that delivery of the same shall be made without delay or interruption to the timely completion of the Work. Upon request of the District, Construction Manager or the Architect, the Contractor shall furnish reasonably satisfactory written evidence of the placement of orders for materials and/or equipment necessary for completion of the Work, including without limitation, orders for materials and/or equipment to be provided, furnished or installed by any Subcontractor or Sub-Subcontractor.

4.8.5 District's Right to Place Orders for Materials and/or Equipment. Notwithstanding any other provision of the Contract Documents, in the event that the Contractor shall, upon request of the District or the Architect, fail or refuse, for any reason, to provide reasonably satisfactory written evidence of the placement of orders for materials and/or equipment necessary for completion of the Work, or should the District determine, in its sole and reasonable discretion, that any orders for materials and/or equipment have not been placed in a manner so that such materials and/or equipment will be delivered to the Site so the Work can be completed without delay or interruption, the District shall have the right, but not the obligation, to place such orders on behalf of the Contractor. If the District exercises the right to place orders for materials and/or equipment pursuant to the foregoing, the District's conduct shall not be deemed to be an exercise, by the District, of any control over the means, methods, techniques, sequences or procedures for completion of the Work, all of which remain the responsibility and obligation of the Contractor. Notwithstanding the right of the District to place orders for materials and/or equipment pursuant to the foregoing, the election of the District to exercise, or not to exercise, such right shall not relieve the Contractor from any of Contractor's obligations under the Contract Documents, including without limitation, completion of the Work within the Contract Time and for the Contract Price. If the District exercises the right hereunder to place orders for materials and/or equipment on behalf of Contractor pursuant to the foregoing, Contractor shall reimburse the District for all costs and fees incurred by the District in placing such orders; such costs and fees may be deducted by the District from the Contract Price then or thereafter due the Contractor.

4.9 Safety.

4.9.1 Safety Programs. The Contractor shall be solely responsible for initiating, maintaining and supervising all safety programs required by applicable law, ordinance, regulation or governmental orders in connection with the performance of the Contract, or otherwise required by the type or nature of the Work. The Contractor's safety program shall include all actions and programs necessary for compliance with California or federally statutorily mandated workplace safety programs, including without limitation, compliance with the California Drug Free Workplace Act of 1990 (California Government Code §§8350 et seq.). Without limiting or relieving the Contractor of its obligations hereunder, the Contractor shall require that its Subcontractors similarly initiate and maintain all appropriate or required safety programs. Prior to commencement of Work at the Site, the Contractor shall provide the Architect, Project Inspector, the Construction Manager and District with the Contractor's proposed safety program for the Work for the Construction Manager's review. The Architect, the Construction Manager and the Project Inspector are authorized to enforce the Contractor's obligation to implement the safety program accepted by the Construction Manager.

4.9.2 Safety Precautions. The Contractor shall be solely responsible for initiating and maintaining reasonable precautions for safety of, and shall provide reasonable protection to prevent damage, injury or loss to: (i) employees on the Work and other persons who may be affected thereby; (ii) the Work and materials and equipment to be incorporated therein, whether in storage on or off the site, under care, custody or control of the Contractor or the Contractor's Subcontractors or Sub-subcontractors; and (iii) other property or items at the site of the Work, or adjacent thereto, such as trees, shrubs, lawns, walks, pavements, roadways, structures and utilities not designated for removal, relocation or replacement in the course of construction. The Contractor shall take adequate precautions and measures to protect existing roads, sidewalks, curbs, pavement, utilities, adjoining property and improvements thereon (including without limitation, protection from settlement or loss of lateral support) and to avoid damage thereto. Without adjustment of the Contract Price or the Contract Time, the Contractor shall repair, replace or restore any damage or destruction of the foregoing items as a result of performance or installation of the Work. Contractor's personnel who do not abide by Contractor's accepted Safety Plan shall be removed from the site.

4.9.3 Safety Signs, Barricades. The Contractor shall erect and maintain, as required by existing conditions and conditions resulting from performance of the Contract, reasonable safeguards for safety and protection of property and persons, including, without limitation, posting danger signs and other warnings against hazards, promulgating safety regulations and notifying Districts and users of adjacent sites and utilities. Contractor shall provide directional and informational signage as required to direct pedestrian traffic around the work area. Contractor will be required to fence in the Construction Site and all gates shall be closed while students are on campus. Contractor shall provide spotters, both front and rear, for any vehicles moving throughout occupied student or faculty areas.

4.9.4 Safety Notices. The Contractor shall give or post all notices required by applicable law and comply with applicable laws, ordinances, rules, regulations and lawful orders of public authorities bearing on safety of persons or property or their protection from damage, injury or loss.

4.9.5 Safety Coordinator. The Contractor shall designate a responsible member of the Contractor's organization at the Site whose duty shall be the prevention of accidents and the implementation and maintenance safety precautions and programs. This person shall be the Contractor's superintendent unless otherwise designated by the Contractor in writing to the Project Inspector and the Architect.

4.9.6 Emergencies; First Aid. In an emergency affecting safety of persons or property, the Contractor shall act, to prevent threatened damage, injury or loss. The Contractor shall maintain stocked emergency first aid kits at the Site which comply with applicable law, rule or regulation.

4.9.7 Hazardous Materials.

4.9.7.1 General. In the event that the Contractor, any Subcontractor or anyone employed directly or indirectly by them shall use, at the Site, or incorporate into the Work, any material or substance deemed to be hazardous or toxic under any law, rule, ordinance, regulation or interpretation thereof (collectively "Hazardous Materials"), the Contractor shall comply with all laws, rules, ordinances or regulations applicable thereto and shall exercise all necessary safety precautions relating to the

use, storage or disposal thereof.

4.9.7.2 Prohibition on Use of Asbestos Construction Building Materials (“ACBMs”). Notwithstanding any provision of the Drawings or the Specifications to the contrary, it is the intent of the District that ACBMs not be used or incorporated into any portion of the Work. In the event that any portion of the Work depicted in the Drawings or the Specifications shall require materials or products which the Contractor knows, or should have known with reasonably diligent investigation, to contain ACBMs, Contractor shall promptly notify the Architect and the Project Inspector of the same so that an appropriate alternative can be made in a timely manner so as not to delay the progress of the Work. Contractor warrants to the District that there are no materials or products used or incorporated into the Work which contain ACBMs. Whether before or after completion of the Work, if it is discovered that any product or material forming a part of the Work or incorporated into the Work contains ACBMs, the Contractor shall at its sole cost and expense remove such product or material in accordance with any laws, rules, procedures and regulations applicable to the handling, removal and disposal of ACBMs and to replace such product or material with non-ACBM products or materials and to return the affected portion(s) of the Work to the finish condition depicted in the Drawings and Specifications relating to such portion(s) of the Work. Contractor's obligations under the preceding sentence shall survive the termination of the Contract, the warranty period provided under the Contract Documents, the Contractor's completion of the Work or the District's acceptance of the Work. In the event that the Contractor shall fail or refuse, for any reason, to commence the removal and replacement of any material or product containing ACBMs forming a part of, or incorporated into the Work, within ten (10) days of the date of the District's written notice to the Contractor of the existence of ACBM materials or products in the Work, the District may thereafter proceed to cause the removal and replacement of such materials or products in any manner which the District determines to be reasonably necessary and appropriate; all costs, expenses and fees, including without limitation fees and costs of consultants and attorneys, incurred by the District in connection with such removal and replacement shall be the responsibility of the Contractor and the Contractor's Performance Bond Surety.

4.9.7.3 Disposal of Hazardous Materials. Contractor shall be solely and exclusively responsible for the disposal of any Hazardous Materials on or about Site resulting from the Contractor's performance of Work and other activities. The Contractor's obligations hereunder shall include without limitation, the transportation and disposal of any Hazardous Materials in strict conformity with any and all applicable laws, regulations, orders, procedures or ordinances.

4.10 Maintenance of Documents.

4.10.1 Documents at Site. The Contractor shall maintain at the Site: (i) one record copy of the Drawings, Specifications and all addenda thereto; (ii) Change Orders approved by the District and all other modifications to the Contract Documents; (iii) Submittals reviewed by the Architect; (iv) Record Drawings; (v) Material Safety Data Sheets (“MSDS”) accompanying any materials, equipment or products delivered or stored at the Site or incorporated into the Work; and (vi) all building and other codes or regulations applicable to the Work, including without limitation, Title 24, Part 2 of the California Code of Regulations. During performance of the Work, all documents maintained by Contractor at

the Site shall be available to the District, the Construction Manager, the Architect, the Project Inspector and DSA for review, inspection or reproduction. Upon completion of the Work, all documents maintained at the Site by the Contractor pursuant to the foregoing shall be assembled and transmitted to the Architect for delivery to the District.

4.10.2 Maintenance of Record Drawings. During its performance of the Work, the Contractor shall maintain Record Drawings consisting of a set of the Drawings which are marked to indicate all field changes made to adapt the Work depicted in the Drawings to field conditions, changes resulting from Change Orders and all concealed or buried installations, including without limitation, piping, conduit and utility services. All buried or concealed items of Work shall be completely and accurately marked and located on the Record Drawings. The Record Drawings shall be clean and all changes, corrections and dimensions shall be marked in a neat and legible manner in a contrasting color. Record Drawings relating to the Structural, Mechanical, Electrical and Plumbing portions of the Work shall indicate without limitation, circuiting, wiring sizes, equipment/member sizing and shall depict the entirety of the as built conditions of such portions of the Work. The Record Drawings shall be continuously maintained by the Contractor during the performance of the Work. At any time during the Contractor's performance of the Work, upon the request of the District, the Project Inspector or the Architect, the Contractor shall make the Record Drawings maintained here under available for the District's review and inspection. The District's review and inspection of the Record Drawings during the Contractor's performance of the Work shall be only for the purpose of generally verifying that Contractor is continuously maintaining the Record Drawings in a complete and accurate manner; any such inspection or review shall not be deemed to be the District's approval or verification of the completeness or accuracy thereof. The failure or refusal of the Contractor to continuously maintain complete and accurate Record Drawings or to make available the Record Drawings for inspection and review by the District may be deemed by the District to be Contractor's default of a material obligation hereunder. Without waiving, restricting or limiting any other right or remedy of the District for the Contractor's failure or refusal to continuously maintain the Record Drawings, the District may, upon reasonably determining that the Contractor has not, or is not, continuously maintaining the Record Drawings in a complete and accurate manner, take appropriate action to cause the continuous maintenance of complete and accurate Record Drawings, in which event all fees and costs incurred or associated with such action shall be charged to the Contractor and the District may deduct the amount of such fees and costs from any portion of the Contract Price then or thereafter due the Contractor. In accordance with Article 8.4.2 of these General Conditions, prior to receipt of the Final Payment, Contractor shall deliver the Record Drawings to the Construction Manager for transmittal of the District.

4.11 Use of Site. The Contractor shall confine operations at the Site to areas permitted by law, ordinances or permits, subject to any restrictions or limitations set forth in the Contract Documents. The Contractor's construction site and lay down area shall be limited to the agreed upon construction site. The entire construction site shall be fenced in with temporary construction fencing until project or current phase of project is substantially complete. The fencing will be privacy screened. The Contractor shall not unreasonably encumber the Site or adjoining areas with materials or equipment. The Contractor shall be solely responsible for providing security at the Site with all such costs included in the Contract Price. The District shall at all times have access to the Site.

4.12 Clean-Up. The Contractor shall at all times keep the Site and all adjoining areas free from

the accumulation of any waste material or rubbish caused or generated by performance of the Work. Without limiting the generality of the foregoing, Contractor shall maintain the Site in a "broom-clean" standard on a daily basis. In the event that the Work of the Contract Documents includes painting and/or the installation of floor covering, prior to commencement of any painting operations or the installation of any flooring covering, the area and adjoining areas of the Site where paint is to be applied or floor covering is to be installed shall be in a "broom-clean" condition. Prior to completion of the Work, Contractor shall remove from the Site all rubbish, waste material, excess excavated material, tools, Construction Equipment, machinery, surplus material and any other items which are not the property of the District under the Contract Documents. At completion of the Work, the Contractor shall clean the building interior and exterior, including fixtures, equipment, walls, floors, ceilings, roofs, window sills and ledges, horizontal surfaces, areas where debris, dust and similar items have collected, clean and polish all glass, plumbing fixtures, finish hardware, metal/wood/stone finishes. As directed by the Construction Manager, District or Architect, the Contractor shall remove temporary fencing, barricades, planking, temporary sanitary facilities, temporary utility distributions and other temporary facilities. Upon completion of the Work, the Site and all adjoining areas shall be left in a neat and broom clean condition satisfactory to District. The Project Inspector or Construction Manager shall be authorized to direct the Contractor's clean-up obligations hereunder. If the Contractor fails to clean up as provided for in the Contract Documents, the District may do so, and all costs incurred in connection therewith shall be charged to the Contractor; the District may deduct such costs from any portion of the Contract Price then or thereafter due the Contractor.

- 4.13 Access to the Work.** The Contractor shall provide the DSA, the District, the Construction Manager, the Project Inspector, the Architect and the Architect's consultant(s) with access to the Work, whether in place, preparation and progress and wherever located.
- 4.14 Information and Facilities/Services for the Project Inspector.** The Contractor shall furnish the Project Inspector access to the Work for obtaining such information as may be necessary to keep the Project Inspector fully informed respecting the progress, quality and character of the Work and materials, equipment or other items incorporated therein. The Contractor shall provide, without adjustment of the Contract Price, for use by the Project Inspector, the District and Construction Manager the facilities, equipment, furnishings and services set forth in the Special Conditions. If the Contractor does not provide the facilities, furnishings, equipment and services set forth in the Special Conditions, or fails to pay timely any charges or fees arising out of the use of the same, the District may, as applicable, procure facilities, furnishings, equipment and services required by the Contract Documents or pay outstanding charges. Contractor shall reimburse the District for all costs, including the District's administrative costs, incurred by the District pursuant to the preceding sentence; in lieu of the Contractor's reimbursement and at the sole and exclusive discretion of the District, such costs may be deducted by the District from any portion of the Contract Price or thereafter due the Contractor.
- 4.15 Patents and Royalties.** The Contractor and the Surety shall defend, indemnify and hold harmless the District and its agents, employees and officers from any claim, demand or legal proceeding arising out of or pertaining, in any manner, to any actual or claimed infringement of patent rights in connection with performance of the Work under the Contract Documents.
- 4.16 Cutting and Patching.** The Contractor shall be responsible for cutting, fitting or patching required to complete the Work or to make the component parts thereof fit together properly. The Contractor shall not damage or endanger any portion of the Work, or the fully or partially

completed construction of the District or separate contractors by cutting, patching, excavation or other alteration. When modifying new Work or when installing Work adjacent to an existing structure/facility, the Contractor shall match, as closely as conditions of the Site and materials will allow the finishes, textures and colors of the existing structure/facility and refinish elements of the existing structure/facility. The Contractor shall not cut, patch or otherwise alter the construction by the District or separate contractor without the prior written consent of the District or separate contractor thereto, which consent shall not be unreasonably withheld. The Contractor shall not unreasonably withhold consent to the request of the District or separate contractor to cut, patch or otherwise alter the Work.

4.17 Encountering of Hazardous Materials. In the event the Contractor encounters Hazardous Materials at the Site which have not been rendered harmless or for which there is no provision in the Contract Documents for containment, removal, abatement or handling of such Hazardous Materials, the Contractor shall immediately stop the Work in the affected area, but shall diligently proceed with the Work in all other unaffected areas. Upon encountering such Hazardous Materials, the Contractor shall immediately notify the Project Inspector and the Architect, in writing, of such condition. The Contractor shall proceed with the Work in such affected area only after such Hazardous Materials have been rendered harmless, contained, removed or abated. In the event such Hazardous Materials are encountered, the Contractor shall be entitled to an adjustment of the Contract Time to the extent that the Work is stopped and Substantial Completion of the Work is affected thereby. In no event shall there be an adjustment to the Contract Price solely on account of the Contractor encountering such Hazardous Materials.

4.18 Wage Rates; Employment of Labor.

4.18.1 Determination of Prevailing Rates. Pursuant to the provisions of Division 2, Part 7, Chapter 1, Article 2 of the California Labor Code at §§1770 et seq., the District has obtained from the Director of the Department of Industrial Relations the general prevailing rate of per diem wages and the prevailing rate for holiday and overtime work in the locality in which the Work is to be performed. Holidays shall be as defined in the collective bargaining agreement applicable to each particular craft, classification or type of worker employed under the Contract. Per diem wages include employer payments for health and welfare, pensions, vacation, travel time and subsistence pay as provided in California Labor Code §1773.8, apprenticeship or other training programs authorized by California Labor Code §3093, and similar purposes when the term “per diem wages” is used herein. Holiday and overtime work, when permitted by law, shall be paid for at the rate of at least one and one-half (1½) times the above specified rate of per diem wages, unless otherwise specified. The Contractor shall post, at appropriate and conspicuous locations on the Site, a schedule showing all determined general prevailing wage rates.

4.18.2 Payment of Prevailing Rates. There shall be paid each worker of the Contractor, or any Subcontractor, of any tier, engaged in the Work, not less than the general prevailing wage rate, regardless of any contractual relationship which may be alleged to exist between the Contractor or any Subcontractor, of any tier, and such worker.

4.18.3 Prevailing Rate Penalty. The Contractor shall, as a penalty, forfeit not more than Fifty Dollars (\$50.00) to the District for each calendar day or portion thereof, for each worker paid less than the prevailing rates for such work or craft in which such worker is employed for the Work by the Contractor or by any Subcontractor, of any tier, in connection with the Work. The amount of the penalty for failure to pay applicable prevailing wage rates shall

be determined and assessed in accordance with the standards established pursuant to Labor Code §1775(a)(2). The amount of the penalty shall be determined based on consideration of both of the following: (i) whether the failure of the Contractor or Subcontractor to pay the correct rate of per diem wages was a good faith mistake and, if so, the error was promptly and voluntarily corrected when brought to the attention of the Contractor or Subcontractor; and (ii) whether the Contractor or Subcontractor has a prior record of failing to meet its prevailing wage obligations. The penalty may not be less than ten dollars (\$10) for each calendar day, or portion thereof, for each worker paid less than the prevailing wage rate, unless the failure of the Contractor or Subcontractor to pay the correct rate of per diem wages was a good faith mistake and, if so, the error was promptly and voluntarily corrected when brought to the attention of the contractor or subcontractor. The penalty may not be less than twenty dollars (\$20) for each calendar day, or portion thereof, for each worker paid less than the prevailing wage rate, if the Contractor or Subcontractor has been assessed penalties within the previous three years for failing to meet its prevailing wage obligations on a separate contract, unless those penalties were subsequently withdrawn or overturned. The penalty may not be less than thirty dollars (\$30) for each calendar day, or portion thereof, for each worker paid less than the prevailing wage rate, if the Labor Commissioner determines that the violation was willful, as defined in subdivision (c) of Section 1777.1. When the penalty amount due hereunder is collected from the Contractor or Subcontractor, any outstanding wage claim under Chapter 1 (commencing with Section 1720) of Part 7 of Division 2 against that Contractor or Subcontractor shall be satisfied before applying that amount to the penalty imposed on that Contractor or Subcontractor hereunder. The difference between prevailing wage rates and the amount paid to each worker each calendar day, or portion thereof, for which each worker paid less than the prevailing wage rate, shall be paid to each worker by the Contractor.

4.18.4 Payroll Records. Pursuant to California Labor Code §1776, the Contractor and each Subcontractor, of any tier, shall keep an accurate payroll record, showing the name, address, social security number, work classification, straight time and overtime hours worked each day and week, and the actual per diem wages paid to each person employed for the Work. The payroll records shall be certified and available for inspection at all reasonable hours at the principal office of the Contractor on the following basis: (i) a certified copy of an employee's payroll record shall be made available for inspection or furnished to such employee or his/her authorized representative on request; (ii) a certified copy of all payroll records shall be made available for inspection or furnished upon request to the District, the Division of Labor Standards Enforcement and the Division of Apprenticeship Standards of the Department of Industrial Relations; (iii) a certified copy of payroll records shall be made available upon request to the public for inspection or copies thereof made; provided, however, that a request by the public shall be made through either the District, the Division of Apprenticeship Standards, or the Division of Labor Standards Enforcement. If the requested payroll records have not been provided, the requesting party shall, prior to being provided the records, reimburse the cost of preparation by the Contractor, Subcontractors and the entity through which the request was made; the public shall not be given access to such records at the principal office of the Contractor; (iv) the Contractor shall file a certified copy of the payroll records with the entity that requested such records within ten (10) days after receipt of a written request; (v) any copy of records made available for inspection as copies and furnished upon request to the public or any public agency by the District, the Division of Apprenticeship Standards or the Division of Labor Standards Enforcement shall be marked or obliterated in such a manner as to prevent disclosure of an individual's name, address and social security number. The name

and address of the Contractor or any Subcontractor, of any tier, performing a part of the Work shall not be marked or obliterated. The Contractor shall inform the District of the location of payroll records, including the street address, city and county and shall, within five (5) working days, provide a notice of a change or location and address. In the event of noncompliance with the requirements of this Article 4.18.4, the Contractor shall have ten (10) days in which to comply, subsequent to receipt of written notice specifying in what respects the Contractor must comply herewith. Should noncompliance still be evident after such 10-day period, the Contractor shall, as a penalty to the District, forfeit Twenty-Five Dollars (\$25.00) for each calendar day, or portion thereof, for each worker, until strict compliance is effectuated. Upon the request of the Division of Apprenticeship Standards or the Division of Labor Standards Enforcement, such penalties shall be withheld from any portion of the Contract Price then or thereafter due the Contractor. The Contractor is solely responsible for compliance with the foregoing provisions.

4.18.5 Hours of Work.

4.18.5.1 Limits on Hours of Work. Pursuant to California Labor Code §1810, eight (8) hours of labor shall constitute a legal day's work. Pursuant to California Labor Code §1811, the time of service of any worker employed at any time by the Contractor or by a Subcontractor, of any tier, upon the Work or upon any part of the Work, is limited and restricted to eight (8) hours during any one calendar day and forty (40) hours during any one calendar week, except as hereafter provided. Notwithstanding the foregoing provisions, Work performed by employees of Contractor or any Subcontractor, of any tier, in excess of eight (8) hours per day and forty (40) hours during any one week, shall be permitted upon compensation for all hours worked in excess of eight (8) hours per day at not less than one and one-half (1½) times the basic rate of pay.

4.18.5.2 Penalty for Excess Hours. The Contractor shall pay to the District a penalty of Twenty-five Dollars (\$25.00) for each worker employed on the Work by the Contractor or any Subcontractor, of any tier, for each calendar day during which such worker is required or permitted to work more than eight (8) hours in any calendar day and forty (40) hours in any one calendar week, in violation of the provisions of the California Labor Code, unless compensation to the worker so employed by the Contractor is not less than one and one-half (1½) times the basic rate of pay for all hours worked in excess of eight (8) hours per day.

4.18.5.3 Contractor Responsibility. Any Work performed by workers necessary to be performed after regular working hours or on Sundays or other holidays shall be performed without adjustment to the Contract Price or any other additional expense to the District. The Contractor shall be responsible for costs incurred by the District which arise out of Work performed by the Contractor at times other than regular working hours and regular working days. Upon determination of such costs, the District may deduct such costs from the Contract Price then or thereafter due the Contractor.

4.18.6 Apprentices.

4.18.6.1 Employment of Apprentices. Any apprentices employed to perform any of the Work shall be paid the standard wage paid to apprentices under the regulations of the craft or trade for which such apprentice is employed, and such individual shall

be employed only for the work of the craft or trade to which such individual is registered. Only apprentices, as defined in California Labor Code §3077 who are in training under apprenticeship standards and written apprenticeship agreements under California Labor Code §§3070 et seq. are eligible to be employed for the Work. The employment and training of each apprentice shall be in accordance with the provisions of the apprenticeship standards and apprentice agreements under which such apprentice is training.

4.18.6.2 Apprenticeship Certificate. When the Contractor or any Subcontractor, of any tier, in performing any of the Work employs workers in any Apprenticeable Craft or Trade, the Contractor and such Subcontractor shall apply to the Joint Apprenticeship Committee administering the apprenticeship standards of the craft or trade in the area of the site of the Work for a certificate approving the Contractor or such Subcontractor under the apprenticeship standards for the employment and training of apprentices in the area or industry affected, provided, however, that the approval as established by the Joint Apprenticeship Committee or Committees shall be subject to the approval of the Administrator of Apprenticeship. The Joint Apprenticeship Committee or Committees, subsequent to approving the Contractor or Subcontractor, shall arrange for the dispatch of apprentices to the Contractor or such Subcontractor in order to comply with California Labor Code §1777.5. The Contractor and Subcontractors shall submit contract award information to the applicable Joint Apprenticeship Committee which shall include an estimate of journeyman hours to be performed under the Contract, the number of apprentices to be employed, and the approximate dates the apprentices will be employed. There shall be an affirmative duty upon the Joint Apprenticeship Committee or Committees, administering the apprenticeship standards of the crafts or trades in the area of the site of the Work, to ensure equal employment and affirmative action and apprenticeship for women and minorities. Contractors or Subcontractors shall not be required to submit individual applications for approval to local Joint Apprenticeship Committees provided they are already covered by the local apprenticeship standards.

4.18.6.3 Ratio of Apprentices to Journeymen. The ratio of Work performed by apprentices to journeymen, who shall be employed in the Work, may be the ratio stipulated in the apprenticeship standards under which the Joint Apprenticeship Committee operates, but in no case shall the ratio be less than one hour of apprentice work for each five hours of labor performed by a journeyman, except as otherwise provided in California Labor Code §1777.5. The minimum ratio for the land surveyor classification shall not be less than one apprentice for each five journeymen. Any ratio shall apply during any day or portion of a day when any journeyman, or the higher standard stipulated by the Joint Apprenticeship Committee, is employed at the site of the Work and shall be computed on the basis of the hours worked during the day by journeymen so employed, except for the land surveyor classification. The Contractor shall employ apprentices for the number of hours computed as above before the completion of the Work. The Contractor shall, however, endeavor, to the greatest extent possible, to employ apprentices during the same time period that the journeymen in the same craft or trade are employed at the site of the Work. Where an hourly apprenticeship ratio is not feasible for a particular craft or trade, the Division of Apprenticeship Standards, upon application of a Joint Apprenticeship Committee, may order a minimum ratio of not less than one apprentice for each five journeymen in a craft or trade classification. The Contractor or any Subcontractor covered by this Article and California Labor Code §1777.5, upon the issuance of the approval

certificate, or if it has been previously approved in such craft or trade, shall employ the number of apprentices or the ratio of apprentices to journeymen stipulated in the apprenticeship standards. Upon proper showing by the Contractor that it employs apprentices in such craft or trade in the State of California on all of its contracts on an annual average of not less than one apprentice to each five journeymen, the Division of Apprenticeship Standards may grant a certificate exempting the Contractor from the 1-to-5 ratio as set forth in this Article and California Labor Code §1777.5. This Article shall not apply to contracts of general contractors, or to contracts of specialty contractors not bidding for work through a general or prime contractor, involving less than Thirty Thousand Dollars (\$30,000.00) or twenty (20) working days. The term "Apprenticeable Craft or Trade," as used herein shall mean a craft or trade determined as an Apprenticeable occupation in accordance with rules and regulations prescribed by the Apprenticeship Council.

4.18.6.4 Exemption From Ratios. The Joint Apprenticeship Committee shall have the discretion to grant a certificate, which shall be subject to the approval of the Administrator of Apprenticeship, exempting the Contractor from the 1-to-5 ratio set forth in this Article when it finds that any one of the following conditions are met: (i) unemployment for the previous three-month period in such area exceeds an average of fifteen percent (15%) or; (ii) the number of apprentices in training in such area exceeds a ratio of 1-to-5 in relation to journeymen, or; (iii) the Apprenticeable Craft or Trade is replacing at least one-thirtieth (1/30) of its journeymen annually through apprenticeship training, either on a statewide basis or on a local basis, or; (iv) if assignment of an apprentice to any Work performed under the Contract Documents would create a condition which would jeopardize such apprentice's life or the life, safety or property of fellow employees or the public at large, or if the specific task to which the apprentice is to be assigned is of such a nature that training cannot be provided by a journeyman. When such exemptions from the 1-to-5 ratio between apprentices and journeymen are granted to an organization which represents contractors in a specific trade on a local or statewide basis, the member contractors will not be required to submit individual applications for approval to local Joint Apprenticeship Committees, provided they are already covered by the local apprenticeship standards.

4.18.6.5 Contributions to Trust Funds. The Contractor or any Subcontractor, of any tier, who, performs any of the Work by employment of journeymen or apprentices in any Apprenticeable Craft or Trade and who is not contributing to a fund or funds to administer and conduct the apprenticeship program in any such craft or trade in the area of the site of the Work, to which fund or funds other contractors in the area of the site of the Work are contributing, shall contribute to the fund or funds in each craft or trade in which it employs journeymen or apprentices in the same amount or upon the same basis and in the same manner as the other contractors do, but where the trust fund administrators are unable to accept such funds, contractors not signatory to the trust agreement shall pay a like amount to the California Apprenticeship Council. The Division of Labor Standards Enforcement is authorized to enforce the payment of such contributions to such fund(s) as set forth in California Labor Code §227. Such contributions shall not result in an increase in the Contract Price.

4.18.6.6 Contractor's Compliance. The responsibility of compliance with this Article for all Apprenticeable Trades or Crafts is solely and exclusively that of the Contractor. All decisions of the Joint Apprenticeship Committee(s) under this Article are subject

to the provisions of California Labor Code §3081. In the event the Contractor willfully fails to comply with the provisions of this Article and California Labor Code §1777.5, pursuant to California Labor Code §1777.7, the Contractor shall: (i) be denied the right to bid on any public works contract for a period of one (1) year from the date the determination of non-compliance is made by the Administrator of Apprenticeship; and (ii) forfeit, as a civil penalty, Fifty Dollars (\$50.00) for each calendar day of noncompliance. Notwithstanding the provisions of California Labor Code §1727, upon receipt of such determination, the District shall withhold such amount from the Contract Price then due or to become due. Any such determination shall be issued after a full investigation, a fair and impartial hearing, and reasonable notice thereof in accordance with reasonable rules and procedures prescribed by the California Apprenticeship Council. Any funds withheld by the District pursuant to this Article shall be deposited in the General Fund or other similar fund of the District. The interpretation and enforcement of California Labor Code §§1777.5 and 1777.7 shall be in accordance with the rules and procedures of the California Apprenticeship Council.

4.18.7 Employment of Independent Contractors. Pursuant to California Labor Code §1021.5, Contractor shall not willingly and knowingly enter into any agreement with any person, as an independent contractor, to provide any services in connection with the Work where the services provided or to be provided requires that such person hold a valid contractors license issued pursuant to California Business and Professions Code §§7000 et seq. and such person does not meet the burden of proof of his/her independent contractor status pursuant to California Labor Code §2750.5. In the event that Contractor shall employ any person in violation of the foregoing, Contractor shall be subject to the civil penalties under California Labor Code §1021.5 and any other penalty provided by law. In addition to the penalties provided under California Labor Code §1021.5, Contractor's violation of this Article 4.18.7 or the provisions of California Labor Code §1021.5 shall be deemed an event of Contractor's default under Article 15.1 of these General Conditions. The Contractor shall require any Subcontractor or Sub-Subcontractor performing or providing any portion of the Work to adhere to and comply with the foregoing provisions.

4.19 Assignment of Antitrust Claims. Pursuant to California Government Code §4551, the Contractor and its Subcontractor(s), of any tier, hereby offers and agrees 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. §15) or under the Cartwright Act (California Business and Professions Code §§16700 et seq.), arising from purchases of goods, services or materials hereunder or any 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. If the District receives, either through judgment or settlement, a monetary recovery in connection with a cause of action assigned under California Government Code §§4550 et seq., the assignor thereof shall be entitled to receive reimbursement for actual legal costs incurred and may, upon demand, recover from the District any portion of the recovery, including treble damages, attributable to overcharges that were paid by the assignor but were not paid by the District as part of the Contract Price, less the expenses incurred by the District in obtaining that portion of the recovery. Upon demand in writing by the assignor, the District shall, within one year from such demand, reassign the cause of action assigned pursuant to this Article if the assignor has been or may have been injured by the violation of law for which the cause of action arose: and (i) the District has not been injured thereby; or (ii) the District declines to file a court action for the cause of action.

4.20 Limitations Upon Site Activities. Except in the circumstances of an emergency, no construction activities shall be permitted at or about the Site except during the District's hours and days set forth in the Special Conditions. Work performed outside of the hours and days noted in the Special Conditions will not result in adjustment of the Contract Time or the Contract Price; unless Work outside of the hours and days noted in the Special Conditions is expressly authorized by the District.

4.21 Labor Compliance Program ("LCP"). Pursuant to Labor Code §1771.7, the District has established a Labor Compliance Program. Unless otherwise expressly provided in the Contract Documents, the LCP is applicable to the entirety of the Work. A material obligation of the Contractor awarded the Contract is its strict compliance with all applicable provisions and requirements of the LCP and its strict enforcement of such provisions and requirements on its Subcontractors and others under the direction or control of the Contractor relating to the Work or the Project. A copy of the LCP is available for review and reproduction in the District's administrative office.

4.21.1 Pre-Construction Conference. In addition to the matters included in the scope of the Pre-Conference, as set forth in Article 4.3.6.1 of the General Conditions, the Pre-Construction conference will include a discussion of the subject matters indicated in the Pre-Construction Conference portion of the LCP, including general requirements of the LCP, measures for compliance with, and enforcement of, LCP requirements, and penalties for failure to comply. The Contractor awarded the Contract and each Subcontractor identified by such Contractor in its Subcontractors List submitted with its Bid Proposal. The foregoing notwithstanding, if the District reasonably determines that individuals or entities in addition to the Contractor and its listed Subcontractor are necessary attendees at the Pre-Construction conference, the Contractor is responsible for measures necessary to secure the attendance of such other persons or entities at the Pre-Construction conference.

4.21.2 Maintenance and Weekly Submission of Certified Payroll Records. The Contractor and each of its Subcontractors shall maintain accurate, complete and current payroll records as required by the LCP. During the progress of the Work, until Final Payment is due, the Contractor and its Subcontractors shall maintain and submit Certified Payroll Records on a weekly basis. No later than the 5:00 P.M. on each Monday during the Work, the Contractor shall submit to the Construction Manager Certified Payroll Records for the Contractor and its Subcontractors for all persons providing or performing any Work in the immediately preceding week. The Certified Payroll Records maintained and submitted hereunder shall be in strict conformity with requirements established in the LCP. A material obligation of the Contractor under the Contract Documents is the Contractor's and its Subcontractor's strict compliance with requirements of the LCP relating to maintenance and submission of Certified Payroll Records. The Contractor's submittal of weekly Certified Payroll Records in strict conformity with requirements of the LCP is an express condition precedent to the District's obligation to disburse any Progress Payment to the Contractor and the Contractor's entitlement to receipt of any Progress Payment.

4.21.3 District Audit of Certified Payroll Records. Pursuant to the LCP, the District shall, as appropriate or necessary conduct audits of Certified Payroll Records. If upon conducting such audits, the District determines that the Contractor or its Subcontractors have committed violations of the LCP, the Contractor and/or its Subcontractors shall be subject to all penalties, assessments and other remedies set forth in the LCP or by

operation of law for such violations.

4.21.4 Contractor's Rights Upon Determination of Violation. If upon audit of Certified Payroll Records, the District determines that the Contractor has violated, or failed to comply with, applicable provisions of the LCP, the Contractor shall be subject to the penalties, assessments and other remedies set forth in the LCP for the Contractor's violation of, or failure to comply with, the LCP. To the extent applicable, the Contractor shall be entitled to contest or appeal such determination, as set forth in the LCP, provided that the Contractor strictly complies with all applicable provisions of applicable law and the LCP relating to the initiation and completion of proceeding to contest or appeal a determination that the Contractor has committed a violation of, or failed to comply with, the LCP.

4.21.5 LCP Not Exclusive. The LCP is not the exclusive source of Contractor's obligations relating to the payment of prevailing wages and compliance with apprenticeship standards. A material obligation of the Contractor under the Contract Documents is the Contractor's compliance with all applicable laws, codes, regulations, rules and orders relating to the employment of labor, working conditions, and payments to laborers for Work performed or provided by laborers.

4.22 State Audit. Pursuant to and in accordance with the provisions of Government Code §8546.7, or any amendments thereto, all books, records and files of the District, the Contractor, or any Subcontractor relating to the Work or the performance of work involving the expenditure of public funds in excess of Ten Thousand Dollars (\$10,000), including, but not limited to, the administration thereof, shall be subject to the examination and audit by the State Auditor of the State of California, at the request of District or as part of any audit of District, for a period of three (3) years after Final Payment is made under this Contract. Contractor shall preserve and cause to be preserved such books, records and files for the audit period. Upon request of the District, the Contractor shall make all such books, records or files available for review, inspection and/or reproduction.

ARTICLE 5: SUBCONTRACTORS

5.1 Subcontracts. Any Work performed for the Contractor by a Subcontractor shall be pursuant to a written agreement between the Contractor and such Subcontractor which specifically incorporates by reference the Contract Documents and which specifically binds the Subcontractor to the applicable terms and conditions of the Contract Documents, including without limitation, the policies of insurance required under Article 6 of these General Conditions and the termination provisions of Article 15, and obligates the Subcontractor to assume toward the Contractor all the obligations and responsibilities of the Contractor which by the Contract Documents the Contractor assumes toward the District, the Project Inspector, DSA, the Construction Manager and the Architect. The foregoing notwithstanding, no contractual relationship shall exist, or be deemed to exist, between any Subcontractor and the District, unless the Contract is terminated and District, in writing, elects to assume the Subcontract. Each Subcontract for a portion of the Work shall provide that such Subcontract may be assigned to the District if the Contract is terminated by the District pursuant to Article 15.1 hereof, subject to the prior rights of the Surety obligated under a bond relating to the Contract. The Contractor shall provide to the District copies of all executed Subcontracts and Purchase Orders to which Contractor is a party within thirty (30) days after Contractor's execution of the Agreement. During performance of the Work, the Contractor shall, from time to time, as and when requested by the District, the Architect or the Construction Manager provide the District with copies of any and all Subcontracts or Purchase Orders relating to

the Work and all modifications thereto. The Contractor's failure or refusal, for any reason, to provide copies of such Subcontracts or Purchase Orders in accordance with the two preceding sentences is Contractor's default of a material term of the Contract Documents.

5.2 Substitution of Listed Subcontractor.

5.2.1 Substitution Process. Any request of the Contractor to substitute a listed Subcontractor will be considered only if such request is in strict conformity with this Article 5.2 and California Public Contract Code §4107. All costs incurred by the District, including without limitation, costs of the Project Inspector, the Architect, the Construction Manager or attorneys fees in the review and evaluation of a request to substitute a listed Subcontractor shall be borne by the Contractor; such costs may be deducted by the District from the Contract Price then or thereafter due the Contractor.

5.2.2 Responsibilities of Contractor Upon Substitution of Subcontractor. The District's consent to Contractor's substitution of a listed Subcontractor shall not relieve Contractor from its obligation to complete the Work within the Contract Time and for the Contract Price. The substitution of a listed Subcontractor shall not, under any circumstance, result in, or give rise to any to any increase of the Contract Price or the Contract Time on account of such substitution. In the event of the District's consent to the substitution of a listed Subcontractor, the Architect shall determine the extent to which, if any, revised or additional Submittals will be required of the newly substituted Subcontractor. In the event that the Architect determines that revised or additional Submittals are required of the newly substituted Subcontractor, the Architect shall promptly notify the Contractor, in writing, of such requirement. In such event, revised or additional Submittals shall be submitted to Architect not later than thirty (30) days following the date of the Architect's written notice to the Contractor pursuant to the foregoing sentence; provided that if in the reasonable and good faith judgment of the Architect, the progress of the Work or completion of the Work requires submission of additional or revised Submittals by the newly substituted Subcontractor in less than thirty (30) days, the Architect shall so state in its written notice to the Contractor. In the event that the revised or additional Submittals are not submitted by Contractor within thirty (30) days, or such earlier time as determined by the Architect pursuant to the preceding sentence, following the Architect's written notice of the requirement for revised or additional Submittals, Contractor shall be subject to the per diem assessments for late Submittals as set forth in Article 4.7.2.1 of these General Conditions. Any revised or additional Submittals required pursuant to this Article 5.2.2 shall conform to the requirements of Article 4.7 of these General Conditions. Contractor shall reimburse the District for all fees and costs, including without limitation fees of the Construction Manager, Architect and/or any design consultant to the Architect or the District and DSA fees, incurred or associated with the processing, review and evaluation of any revised or additional Submittals required pursuant to this Article 5.2.2; the District may deduct such fees and costs from any portion of the Contract Price then or thereafter due the Contractor. In the event that additional or revised Submittals are required pursuant to this Article 5.2.2, such requirement shall not result in an increase to the Contract Time or the Contract Price.

5.2.3 Subcontractors' Work. Whenever the Work of a Subcontractor is dependent upon the Work of the Contractor or another Subcontractor, the Contractor shall require the Subcontractor to: (a) coordinate its Work with the dependent Work; (b) provide necessary dependent data and requirements; (c) supply and/or install items to built into the dependent Work of others; (d) make appropriate provisions for dependent Work of others; (e) carefully examine and understand the portions of the Contract Documents (including Drawings,

Specifications and Field Clarifications) and Submittals relating to the dependent Work; and (f) examine the existing dependent Work and verify that the dependent Work is in proper condition for the Subcontractor's Work. If the dependent Work is not in a proper condition, the Subcontractor shall notify the Contractor in writing and not proceed with the Subcontractor's Work until the dependent Work has been corrected or replaced and is in a proper condition for the Subcontractor's Work.

5.3 Subcontractors' Compliance with LCP. As applicable, each Subcontractor performing Work shall comply with the LCP. A material obligation of the Contractor is its enforcement of Subcontractor obligations relating to the LCP; failure of the Contractor to strictly enforce such Subcontractor obligations is a material obligation of the Contractor under the Contract Documents.

ARTICLE 6: INSURANCE; INDEMNITY; BONDS

6.1 Workers' Compensation Insurance; Employer's Liability Insurance. The Contractor shall purchase and maintain Workers' Compensation Insurance as will protect the Contractor from claims under workers' or workmen's compensation, disability benefit and other similar employee benefit acts which are applicable to the Work to be performed, whether such operations be by the Contractor or by a Subcontractor or by anyone directly or indirectly employed by any of them, or by anyone for whose acts any of them may be liable. Contractor shall purchase and maintain Employer's Liability Insurance covering bodily injury (including death) by accident or disease to any employee which arises out of the employee's employment by Contractor. The Employer's Liability Insurance required of Contractor hereunder may be obtained by Contractor as a separate policy of insurance or as an additional coverage under the Workers' Compensation Insurance required to be obtained and maintained by Contractor hereunder. The limits of liability for the Employer's Liability Insurance required hereunder shall be as set forth in the Special Conditions.

6.2 Commercial General Liability and Property Insurance. The Contractor shall purchase and maintain Commercial General Liability and Property Insurance covering the types of claims set forth below which may arise out of or result from Contractor's operations under the Contract Documents and for which the Contractor may be legally responsible: (i) claims for damages because of bodily injury, sickness or disease or death of any person other than the Contractor's employees; (ii) claims for damages insured by usual personal injury liability coverage which are sustained (a) by a person as a result of an offense directly or indirectly related to employment of such person by the Contractor, or (b) by another person; (iii) claims for damages, other than to the Work itself, because of injury to or destruction of tangible property, including loss of use resulting therefrom; (iv) claims for damages because of bodily injury, death of a person or property damages arising out of ownership, maintenance or use of a motor vehicle; (v) contractual liability insurance applicable to the Contractor's obligations under the Contract Documents; and (vi) Completed Operations.

6.3 Builder's Risk "All-Risk" Insurance. The Contractor shall obtain Builders Risk insurance covering the full insurable value of the Work from risks of loss, damage or destruction of Work in progress or in place at the Site prior to Final Acceptance including without limitation coverage for losses resulting from the perils of fire, malicious mischief, vandalism, and collapse. The Builder's Risk Insurance Policy shall include coverage for seismic risks if so indicated in the Special Conditions.

6.4 Insurance Policy Requirements. Each policy of insurance required by the Contract

Documents shall confirm the following requirements.

6.4.1 Minimum Coverage Amounts. The insurance required of the Contractor hereunder shall be written for not less than any limits of liability specified in the Contract Documents, or required by law, whichever is greater. In the event of any loss or damage covered by a policy of insurance required to be obtained and maintained by the Contractor hereunder, the Contractor shall be solely and exclusively responsible for the payment of the deductible, if any, under such policy of insurance, without adjustment to the Contract Price on account thereof.

6.4.2 Required Qualifications of Insurers. The Contractor and Subcontractors' policies of Commercial General Liability and Property/Casualty insurance and the Contractor's Builders Risk insurance will be accepted by the District only if the insurer(s) are: (a) A.M. Best rated A- or better; (b) A.M. Best Financial Size Category VII or higher; and (c) authorized under California law to transact business in the State of California and authorized to issue insurance policies in the State of California. If at any time during performance of the Work, the insurer(s) issuing a policy of insurance covering Commercial General Liability, Property/Casualty or Builder Risk is/are not A.M. Best rated A- or better and is/are not A.M. Best Financial Size Category VII or higher, the Contractor or Subcontractor, as applicable shall within thirty (30) days of the District's written notice of the insufficiency of an insurer to the Contractor, obtain insurance coverage(s) from alternative insurer(s) who is/are then A.M. Best rated A- or better and who is/are A.M. Best Financial Size Category VII or higher. If the Contractor fails to deliver Certificate(s) of Insurance from an alternative insurer(s) meeting or exceeding the A.M. Best rating and A.M. Best Financial Size Category set forth above, within thirty (30) days of the date of the District's issuance of a written notice pursuant to the preceding sentence, in addition to any other right or remedy of the District under the Contract Documents or arising by operation of law, the District may withhold disbursement of any Progress Payment otherwise due hereunder until the Contractor has delivered such Certificate(s) of Insurance from an alternative insurer(s).

6.5 Evidence of Insurance; Subcontractor's Insurance.

6.5.1 Certificates of Insurance. Prior to commencing the Work, Contractor shall deliver to the District Certificates of Insurance evidencing the insurance coverages required by the Contract Documents. Failure or refusal of the Contractor to so deliver Certificates of Insurance may be deemed by the District to be a default of a material obligation of the Contractor under the Contract Documents, and thereupon the District may proceed to exercise any right or remedy provided for under the Contract Documents or at law. The Certificates of Insurance and the insurance policies required by the Contract Documents shall contain a provision that coverages afforded under such policies will not be canceled or allowed to expire until at least thirty (30) days prior written notice has been given to the District. The insurance policies required of Contractor hereunder shall also name the District, the Architect and the Construction Manager as additional insureds as their interests may appear. Should any policy of insurance be canceled before Final Acceptance of the Work by the District and the Contractor fails to immediately procure replacement insurance as required, the District reserves the right to procure such insurance and to deduct the premium cost thereof and other costs incurred by the District in connection therewith from any sum then or thereafter due the Contractor under the Contract Documents. The Contractor shall, from time to time, furnish the District, when requested, with satisfactory proof of coverage of each type of insurance required by the Contract

Documents; failure of the Contractor to comply with the District's request may be deemed by the District to be a default of a material obligation of the Contractor under the Contract Documents.

- 6.5.2 Subcontractors' Insurance.** Contractor shall require that every Subcontractor, of any tier, performing or providing any portion of the Work obtain and maintain the policies of insurance set forth in Articles 6.1 and 6.2 of these General Conditions; the coverages and limits of liability of such policies of insurance to be obtained and maintained by Subcontractors shall be as set forth in the Special Conditions. The policies of insurance to be obtained and maintained by Subcontractors hereunder are in addition to, and not in lieu of, Contractor obtaining and maintaining such policies of insurance. Each of the policies of insurance obtained and maintained by a Subcontractor hereunder shall conform with the requirements of this Article 6. Upon request of the District, Contractor shall promptly deliver to the District Certificates of Insurance evidencing that the Subcontractors have obtained and maintained policies of insurance in conformity with the requirements of this Article 6. Failure or refusal of the Contractor to provide the District with Subcontractors' Certificates of Insurance evidencing the insurance coverages required hereunder is a material default of Contractor hereunder.
- 6.6 Maintenance of Insurance.** Any insurance bearing on the adequacy of performance of Work shall be maintained after the District's Final Acceptance of all of the Work for the full one year correction of Work period and any longer specific guarantee or warranty periods set forth in the Contract Documents. Should such insurance be canceled before the end of any such periods and the Contractor fails to immediately procure replacement insurance as specified, the District reserves the right to procure such insurance and to charge the cost thereof to the Contractor. Nothing contained in these insurance requirements is to be construed as limiting the extent of the Contractor's responsibility for payment of damages resulting from its operations or performance of the Work under the Contract Documents, including without limitation the Contractor's obligation to pay Liquidated Damages. In no instance will the District's exercise of its option to occupy and use completed portions of the Work relieve the Contractor of its obligation to maintain insurance required under this Article until the date of Final Acceptance of the Work by the District, or such time thereafter as required by the Contract Documents. The insurer providing any insurance coverage required hereunder shall be to the reasonable satisfaction of the District.
- 6.7 Contractor's Insurance Primary.** All insurance and the coverages thereunder required to be obtained and maintained by Contractor hereunder, if overlapping with any policy of insurance maintained by the District, shall be deemed to be primary and non-contributing with any policy maintained by the District and any policy or coverage thereunder maintained by District shall be deemed excess insurance. To the extent that the District maintains a policy of insurance covering property damage arising out of the perils of fire or other casualty covered by the Contractor's Builder's Risk Insurance or the Comprehensive General Liability Insurance of the Contractor or any Subcontractor, the District, Contractor and all Subcontractors waive rights of subrogation against the others. The costs for obtaining and maintaining the insurance coverages required herein shall be included in the Contract Price.
- 6.8 Indemnity.** Unless arising solely out of the active negligence, gross negligence or willful misconduct the District or the Architect, the Contractor shall indemnify, defend and hold harmless the Indemnified Parties who are: (i) the District and its Board of Trustees, officers, employees, agents and representatives (including the Project Inspector); (ii) the Architect and its consultants for the Work and their respective agents and employees; and (iii) the

Construction Manager and its agents and employees. The Contractor's obligations hereunder includes indemnity, defense and hold harmless of the Indemnified Parties from and against any and all damages, losses, claims, demands or liabilities whether for damages, losses or other relief, including, without limitation attorneys fees and costs which arise, in whole or in part, from the Work, the Contract Documents or the acts, omissions or other conduct of the Contractor, any Subcontractor or any person or entity engaged by them for the Work. The Contractor's obligations under the foregoing include without limitation: (i) injuries to or death of persons; (ii) damage to property; or (iii) theft or loss of property; (iv) Stop Notice claims asserted by any person or entity in connection with the Work; and (v) other losses, liabilities, damages or costs resulting from, in whole or part, any acts, omissions or other conduct of Contractor, any of Contractor's Subcontractors, of any tier, or any other person or entity employed directly or indirectly by Contractor in connection with the Work and their respective agents, officers or employees. The obligations of the Contractor, as set forth in (v) above shall include, without limitation losses, costs, expenses, damages and other claims asserted by any other Contractor to the District in connection with the Work or in connection with a work of improvement related to or affected by the Work. If any action or proceeding, whether judicial, administrative, arbitration or otherwise, shall be commenced on account of any claim, demand or liability subject to Contractor's obligations hereunder, and such action or proceeding names any of the Indemnified Parties as a party thereto, the Contractor shall, at its sole cost and expense, defend the named Indemnified Parties in such action or proceeding with counsel reasonably satisfactory to the named Indemnified Parties. In the event that there shall be any judgment, award, ruling, settlement, or other relief arising out of any such action or proceeding to which any of the Indemnified Parties are subject to, or bound by, Contractor shall pay, satisfy or otherwise discharge any such judgment, award, ruling, settlement or relief; Contractor shall indemnify and hold harmless the Indemnified Parties from any and all liability or responsibility arising out of any such judgment, award, ruling, settlement or relief. The Contractor's obligations hereunder are binding upon Contractor's Performance Bond Surety and these obligations shall survive notwithstanding Contractor's completion of the Work or the termination of the Contract.

- 6.9 Payment Bond; Performance Bond.** Prior to commencement of the Work, the Contractor shall furnish a Performance Bond as security for Contractor's faithful performance of the Contract and a Labor and Material Payment Bond as security for payment of persons or entities performing work, labor or furnishing materials in connection with Contractor's performance of the Work under the Contract Documents. Unless otherwise stated in the Special Conditions, the amounts of the Performance Bond and the Payment Bond required hereunder shall be one hundred percent (100%) of the Contract Price. Said Labor and Material Payment Bond and Performance Bond shall be in the form and content set forth in the Contract Documents. The failure or refusal of the Contractor to furnish either the Performance Bond or the Labor and Material Payment Bond in strict conformity with this Article 6.9 may be deemed by the District as a default by the Contractor of a material obligation hereunder. Upon request of the Contractor, the District may consider and accept, but is not obligated to do so, multiple sureties on such bonds. The Surety on any bond required under the Contract Documents shall be: (i) an Admitted Surety Insurer as that term is defined in California Code of Civil Procedure §995.120; (ii) A.M. Best rated A- or better; and (iii) A.M. Best Financial Size Category VII or better. The Contractor's delivery of Bonds issued by a Surety who does not meet or exceed each of the criteria set forth above will be rejected.

ARTICLE 7: CONTRACT TIME

7.1 Substantial Completion of the Work Within Contract Time. Unless otherwise expressly provided in the Contract Documents, the Contract Time is the period of time, including authorized adjustments thereto, allotted in the Contract Documents for achieving Substantial Completion of the Work. The date for commencement of the Work is the date established by the Notice to Proceed issued by the District pursuant to the Agreement, which shall not be postponed by the failure to act of the Contractor or of persons or entities for whom the Contractor is responsible. The date of Substantial Completion is the date certified by the Architect and the Project Inspector, as such in accordance with the Contract Documents.

7.2 Progress and Completion of the Work.

7.2.1 Time of Essence. Time limits stated in the Contract Documents are of the essence. By executing the Agreement, the Contractor confirms that the Contract Time is a reasonable period for performing and achieving Substantial Completion of the Work. The Contractor shall employ and supply a sufficient force of workers, material and equipment, and prosecute the Work with diligence so as to maintain progress, to prevent Work stoppage and to achieve Substantial Completion of the Work within the Contract Time.

7.2.2 Substantial Completion. Substantial Completion is that stage in the progress of the Work when the Work is complete in accordance with the Contract Documents so the District can occupy or use the Work for its intended purpose. Substantial Completion shall be determined by the Architect, the Construction Manager and the Project Inspector upon request by the Contractor in accordance with the Contract Documents. The good faith and reasonable determination of Substantial Completion by the Project Inspector, the Construction Manager and the Architect shall be controlling and final.

7.2.3 Correction or Completion of the Work After Substantial Completion.

7.2.3.1 Punchlist. Upon achieving Substantial Completion of the Work, the District, The Project Inspector, the Construction Manager, the Architect and the Contractor shall jointly review the Work and prepare a comprehensive list of items of the Work to be corrected or completed by the Contractor (“the Punchlist”). The exclusion of, or failure to include, any item on the Punchlist shall not alter or limit the obligation of the Contractor to complete or correct any portion of the Work in accordance with the Contract Documents.

7.2.3.2 Time for Completing Punchlist Items. In addition to setting forth items for correction or completion pursuant to Article 7.2.3.1, the Construction Manager if any, Contractor and Architect shall, after the jointly review, establish a reasonable time for Contractors’ completion of all Punchlist items. If mutual agreement is not reached for the Contractor’s completion of Punchlist items, the Architect shall determine such time, and in such event, the time determined by the Architect shall be final and binding upon the District and Contractor so long as the Architect’s determination is made in good faith. The Contractor shall promptly and diligently proceed to complete all Punchlist items within the time established. In the event that the Contractor shall fail or refuse, for any reason, to complete all Punchlist items within the time established, Contractor shall be subject to assessment of Liquidated Damages in accordance with Article 7.4 hereof. The foregoing notwithstanding, if the Contractor fails or refuses to complete all Punchlist items, the District may in its sole and exclusive discretion and without further notice to Contractor, elect to cause the completion of all remaining Punchlist items provided, however that such election by the District is in addition to

and not in lieu of any other right or remedy of the District under the Contract Documents or at law. If the District elects to complete Punchlist items of the Work, pursuant to the foregoing, Contractor shall be responsible for all costs incurred by the District in connection herewith and the District may deduct such costs from the Contract Price then or thereafter due the Contractor, if these costs exceed the remaining Contract Price due to the Contractor, the Contractor and the Performance Bond Surety are liable to District for any such excess costs

7.2.4 Final Completion. Final Completion is that stage of the Work when all Work has been completed in accordance with the Contract Documents, including without limitation, the performance of all correction or completion items noted upon Substantial Completion, and the Contract has been otherwise fully performed by the Contractor. Final Completion shall be determined by the Architect and the Project Inspector upon request of the Contractor. The good faith and reasonable determination of Final Completion by the Project Inspector and the Architect shall be controlling and final.

7.2.5 Contractor Responsibility for Multiple Inspections. In the event the Contractor shall request determination of Substantial Completion or Final Completion by the Project Inspector and the Architect and it is determined by the Project Inspector and the Architect that the Work does not then justify certification of Substantial Completion or Final Completion and re-inspection is required at a subsequent time to make such determination, the Contractor shall be responsible for all costs of such re-inspection, including without limitation, the fees of the Architect and the salary of the Project Inspector. The District may deduct such costs from the Contract Price then due or thereafter due to the Contractor.

7.2.6 Final Acceptance. Final Acceptance of the Work shall occur upon approval of the Work by the District's Board of Trustees; such approval shall be submitted for adoption at the next regularly scheduled meeting of the District's Board of Trustees after the determination of Final Completion. The commencement of any warranty or guarantee period under the Contract Documents shall be deemed to be the date upon which the District's Board of Trustees approves of the Final Acceptance of the Work.

7.3 Construction Schedule.

7.3.1 General Construction Schedule Requirements. Unless otherwise provided in the Special Conditions, the Construction Schedules required under this Article 7 shall; (i) indicate the date(s) for commencement and completion of various portions of the Work including without limitation, procurement, fabrication and delivery of major items, materials or equipment; (ii) indicate manpower and other resources required for completion of each Construction Schedule activity; (iii) indicate costs for completion of each Construction Schedule activity; (iv) identify each Submittal required by the Contract Documents, the date for the Contractor's submission of each Submittal and the date for the return of the reviewed Submittal to the Contractor; (v) no Site activity shall reflect a duration of less than one (1) or more than fifteen (15) working days; (vi) no more than twenty five percent (25%) of the total number of activities shown on any Construction Schedule shall be critical path activities or near critical path activities; "near critical path" is defined as float less than ten (10) working days; (viii) indicate major milestones, including without limitation, development of Punchlists and completion of Punchlists, equipment start-up and testing, close-out activities; and (ix) shall incorporate an activity code structure sufficient to allow future sorting/grouping by responsibility, Site area/location, CSI divisions and Milestones.

Failure by the Contractor to include any element of the Work required by the Contract Documents or completion of the Work shall not excuse the Contractor from completing all work required within the Contract Time, notwithstanding District's, Construction Manager's and Architect's acceptance of any Construction Schedule prepared by the Contractor.

7.3.2 Submittal of Preliminary Construction Schedule. Within ten (10) days following execution of the Agreement, the Contractor shall prepare and submit one (1) electronic and two (2) hard copies to the District, the Construction Manager and the Architect a Preliminary Construction Schedule indicating, in graphic form, the estimated rate of progress and sequence of all Work required under the Contract Documents. Failure of the Contractor to submit the Preliminary Construction Schedule within said ten (10) days will result in assessment of Liquidated Damages as set forth in the Special Conditions for each calendar beyond such ten (10) day period, until the Preliminary Construction Schedule is submitted by the Contractor. The purpose of the Preliminary Construction Schedule is to ensure adequate planning and execution of the Work so that it is completed within the Contract Time and to permit evaluation of the progress of the Work. The Contractor may submit a Preliminary Construction Schedule depicting completion of the Work in a duration shorter than the Contract Time; provided that such Preliminary Construction Schedule shall not be a basis for adjustment to the Contract Price in the event that completion of the Work shall occur after the time depicted therein, nor shall such Preliminary Construction Schedule be the basis for any extension of the Contract Time, the Contractor's entitlement to any extension of the Contract Time shall be based upon the Contract Time and not on any shorter duration which may be depicted in the Contractor's Preliminary Construction Schedule. If the Construction Schedules required under this Article 7.3 incorporate therein any "float" time, such float shall be deemed to jointly belong to and owned by the District and the Contractor. As used herein, "float time" shall be deemed to refer to the time between earliest finish date and the latest finish date of each activity shown on the Construction Schedule.

7.3.3 Review of Preliminary Construction Schedule. The District, the Construction Manager and the Architect shall review the Preliminary Construction Schedule submitted by the Contractor pursuant to Article 7.3.1 above for conformity with the requirements of the Contract Documents. Within fifteen (15) days of the date of receipt of the Preliminary Construction Schedule, the Preliminary Construction Schedule will be returned to the Contractor with comments to the form or content thereof. Review of the Preliminary Progress Schedule and any comments thereto by the District, the Construction Manager and/or the Architect shall not be deemed to be the assumption of construction means, methods or sequences by the District, the Construction Manager or the Architect, all of which remain the Contractor's obligations under the Contract Documents.

7.3.4 Preparation and Submittal of Contract Construction Schedule. Within ten (10) days of the District's return of the Preliminary Construction Schedule to the Contractor pursuant to Article 7.3.2 above, the Contractor shall prepare and submit to the District, Architect and the Construction Manager the Construction Schedule which incorporates therein the comments to the Preliminary Construction Schedule. Upon the Contractor's submittal of such Construction Schedule, the District, the Construction Manager and the Architect shall review the same for purposes of determining conformity with the requirements of the Contract Documents. Within fifteen (15) days of the receipt of the Construction Schedule, the District will accept such Construction Schedule or will return the same to the Contractor with comments to the form or content. In the event there are comments to the form or content thereof, the Contractor, shall within seven (7) days of

receipt of such comments, revise and resubmit the Construction Schedule incorporating therein such comments. Upon the District's acceptance of the form and content of a Construction Schedule, the same shall be deemed the "Accepted Construction Schedule." The District's acceptance of a Construction Schedule shall be for the sole and limited purpose of determining conformity with the requirements of the Contract Documents. By the Accepted Construction Schedule, the District shall not be deemed to have exercised control over, or approval of, construction means, methods or sequences, all of which remain the responsibility and obligation of the Contractor in accordance with the terms of the Contract Documents. Further, the Accepted Construction Schedule shall not operate to limit or restrict any of Contractor's obligations under the Contract Documents nor relieve the Contractor from the full, faithful and timely performance of such obligations in accordance with the terms of the Contract Documents. The activities, commencement and completion dates of activities, and the sequencing of activities depicted on the Accepted Construction Schedule shall not be modified or revised by the Contractor without the prior consent, or direction, of the District, Construction Manager and the Architect. Updates to the Accepted Construction Schedule pursuant to Article 7.3.5 below shall not be deemed revisions to the Accepted Construction Schedule. In the event that the Accepted Construction Schedule shall depict completion of the Work in a duration shorter than the Contract Time, the same shall not be a basis for an adjustment of the Contract Time or the Contract Price in the event that actual completion of the Work shall occur after such the time depicted in such Accepted Construction Schedule. In such event, the Contract Price shall not be subject to adjustment on account of any additional costs incurred by the Contractor to complete the Work prior to the Contract Time, as adjusted in accordance with the terms of the Contract Documents. Any adjustment of the Contract Time or the Contract Price shall be based upon the Contract Time set forth in the Contract Documents and not any shorter duration which may depicted in the Accepted Construction Schedule.

7.3.5 Revisions to Accepted Construction Schedule. In the event that the progress of the Work or the sequencing of the activities of the Work shall materially differ from that indicated in the Accepted Construction Schedule, as determined by the District in its reasonable discretion and judgment, the District may direct the Contractor to revise the Accepted Construction Schedule; within fifteen (15) days of the District's direction, the Contractor shall prepare and submit to the District, Architect and the Construction Manager a revised Accepted Construction Schedule, for review and approval by the District. The Contractor may request consent of the District to revise the Accepted Construction Schedule. Any such request shall be considered by the District only if in writing setting forth the Contractor's proposed revision(s) to the Accepted Construction Schedule and the reason(s) therefor. The District may consent to, or deny, any such request of the Contractor to revise the Accepted Construction Schedule in its reasonable discretion.

7.3.6 Updates to Accepted Construction Schedule.

7.3.6.1 Updated Construction Schedule Requirements. The Contractor shall monitor and update the Accepted Construction Schedule on a monthly basis, or more frequently as required by the conditions or progress of the Work, or as may be requested by the District. The Contractor shall provide the District, the Construction Manager and the Architect with Updated Accepted Construction Schedules indicating progress achieved and activities commenced or completed within the prior Updated Accepted Construction Schedule. Updates to the Accepted Construction Schedule shall not include any revisions to the activities, commencement and completion dates of activities or the sequencing of activities depicted on the Accepted Construction

Schedule. Any such revisions to the Accepted Construction Schedule shall result in the District's rejection of such update and Contractor shall, within seven (7) days of the District's rejection of such update, submit to the Architect and the Construction Manager an Updated Accepted Construction Schedule which does not incorporate any such revisions. The Contractor shall also submit, with its updates to the Accepted Construction Schedule a narrative statement including a description of current and anticipated problem areas of the Work, delaying factors and their impact, and an explanation of corrective action taken or proposed by the Contractor. If the progress of the Work is behind the Accepted Construction Schedule, the Contractor shall indicate what measures will be taken to place the Work back on schedule. The District may, from time to time, and in the District's sole and exclusive discretion, transmit to the Contractor's Performance Bond Surety the Accepted Construction Schedule, any updates thereof and the narrative statement described hereinabove. The District's election to transmit, or not to transmit such information, to the Contractor's Performance Bond Surety shall not limit the Contractor's obligations under the Contract Documents.

7.3.6.2 Monthly Submission of Updated Construction Schedules. Concurrently with its submission of its Applications for Progress Payments, the Contractor shall submit the Updated Construction Schedule for the immediately preceding month. Each submission of a monthly Updated Construction Schedule shall consist of: (i) one (1) reproducible copy; (ii) three (3) color copies; and (iii) electronic file stored on CD or DVD. If a narrative report accompanies any monthly Updated Construction Schedule, the Contractor shall submit four (4) copies of such narratives.

7.3.7 Contractor Responsibility for Construction Schedule. The Contractor shall be responsible for the preparation, submittal and maintenance of the Construction Schedules required by the Contract Documents, and any failure of the Contractor to do so may be deemed by the District as the Contractor's default in the performance of a material obligation of the Contractor under Contract Documents. Any and all costs or expenses required or incurred to prepare, submit, revise, maintain or update the Construction Schedules shall be solely that of the Contractor and no such cost or expense shall be charged to the District. The Contract Price shall not be subject to adjustment on account of costs, fees or expenses incurred or associated with the Contractor's preparation, submittal, and maintenance or updating of the Construction Schedules.

7.3.8 Three (3) Week Look-Ahead Schedule; One (1) Week As Built Schedule. A combined three (3) week Look-Ahead Schedule for the three (3) week period immediately following each weekly Progress Meeting with a one (1) week As-Built Schedule for the previous week shall be prepared by the Contractor and submitted by the Contractor to the Construction Manager for review and approval at each weekly Progress Meeting. The Contractor's preparation and submittal of the Three (3) Week Look-Ahead Schedule; One (1) Week As Built Schedule described above are material obligations of the Contractor; failure or refusal of the Contractor to strictly comply with the foregoing shall be a basis for the District's exercise of the default termination procedures set forth in the Contract Documents.

7.3.9 Unanticipated Unusually Severe Weather Conditions. The Baseline Construction Schedule and all subsequent Construction Schedule Updates shall incorporate a critical path activity entitled "Remaining Inclement Weather Days" which shall be the last activity in each Construction Schedule prior to the activity entitled "Final Completion". The sole

successor to “Remaining Inclement Weather Days” (with zero lag) shall be “Final Completion” and the sole predecessor (with zero lag) shall be “Punchlist”.

The Contractor shall apply in writing to the District to use an Inclement Weather Day only when a critical path activity on the then current Updated Construction Schedule has been delayed because of inclement weather conditions. The duration of the “Remaining Inclement Weather Days” activity shall be reduced by the number of approved work days of actual weather caused delay, and be included in the monthly schedule updates.

The “Remaining Inclement Weather Days” activity shall have an initial duration as set forth in the Special Conditions, Paragraph 4.3. If, at Final Completion, there are inclement weather days remaining, the unused days shall be considered “float” as defined by Paragraph 7.3.1 of the General Conditions. If, additional inclement weather days are required, the District shall adjust the Substantial Completion date accordingly.

7.3.10 Construction Schedules; Conditions Precedent To Progress Payment Disbursements. In addition to, and not in lieu of conditions precedent set forth elsewhere in the Contract Documents relating to the District’s disbursement of Progress Payments, the Contractor’s preparation and submission of the Preliminary Construction Schedule, Construction Schedule Updates and the Three (3) Week Look-Ahead Schedule; One (1) Week As Built Schedule in accordance with the Contract Documents requirements are conditions precedent to the District’s obligation to disburse any Progress Payment to the Contractor.

7.3.11 Contractor Schedule Compliance Obligations. If in the sole reasonable judgment of the District: (i) the Contractor’s progress of Work is materially behind that indicated in the then current Construction Schedule or (ii) the Contractor’s progress of Work will not result in the Contractor’s achievement of Substantial Completion within the Contract Time or the Contractor’s completion of Milestones/Phases of the Work as required by the Contract Documents, the Contractor shall take the action(s) described herein, as directed or authorized by the District. Unless the actions of the District, Construction Manager, Architect or Project Inspector are the sole causative factors resulting in delayed progress of the Work or the inability to achieve Substantial Completion within the Contract Time, the Contractor’s actions hereunder shall not result in adjustment of the Contract Time or the Contract Price. Actions to be directed or authorized by the District include, without limitation, the Contractor’s (i) increase of labor resources (whether on-Site or off-Site); (ii) increase the number of working hours per shift, increase the number of shifts per working day, increase the number of working days and/or increase Construction Equipment at the Site; and/or (iii) re-sequence Work activities to achieve maximum concurrent performance and completion of multiple Work activities.

7.4 Adjustment of Contract Time. If Substantial Completion is delayed, adjustment, if any, to the Contract Time on account of such delay shall be in accordance with this Article 7.4.

7.4.1 Excusable Delays. If Substantial Completion of the Work is delayed by Excusable Delays, the Contract Time shall be subject to adjustment for such reasonable period of time as determined by the Architect; Excusable Delays shall not result in any increase in the Contract Price. Excusable Delays refer to unforeseeable and unavoidable casualties or other unforeseen causes beyond the control, and without fault or neglect, of the Contractor, any Subcontractor, Material Supplier or other person directly or indirectly engaged by the Contractor in performance of any portion of the Work. Excusable Delays

include unanticipated and unavoidable labor disputes, unusual and unanticipated delays in transportation of equipment, materials or Construction Equipment reasonably necessary for completion and proper execution of the Work, unanticipated unusually severe weather conditions or DSA directive to stop the Work. Neither the financial resources of the Contractor or any person or entity directly or indirectly engaged by the Contractor in performance of any portion of the Work shall be deemed conditions beyond the control of the Contractor. If an event of Excusable Delay occurs, the Contract Time shall be subject to adjustment hereunder only if the Contractor establishes: (i) full compliance with all applicable provisions of the Contract Documents relative to the method, manner and time for Contractor's notice and request for adjustment of the Contract Time; (ii) that the event(s) forming the basis for Contractor's request to adjust the Contract Time are outside the reasonable control and without any fault or neglect of the Contractor or any person or entity directly or indirectly engaged by Contractor in performance of any portion of the Work; and (iii) that the event(s) forming the basis for Contractor's request to adjust the Contract Time directly and adversely impacted the critical path of the Work as indicated in the Approved Construction Schedule or the most recent updated Approved Construction Schedule relative to the date(s) of the claimed event(s) of Excusable Delay. The foregoing provisions notwithstanding, if the Special Conditions set forth a number of "Rain Days" to be anticipated during performance of the Work, the Contract Time shall not be adjusted for rain related unusually severe weather conditions until and unless the actual number of Rain Days during performance of the Work shall exceed those noted in the Special Conditions and such additional Rain Days shall have directly and adversely impacted the critical path of the Work as depicted in the Approved Construction Schedule or the most recent updated Approved Construction Schedule relative to the date(s) of such additional Rain Days.

7.4.2 Compensable Delays. If Substantial Completion of the Work is delayed and such delay is caused by the acts or omissions of the District, the Architect, the Inspector of Record, or separate contractor employed by the District (collectively "Compensable Delays"), upon Contractor's request and notice, in strict conformity with Articles 7 and 9 of these General Conditions, the Contract Time will be adjusted by Change Order for such reasonable period of time as determined by the Architect and the District. In accordance with California Public Contract Code §7102, if the Contractor's progress is delayed by any of the events described in the preceding sentence, Contractor shall not be precluded from the recovery of damages directly and proximately resulting therefrom, provided that the District is liable for the delay, the delay is unreasonable under the circumstances involved and the delay was not within the reasonable contemplation of the District and the Contractor at the time of execution of the Agreement. In such event, Contractor's damages, if any, shall be limited to direct, actual and unavoidable additional costs of labor, materials or Construction Equipment directly resulting from such delay, and shall exclude indirect or other consequential damages. Except as expressly provided for herein, Contractor shall not have any other claim, demand or right to adjustment of the Contract Price arising out of delay, interruption, hindrance or disruption to the progress of the Work. Adjustments to the Contract Price and the Contract Time, if any, on account of Changes to the Work or Suspension of the Work shall be governed by the applicable provisions of the Contract Documents, including without limitation, Articles 9 and 14 of these General Conditions.

7.4.3 Unexcusable Delays. Unexcusable Delays refer to any delay to the progress of the Work caused by events or factors other than those specifically identified in Articles 7.4.1 and 7.4.2 above. Neither the Contract Price nor the Contract Time shall be adjusted on account of Unexcusable Delays.

7.4.4 Adjustment of Contract Time.

7.4.4.1 Procedure for Adjustment of Contract Time. The Contract Time shall be subject to adjustment only in strict conformity with applicable provisions of the Contract Documents. Failure of Contractor to request adjustment(s) of the Contract Time in strict conformity with applicable provisions of the Contract Documents shall be deemed Contractor's waiver of the same.

7.4.4.1.1 Contractor Notice of Adjustment of Contract Time. The Contract Time shall be subject to adjustment only if the Contractor provides notice of an adjustment of the Contract Time and supporting substantiation and documentation of the basis and extent of the requested Contract Time adjustment in strict conformity to Article 9.6 of these General Conditions.

7.4.4.1.2 Time Impact Evaluation. The supporting substantiation and documentation of the basis and extent of Contract Time adjustments required by the provisions of Article 9.6 shall include, without limitation, a complete Time Impact Evaluation ("TIE") of the factors justifying an adjustment of the Contract Time and the extent of such adjustment of the Contract Time.

7.4.4.2 Limitations Upon Adjustment of Contract Time on Account of Delays. Any adjustment of the Contract Time on account of an Excusable Delay or a Compensable Delay shall be limited as set forth herein. If an Excusable Delay and a Compensable Delay occur concurrently, the maximum extension of the Contract Time shall be the number of days from the commencement of the first delay to the cessation of the delay which ends last. If an Unexcusable Delay occurs concurrently with either an Excusable Delay or a Compensable Delay, the maximum extension of the Contract Time shall be the number of days, if any, which the Excusable Delay or the Compensable Delay exceeds the period of time of the Unexcusable Delay. In addition to the foregoing limitations upon extension of the Contract Time, no adjustment of the Contract Time shall be made on account of any Excusable Delays or Compensable Delays unless such delay(s) actually and directly impact Work or Work activities on the critical path of the then current and updated Approved Construction Schedule as of the date on which such delay first occurs. The District shall not be deemed in breach of, or otherwise in default of any obligation hereunder, if the District shall deny any request by the Contractor for an adjustment of the Contract Time for any delay which does not actually and directly impact Work or Work activities on the critical path of the then current and updated Approved Construction Schedule.

7.5 Liquidated Damages. Should the Contractor neglect, fail or refuse to: (i) submit the Preliminary Construction Schedule within the time set forth in the Contract Documents; (ii) submit Submittals in accordance with Submittal Schedule incorporated into the Accepted Construction Schedule; (iii) achieve Substantial Completion of the Work within the Contract Time, (subject to adjustments authorized under the Contract Documents); or (iv) to complete Punchlist items within the time established pursuant to the Contract Documents, the Contractor agrees to pay to the District the amount of per diem Liquidated Damages set forth in the Special Conditions, not as a penalty but as Liquidated Damages. The Liquidated Damages amounts set forth in the Special Conditions are agreed upon by and between the Contractor and the District because of the difficulty of fixing the District's actual damages in the event of the Contractor's delayed submission of the Preliminary Construction Schedule, delayed submission of Submittals, delayed Substantial Completion or delayed completion of

Punchlist items. The Contractor and the District specifically agree that said amounts are reasonable estimates of the District's damages in such event, and that such amounts do not constitute a penalty. Liquidated Damages may be deducted by the District from the Contract Price then or thereafter due the Contractor. The Contractor and the Surety shall be liable to the District for any Liquidated Damages exceeding any amount of the Contract Price then held or retained by the District. In the event that the Contractor shall fail or refuse to complete Punchlist items and the District elects to exercise its right to cause completion or correction of such items pursuant to Article 7.2.3.2 hereof, the District's assessment of Liquidated Damages pursuant to the foregoing shall be in addition, and not in lieu of, the District's right to charge Contractor with the cost of completing or correcting such items of the Work, as provided for under Article 7.2.3.2. The Contractor and the District acknowledge and agree that the provisions of this Article 7.5 are reasonable under the circumstances existing at the time of the Contractor's execution of the Agreement.

- 7.6 District Right to Take-Over Work.** Unless caused by the District, Architect, Construction Manager or the Project Inspector, if the Contractor fails or refuses, for any reason and at any time, to furnish adequate materials, labor, equipment or services to maintain progress of the Work in accordance with the then current Construction Schedule after twenty-four (24) hours advance written notice from the Construction Manager to the Contractor of its failure or refusal, the District may thereafter furnish or cause to be furnish such materials, labor, equipment or services necessary to maintain progress of the Work in accordance with the then current Construction Schedule. All costs, expenses or other charges (whether direct, indirect and administrative) incurred by the District in furnishing such materials, labor, equipment or services shall be at the sole cost of the Contractor and the District may deduct the same from the Contract Price then or thereafter due the Contractor. The District's exercise of rights pursuant to the foregoing shall not be deemed a waiver or limitation of any other right or remedy of the District under the Contract Documents.

ARTICLE 8: CONTRACT PRICE

- 8.1 Contract Price.** The Contract Price is the amount stated in the Agreement as such, and subject to any authorized adjustments thereto in accordance with the Contract Documents, is the total amount payable by the District to the Contractor for performance of the Work under the Contract Documents. The District's payment of the Contract Price to the Contractor shall be in accordance with the Contract Documents.
- 8.2 Cost Breakdown.** Within fifteen (15) days of the execution of the Agreement by Contractor, Contractor shall furnish, on forms approved by the District, a detailed estimate and complete Cost Breakdown of the Contract Price. The Cost Breakdown shall be subject to review and approval by the Construction Manager, Architect and District of the form and content thereof. In the event that the District shall reasonably object to any portion of the Cost Breakdown, within ten (10) days of the District's receipt of the Cost Breakdown, the District shall notify the Contractor, in writing of the District's objection(s) to the Cost Breakdown. Within five (5) days of the date of the District's written objection(s), Contractor shall submit a revised Cost Breakdown to the District, Architect and the Construction Manager for review and acceptance. The foregoing procedure for the preparation, review and approval of the Cost Breakdown shall continue until the District, Architect and the Construction Manager have approved of the entirety of the Cost Breakdown. Once the Cost Breakdown is accepted by the District, Architect and the Construction Manager, the Cost Breakdown shall not be thereafter modified or amended by the Contractor without the prior consent and approval of the District, Architect and the Construction Manager, which may be granted or withheld in

their sole reasonable discretion.

8.3 Progress Payments.

8.3.1 Applications for Progress Payments. During the Contractor's performance of the Work, the Contractor shall submit monthly, on the first working day of each month, to the Project Inspector, Construction Manager and the Architect, Applications for Progress Payments, on forms approved by the District, setting forth an itemized estimate of Work completed in the preceding month for the purpose of the District's making of Progress Payments thereon. Values utilized in the Applications for Progress Payments shall be based upon the District accepted Cost Breakdown pursuant to Article 8.2 above and such values shall be only for determining the basis of Progress Payments to Contractor, and shall not be considered as fixing a basis for adjustments, whether additive or deductive, to the Contract Price, or for determining the extent of Work actually completed.

8.3.2 Initial Progress Payment Meeting. Prior to submitting any Application for Progress Payment and for the purpose of expediting review of Application for Progress Payments and disbursement of Progress Payments, Contractor agrees to meet with the Project Inspector, Construction Manager and Architect to review and discuss each of the Contractor's Proposed Applications for Progress Payment. If any item submitted for payment is disputed during this review, Contractor agrees to use its best efforts to resolve the disputed items with Project Inspector, Construction Manager and Architect before formally submitting the Application for Progress Payment. The Architect, the Construction Manager and District specifically reserve the right to dispute any item included in Contractor's Application for Progress Payment, regardless of whether such item was identified as disputed in the initial review process provided for herein.

8.3.3 District's Review of Applications for Progress Payments. In accordance with Public Contract Code §20104.50, upon receipt of an Application for Progress Payment, the District shall cause the same to be reviewed by the Project Inspector, the Construction Manager, if one is designated by the District, and the Architect, as soon as is practicable after receipt of such Application for Progress Payment. Such review shall be for the purpose of determining that the Application for Progress Payment is a proper Progress Payment request. For purposes of this Article 8.3.2, an Application for Progress Payment shall be deemed "proper" only if it is submitted on the form approved by the District, with all of the requested information of such form of Application for Progress Payment completely and accurately provided by the Contractor and such completed Application for Progress Payment is accompanied by: (i) a Certification, executed under penalty of perjury by the Contractor's Superintendent and/or Construction Manager, that all weekly Certified Payroll Records for the Contractor and all Subcontractors required to submit weekly Certified Payroll Records under the LCP for the period of time covered by the Application for Progress Payment have been completed and submitted in strict conformity with the LCP; (ii) Certified Payrolls of the any Subcontractors, of any tier, (who are not required under the LCP to submit Certified Payroll Records on weekly basis) for laborers performing any portion of the Work for which a Progress Payment is requested; (iii) duly completed and executed forms of Conditional Waiver and Release of Rights Upon Progress Payment in accordance with California Civil Code §3262 of the Contractor, all Subcontractors of any tier, and Material Suppliers covering the Progress Payment requested; (iv) duly completed and executed forms of Unconditional Waiver and Release of Rights upon Progress Payment in accordance with California Civil Code §3262 of the Contractor, all Subcontractors of any tier, and Material Suppliers covering the Progress Payment received

by the Contractor under the prior Application for Progress Payment; (v) an updated Construction Schedule in accordance with Article 7.3.5 of the General Conditions and applicable provisions of the Specifications relating to the Contractor's updates to the Construction Schedule; (vi) for the first (1st) Application for Progress Payment, a certification that the Preliminary Construction Schedule conforming to requirements of the Contract Documents has been prepared and submitted by the Contractor; for subsequent Applications for Progress Payment a certification by the Contractor that it has continuously maintained, or caused to be maintained, the Record Drawings reflecting the actual as-built conditions of the Work performed for which the Progress Payment is requested, it being understood that such certification is subject to verification by the District, Architect, Project Inspector or the Construction Manager prior to disbursement of the Progress Payment; and (vii) completed/executed form of Debris Recycling Statement. In accordance with Public Contract Code §20104.50, an Application for Progress Payment determined by the District not to be a proper Application for Progress Payment shall be returned by the District to the Contractor as soon as is practicable after receipt of the same from the Contractor, but in no event not more than seven (7) days after the District's receipt thereof. The District's return of any Application for Progress Payment pursuant to the preceding sentence shall be accompanied by a written document setting forth the reason(s) why the Application for Progress Payment is not proper.

8.3.4 Review of Applications for Progress Payments. Upon receipt of an Application for Progress Payment, the Architect, Construction Manager and the Project Inspector shall inspect and verify the Work to determine whether it has been performed in accordance with the terms of the Contract Documents and to determine the portion of the Application for Progress Payment which is properly due to the Contractor under the terms of the Contract Documents.

8.3.5 District's Disbursement of Progress Payments

8.3.5.1 Timely Disbursement of Progress Payments. In accordance with Public Contract Code §20104.50, within thirty (30) days after the District's receipt of a proper Application for Progress Payment, there shall be paid, by District, to Contractor a sum equal to ninety-five percent (95%) of the value of the Work indicated in the Application for Progress Payment which is actually in place as of the date of the Application for Progress Payment and as verified and approved by the Project Inspector and the Architect and the pro rata portion of the Contractor's overhead, supervision and general conditions costs and profit for that month; provided, however, that the District's obligation to disburse any Progress Payment shall be subject to the District's receipt of all documents set forth in Article 8.3.3 above, each and all of which are conditions precedent to the District's obligation to disburse Progress Payments. If an Application for Progress Payment is determined not to be proper due to the failure or refusal of the Contractor to submit documents with the Application for Progress Payment, as required by Article 8.3.2, or incompleteness or inaccuracies in any such documents submitted or if it is reasonably determined that the Record Drawings have not been continuously maintained to reflect the actual as built conditions of the Work completed in the period for which the Progress Payment is requested, the thirty (30) day period hereunder for the District's timely disbursement of a Progress Payment shall be deemed to commence on the date that the District is actually in receipt of documents not submitted with the Application for Progress Payment, or corrections to documents with the Application for Progress Payment so as to render them complete and accurate, or the date upon which the Contractor accurately and fully

completes preparation of the Record Drawings relating to the Work for which the Progress Payment is requested.

8.3.5.2 Untimely Disbursement of Progress Payments. In accordance with Public Contract Code §20104.50, in the event that the District shall fail to make any Progress Payment within thirty (30) days after receipt of an undisputed and properly submitted Application for Progress Payment, the District shall pay the Contractor interest on the undisputed amount of such Application for Progress Payment equal to the legal rate of interest set forth in California Code of Civil Procedure §685.010(a). The foregoing notwithstanding, in the event that the District shall determine that any Application for Progress Payment is not proper, pursuant to Article 8.3.3 above, and the District does not return such Application for Progress Payment within the seven (7) day period provided for in Article 8.3.3, the period of time for the District's disbursement of the Progress Payment on such Application for Progress Payment without incurring the interest liability shall be reduced by the number of days exceeding the seven (7) day return period.

8.3.5.3 District's Right to Disburse Progress Payments by Joint Checks. Provided that the District is in receipt of the applicable Subcontract or Purchase Order, the District, may in its sole discretion, issue joint checks to the Contractor and such Subcontractor or Material Supplier in satisfaction of its obligation to make Progress Payments or the Final Payment due hereunder.

8.3.5.4 No Waiver of Defective or Non-Conforming Work. The approval of any Application for Progress Payment or the disbursement of any Progress Payment to the Contractor shall not be deemed nor constitute acceptance of defective Work or Work not in conformity with the Contract Documents.

8.3.6 Progress Payments for Changed Work. The Contractor's Applications for Progress Payment may include requests for payment on account of Changes in the Work which have been properly authorized and approved by the Project Inspector, the Architect and all other governmental agencies with jurisdiction over such Change in accordance with the terms of the Contract Documents and for which a Change Order has been issued. Except as provided for herein, no other payment shall be made by the District for Changes in the Work.

8.3.7 Materials or Equipment Not Incorporated Into the Work.

8.3.7.1 Limitations Upon Payment. Except as expressly provided for herein, no payments shall be made by the District on account of any item of the Work, including without limitation, materials or equipment which, at the time of the Contractor's submittal of an Application for Progress Payment, has/have not been incorporated into and made a part of the Work.

8.3.7.2 Materials or Equipment Delivered and Stored at the Site. The District may, in its sole and exclusive discretion, make payment for materials or equipment not yet incorporated into the Work if, at or prior to the time of the Contractor's submittal of an Application for Progress Payment incorporating therein a request for payment of such materials or equipment if all of the following are complied with: (i) the materials or equipment have been delivered to the Site; (ii) adequate arrangements, reasonably satisfactory to the District, have been made by the Contractor to store and protect

such materials or equipment at the Site including without limitation, insurance reasonably satisfactory to the District, covering and protecting against the risk of loss, destruction, theft or other damage to such materials or equipment while in storage if such coverage is not afforded under the policy of Builder's Risk insurance obtained by the District pursuant to the Contract Documents; and (iii) the establishment of procedures reasonably satisfactory to the District by which title to such materials or equipment will be vested in the District upon the District's payment therefor. The Contractor acknowledges that the discretion to make, or not to make, payment for materials or equipment delivered or stored at the site of the Work pursuant to the preceding sentence shall be exercised exclusively by the District; the District's exercise of discretion not to make payment for materials or equipment delivered or stored at the Site, but not yet incorporated into the Work shall not be deemed the District's default hereunder. In the event that the District shall elect to make payment for materials or equipment delivered and stored at the Site, the costs and expenses incurred to comply with the requirements of (ii) and (iii) of this Article 8.3.6.2 shall be borne solely and exclusively by the Contractor and no payment shall be made by the District on account of such costs and expenses.

8.3.7.3 Materials or Equipment Not Delivered or Stored at the Site. No payments shall be made by the District for materials or equipment to be incorporated into the Work where such materials or equipment have not been delivered or stored at the Site. The foregoing notwithstanding, the District may, in its sole and exclusive discretion, elect to make payment for materials or equipment not incorporated into the Work and which are not delivered or stored at the Site at or prior to the time of the Contractor's submittal of an Application for Progress Payment incorporating therein a request for payment of such materials or equipment provided that each and all of the following have been complied with: (i) adequate arrangements, reasonably satisfactory to the District, have been made by the Contractor to store and protect such materials or equipment which include without limitation, insurance reasonably satisfactory to the District, covering and protecting against the risk of loss, destruction, theft or other damage to such materials or equipment while in storage if coverage for the same is not afforded under the policy of Builder's Risk insurance obtained by the District pursuant to the Contract Documents; and (ii) the establishment of procedures reasonably satisfactory to the District by which title to such materials or equipment will be vested in the District upon the District's payment therefor. The Contractor acknowledges that the discretion to make, or not to make, payment for such materials or equipment pursuant to the preceding sentence shall be exercised exclusively by the District; the District's exercise of discretion not to make payment for such materials or equipment shall not be deemed the District's default hereunder. In the event that the District shall elect to make payment for materials or equipment not at the Site, the costs and expenses incurred to comply with the requirements of (i) and (ii) of this Article 8.3.7.3 shall be borne solely and exclusively by the Contractor and no payment shall be made by the District on account of such costs and expenses.

8.3.7.4 Materials or Equipment in Fabrication or Transit. The provisions of this Article 8.3.7 notwithstanding, the District shall not make any payment on account of any materials or equipment which is in the process of being fabricated or which are in transit to the Site of or other storage location.

8.3.8 Exclusions From Progress Payments. In addition to the District's right to withhold disbursement of any Progress Payment provided for in the Contract Documents, neither

the Contractor's Application for Progress Payment shall include, nor shall the District be obligated to disburse any portion of the Contract Price for amounts which the Contractor does not intend to pay any Subcontractor, of any tier, or Material Supplier because of a dispute or any other reason.

8.3.9 Title to Work. The Contractor warrants that title to all Work covered by an Application for Progress Payment will pass to the District no later than the time of payment. The Contractor further warrants that upon submittal of an Application for Progress Payment, all Work for which a Progress Payment has been previously issued and the Contractor has received payment from the District therefor shall, to the best of the Contractor's knowledge, information and belief, be free and clear of liens, claims, stop notices, security interests or encumbrances in favor of the Contractor, Subcontractors, Material Suppliers or other persons or entities making a claim by reason of having provided labor, materials and equipment relating to the Work.

8.3.10 Substitute Security for Retention. In accordance with the provisions of California Public Contract Code §22300, eligible and equivalent securities may be substituted for any monies withheld by the District to ensure the Contractor's performance under the Contract Documents at the request and expense of the Contractor and in conformity with the provisions of California Public Contract Code §22300. The foregoing and the provisions of California Public Contract Code §22300 notwithstanding, failure of the Contractor to request the substitution of eligible and equivalent securities for monies to be withheld by the District prior to the Contractor's submission of its first Application for Progress Payment shall be deemed a waiver of such right.

8.4 Final Payment.

8.4.1 Application for Final Payment. When the Contractor has achieved Final Completion of the Work and has otherwise fully performed its obligations under the Contract Documents, the Contractor shall submit an Application for Final Payment on such form as approved by the District. Thereupon, the Architect and the Project Inspector will promptly make a final inspection of the Work and when the Architect and the Project Inspector find the Work acceptable under the Contract Documents and that the Contract has been fully performed by the Contractor, the Architect and the Project Inspector will thereupon promptly approve the Application for Final Payment, stating that to the best their knowledge, information and belief, the Work has been completed in accordance with the terms of the Contract Documents. The Final Payment shall include the remaining balance of the Contract Price and any retention from Progress Payments previously withheld by the District.

8.4.2 Conditions Precedent to Disbursement of Final Payment. Neither Final Payment nor any remaining Contract Price shall become due until the Contractor submits to the District each and all of the following, the submittal of which are conditions precedent to the District's obligation to disburse the Final Payment: (i) an affidavit or certification by the Contractor that payrolls, bills for materials and other indebtedness incurred in connection with the Work for which the District or the District's property may or might be responsible or encumbered have been paid or otherwise satisfied; (ii) a certificate evidencing that insurance required by the Contract Documents to remain in force after the Contractor's receipt of Final Payment is currently in effect; (iii) a written statement that the Contractor knows of no substantial reason that the insurance will not be renewable to cover any period following Final Payment as required by the Contract Documents; (iv) consent of the Surety

on the Labor and Material Payment Bond and Performance Bond, to Final Payment if required; (v) duly completed and executed forms of Conditional or Unconditional Waivers and Releases of rights upon Final Payment of the Contractor, Subcontractors of any tier and Material Suppliers in accordance with California Civil Code §3262, with each of the same stating that there are, or will be, no claims for additional compensation after disbursement of the Final Payment; (vi) Operations and Maintenance manuals and separate warranties provided by any manufacturer or distributor of any materials or equipment incorporated into the Work; (vii) the Record Drawings; (viii) the form of Guarantee included in the Contract Documents duly executed by an authorized representative of the Contractor; (ix) any and all other items or documents required by the Contract Documents to be delivered to the District upon completion of the Work; (x) the completion and submittal of all reports required by the Contract Documents, including without limitation, verified reports required by applicable provisions of the California Code of Regulations; and (xi) if required by the District, such other data establishing payment or satisfaction of obligations such as receipts, releases and waivers of liens, stop notices, claims, security interest or encumbrances arising out of the Contract to the extent and in such form as may be required by the District.

8.4.3 Disbursement of Final Payment. Provided that the District is then in receipt of all documents and other items in Article 8.4.2 above as conditions precedent to the District's obligation to disburse Final Payment, not later than sixty (60) days following Final Acceptance the District shall disburse the Final Payment to the Contractor. Pursuant to California Public Contract Code §7107, if there is any dispute between the District and the Contractor at the time that disbursement of the Final Payment is due, the District may withhold from disbursement of the Final Payment an amount not to exceed one hundred fifty percent (150%) of the amount in dispute.

8.4.4 Waiver of Claims. The Contractor's acceptance of the Final Payment is a waiver and release by the Contractor of any and all claims against the District for compensation or otherwise in connection with the Contractor's performance of the Contract.

8.4.5 Claims Asserted After Final Payment. Any lien, stop notice or other claim filed or asserted after the Contractor's acceptance of the Final Payment by any Subcontractor, of any tier, laborer, Material Supplier or others in connection with or for Work performed under the Contract Documents shall be the sole and exclusive responsibility of the Contractor who further agrees to indemnify, defend and hold harmless the District and its officers, agents, representatives and employees from and against any claims, demands or judgments arising or associated therewith, including without limitation attorneys fees incurred by the District in connection therewith. In the event any lien, stop notice or other claim of any Subcontractor, Laborer, Material Supplier or others performing Work under the Contract Documents remain unsatisfied after Final Payment is made, Contractor shall refund to District all monies that the District may pay or be compelled to pay in discharging any lien, stop notice or other claim, including, without limitation all costs and reasonable attorneys fees incurred by District in connection therewith.

8.5 Withholding of Payments. The District may withhold any Progress Payment or the Final Payment, in whole or in part, or backcharge the Contractor to the extent it may deem advisable to protect the District on account of: (i) defective Work or Work not in conformity with the requirements of the Contract Documents which is not remedied; (ii) failure of the Contractor to make payments when due Subcontractors or Material Suppliers for materials or labor; (iii) claims filed or reasonable evidence of the probable filing of claims by

Subcontractors, laborers, Material Suppliers, or others performing any portion of the Work under the Contract Documents for which the District may be liable or responsible including, without limitation, Stop Notice Claims filed with the District pursuant to California Civil Code §3179 et seq.; (iv) a reasonable doubt that the Contract can be completed for the then unpaid balance of the Contract Price; (v) tax demands filed in accordance with California Government Code §12419.4; (vi) other claims, penalties and/or forfeitures for which the District is required or authorized to retain funds otherwise due the Contractor; (vii) any amounts due from the Contractor to the District under the terms of the Contract Documents; (viii) violations of the LCP or other obligations of the Contractor or any Subcontractor relating to the employment of labor in connection with the Work (including without limitation, delinquent submission of weekly Certified Payroll Records or the submission of inadequate weekly Certified Payroll Records; or (ix) the Contractor's failure to perform any of its obligations under the Contract Documents or its default under the Contract Documents or its failure to maintain adequate progress of the Work. In addition to the foregoing, the District shall not be obligated to process any Application for Progress Payment or Final Payment, nor shall Contractor be entitled to any Progress Payment or Final Payment so long as any lawful or proper direction concerning the Work or the performance thereof or any portion thereof, given by the District, the Project Inspector, the Architect or any public authority having jurisdiction over the Work, or any portion thereof, shall not be fully and completely complied with by the Contractor. When the District is reasonably satisfied that the Contractor has remedied any such deficiency, payment shall be made of the amount withheld. In lieu of making payment of withheld amounts to the Contractor, the District may, in its sole exclusive discretion, apply withheld amounts to the payment and satisfactions of debts and obligations of the Contractor relating to the Work. In doing, the District shall be an agent of the Contractor for the sole and limited purpose of making payment(s) to others for the Work on behalf of the Contractor; payments made by the District pursuant to the foregoing shall be deemed payments to the Contractor and the Contract Price shall be adjusted to reflect such payment(s). The District shall not be liable to the Contractor or others for its good faith decision to make or not make payment(s) of amounts withheld from the Contractor pursuant to the foregoing. If the District elects to make payments to other of amounts withheld from the Contractor, the District may do so without prior judicial determination; the District will render the Contractor a complete and accurate accounting of amounts withheld and paid to others on behalf of the Contractor.

8.6 Payments to Subcontractors. The Contractor shall pay all Subcontractors for and on account of Work of the Contract performed by such Subcontractors in accordance with the terms of their respective subcontracts and as provided for pursuant to California Public Contract Code §10262, the provisions of which are deemed incorporated herein by this reference. In the event of the Contractor's failure to make payment to Subcontractors in conformity with California Public Contract Code §10262, the provisions of California Public Contract Code §10253 shall apply; by this reference, the provisions of California Public Contract Code §10253 are incorporated herein in its entirety, except that the references in said Section 10253 to "the director" shall be deemed to refer to the District. The Contractor shall timely make payment of retention due Subcontractors in accordance with Public Contract Code §7107.

8.7 Computerized Job Cost Reporting System.

8.7.1 Job Cost Reporting. The Contractor and each Subcontractor with a Subcontract valued at Five Hundred Thousand Dollars (\$500,000) or greater shall maintain a computerized job cost reporting system conforming to the requirements set forth herein.

The computer program(s) utilized by the Contractor and applicable Subcontractors shall be subject to the review and acceptance by the District. The job cost reporting systems for the Work shall be updated in regular intervals of not less than one (1) calendar month.

8.7.2 Job Cost Reporting System Requirements. The computerized job cost programs utilized by the Contractor and applicable Subcontractors shall conform and comply with generally accepted accounting principles applied in a consistent manner and with recognized and generally accepted construction industry accounting standards, guidelines and procedures. The job cost reporting system format and configuration shall follow the general format of the District approved Cost Breakdown and budgets established for each line item shall be traceable to a bid estimate of costs. The job cost reporting systems utilized by the Contractor and applicable Subcontractors shall be capable of: (a) providing overall cost status on a monthly and cumulative basis; (b) providing comparative analysis of the original budgeted costs, actual costs, remaining budget, and projected cost of completion; the job cost reporting system shall be capable of providing comparative analysis for individual line items and the totality of the Work reflected in the job cost report and; (c) tracking adjustments to original budget amounts for Changes to the Work (including, without limitation, issued, pending and potential Change Orders).

8.7.3 Job Cost System Information. Upon request of the District or the Construction Manager, the Contractor and applicable Subcontractors shall make available written job cost reports and provide the District and the Construction Manager with the electronic files of the then current or requested job cost report. The Contractor's obligations hereunder are material.

ARTICLE 9: CHANGES

9.1 Changes in the Work. The District, at any time, by written order, may make Changes within the general scope of the Work under the Contract Documents or issue additional instructions, require additional Work or direct deletion of Work. The Contractor shall not proceed with any Change involving an increase or decrease in the Contract Price or the Contract Time without prior written authorization from the District. The foregoing notwithstanding, the Contractor shall promptly commence and diligently complete any Change to the Work subject to the District's written authorized issued pursuant to the preceding sentence; the Contractor shall not be relieved or excused from its prompt commencement and diligent completion of any Change subject to the District's written authorization by virtue of the absence or inability of the Contractor and the District to agree upon the extent of any adjustment to the Contract Time or the Contract Price on account of such Change. The issuance of a Change Order pursuant to this Article 9 in connection with any Change authorized by the District under this Article 9.1 shall not be deemed a condition precedent to Contractor's obligation to promptly commence and diligently complete any such Change authorized by the District hereunder. The District's right to make Changes shall not invalidate the Contract nor relieve the Contractor of any liability or other obligations under the Contract Documents. Any requirement of notice of Changes in the scope of Work to the Surety shall be the responsibility of the Contractor. Changes to the Work depicted or described in the Drawings or the Specifications shall be subject to approval by the DSA. The District may make Changes to bring the Work or the Project into compliance with environmental requirements or standards established by state or federal statutes and regulations enacted after award of the Contract.

9.2 Oral Order of Change in the Work. Any oral order, direction, instruction, interpretation, or determination from the District, the Project Inspector or the Architect which in the opinion of

the Contractor causes any change to the scope of the Work, or otherwise requires an adjustment to the Contract Price or the Contract Time, shall be treated as a Change only if the Contractor gives the Architect and the Project Inspector written notice within ten (10) days of the order, directions, instructions, interpretation or determination and prior to acting in accordance therewith. Time is of the essence in Contractor's written notice pursuant to the preceding sentence so that the District can promptly investigate and consider alternative measures to address the order, direction, instruction, interpretation or determination giving rise to Contractor's notice. Accordingly, Contractor acknowledges that its failure, for any reason, to give written notice within ten (10) days of such order, direction, instruction, interpretation or determination shall be deemed Contractor's waiver of any right to assert or claim any entitlement to an adjustment of the Contract Time or the Contract Price on account of such order, direction, instruction, interpretation or determination. The written notice shall state the date, circumstances, extent of adjustment to the Contract Price or the Contract Time, if any, requested, and the source of the order, directions, instructions, interpretation or determination that the Contractor regards as a Change. Unless the Contractor acts in strict accordance with this procedure, any such order, direction, instruction, interpretation or determination shall not be treated as a Change and the Contractor hereby waives any claim for any adjustment to the Contract Price or the Contract Time on account thereof.

9.3 Contractor Submittal of Data. Within ten (10) days after receipt of a written order directing a Change in the Work or furnishing the written notice regarding any oral order directing a Change in the Work, the Contractor shall submit to the Architect, the Project Inspector, the Construction Manager and the District a detailed written statement setting forth the general nature of the Change, the amount of any adjustment to the Contract Price on account thereof, properly itemized and supported by sufficient substantiating data to permit evaluation of the same, and the extent of adjustment of the Contract Time, if any, required by such Change. No claim or adjustment to the Contract Price or the Contract Time shall be allowed if not asserted by the Contractor in strict conformity herewith or if asserted after Final Payment is made under the Contract Documents.

9.4 Adjustment to Contract Price and Contract Time on Account of Changes to the Work.

9.4.1 Adjustment to Contract Price. Adjustments to the Contract Price due to Changes in the Work shall be determined by application of one of the following methods, in the following order of priority:

9.4.1.1 Mutual Agreement. By negotiation and mutual agreement, on a lump sum basis, between the District and the Contractor on the basis of the estimate of the actual and direct increase or decrease in costs on account of the Change. Upon request of the District or the Architect, the Contractor shall provide a detailed estimate of increase or decrease in costs directly associated with performance of the Change along with cost breakdowns of the components of the Change and supporting data and documentation. The Contractor's estimate of increase or decrease in costs pursuant to the foregoing, if requested, shall be in sufficient detail and in such form as to allow the District, the Project Inspector and the Architect to review and assess the completeness and accuracy thereof. The Contractor shall be solely responsible for any additional costs or additional time arising out of, or related in any manner to, its failure to provide the estimate of costs within the time specified in the request of the District or the Architect for such estimate.

9.4.1.2 Determination by the District. By the District, whether or not negotiations are

initiated pursuant to Article 9.4.1.1 above based upon actual and necessary costs incurred by the Contractor as determined by the District on the basis of the Contractor's records. In the event that the procedure set forth in this Article 9.4.1.2 is utilized to determine the extent of adjustment to the Contract Price on account of Changes to the Work, promptly upon determining the extent of adjustment to the Contract Price, the District shall notify the Contractor in writing of the same; the Contractor shall be deemed to have accepted the District's determination of the amount of adjustment to the Contract Price on account of a Change to the Work unless Contractor shall notify the District, the Architect and the Project Inspector, in writing, not more than fifteen (15) days from the date of the District's written notice, of any objection to the District's determination. Failure of the Contractor to timely notify the District, the Architect and the Project Inspector of Contractor's objections to the District's determination of the extent of adjustment to the Contract Price shall be deemed Contractor's acceptance of the District's determination and a waiver of any right or basis of the Contractor to thereafter protest or otherwise object to the District's determination. Notwithstanding any objection of the Contractor to the District's determination of the extent of any adjustment to the Contract Price pursuant to this Article 9.4.1.2, Contractor shall, pursuant to Article 9.7 below, diligently proceed to perform and complete any such Change.

9.4.1.3 Basis for Adjustment of Contract Price. If Changes in the Work require an adjustment of the Contract Price pursuant to Articles 9.4.1.1 or 9.4.1.2 above, the basis for adjustment of the Contract Price shall be as follows:

9.4.1.3.1 Labor. Contractor shall be compensated for the costs of labor actually and directly utilized in the performance of the Change. Such labor costs shall be limited to field labor for which there is a prevailing wage rate classification. Wage rates for labor shall not exceed the prevailing wage rates in the locality of the Site and shall be in the labor classification(s) necessary for the performance of the Change. Use of a labor classification which would increase labor costs associated with any Change shall not be permitted. Labor costs shall exclude costs incurred by the Contractor in preparing estimate(s) of the costs of the Change, in the maintenance of records relating to the costs of the Change, coordination and assembly of materials and information relating to the Change or performance thereof, or the supervision and other overhead and general conditions costs associated with the Change or performance thereof.

9.4.1.3.2 Materials and Equipment. Contractor shall be compensated for the costs of materials and equipment necessarily and actually used or consumed in connection with the performance of Changes. Costs of materials and equipment may include reasonable costs of transportation from a source closest to the site of the Work and delivery to the Site. If discounts by Material Suppliers are available for materials necessarily used in the performance of Changes, they shall be credited to the District. If materials and/or equipment necessarily used in the performance of Changes are obtained from a supplier or source owned in whole or in part by the Contractor, compensation therefor shall not exceed the current wholesale price for such materials or equipment. If, in the reasonable opinion of the District, the costs asserted by the Contractor for materials and/or equipment in connection with any Change is excessive, or if the Contractor fails to provide satisfactory evidence of the actual costs of such materials and/or equipment from its supplier or vendor of the same, the costs of such materials

and/or equipment and the District's obligation for payment of the same shall be limited to the then lowest wholesale price at which similar materials and/or equipment are available in the quantities required to perform the Change. The District may elect to furnish materials and/or equipment for Changes to the Work, in which event the Contractor shall not be compensated for the costs of furnishing such materials and/or equipment or any mark-up thereon.

9.4.1.3.3 Construction Equipment. Contractor shall be compensated for the actual cost of the necessary and direct use of Construction Equipment in the performance of Changes to the Work. Use of such Construction Equipment in the performance of Changes to the Work shall be compensated in increments of fifteen (15) minutes. Rental time for Construction Equipment moved by its own power shall include time required to move such Construction Equipment to the site of the Work from the nearest available rental source of the same. If Construction Equipment is not moved to the Site by its own power, Contractor will be compensated for the loading and transportation costs in lieu of rental time. The foregoing notwithstanding, neither moving time or loading and transportation time shall be allowed if the Construction Equipment is used for performance of any portion of the Work other than Changes to the Work. Unless prior approval in writing is obtained by the Contractor from the Architect, the Project Inspector and the District, no costs or compensation shall be allowed for time while Construction Equipment is inoperative, idle or on standby, for any reason. The Contractor shall not be entitled to an allowance or any other compensation for Construction Equipment or tools used in the performance of Changes to the Work where such Construction Equipment or tools have a replacement value of \$500.00 or less. Construction Equipment costs claimed by the Contractor in connection with the performance of any Change to the Work shall not exceed rental rates established by distributors or construction equipment rental agencies in the locality of the Site; any costs asserted which exceed such rental rates shall not be allowed or paid. Unless otherwise specifically approved in writing by the Architect, the Project Inspector and the District, the allowable rate for the use of Construction Equipment in connection with Changes to the Work shall constitute full compensation to the Contractor for the cost of rental, fuel, power, oil, lubrication, supplies, necessary attachments, repairs or maintenance of any kind, depreciation, storage, insurance, labor (exclusive of labor costs of the Construction Equipment operator), and any all other costs incurred by the Contractor incidental to the use of such Construction Equipment.

9.4.1.3.4 Mark-up on Costs of Changes to the Work. In determining the cost to the District and the extent of increase to the Contract Price resulting from a Change adding to the Work, the allowance for mark-ups on the costs of the Change for all overhead (including home office and field overhead), general conditions costs and profit associated with the Change shall not exceed the percentage set forth in the Special Conditions, regardless of the number of Subcontractors, of any tier, performing any portion of any Change to the Work. If a Change to the Work reduces the Contract Price, no profit, general conditions or overhead costs shall be paid by the District to the Contractor for the reduced or deleted Work. In such event, the adjustment to the Contract Price shall be the actual cost reduction realized by the reduced or deleted Work multiplied by the percentage set forth in the Special Conditions for mark-ups on the cost of a Change adding to the scope of the Work.

9.4.1.3.5 Contractor Maintenance of Records. In the event that Contractor shall be directed to perform any Changes to the Work pursuant to Article 9.1 or 9.2, or should the Contractor encounter conditions which the Contractor, pursuant to Article 9.6, believes would obligate the District to adjust the Contract Price and/or the Contract Time, Contractor shall maintain detailed records on a daily basis. Such records shall include without limitation hourly records for labor and Construction Equipment and itemized records of materials and equipment used that day in connection with the performance of any Change to the Work. In the event that more than one Change to the Work is performed by the Contractor in a calendar day, Contractor shall maintain separate records of labor, Construction Equipment, materials and equipment for each such Change. In the event that any Subcontractor, of any tier, shall provide or perform any portion of any Change to the Work, Contractor shall require that each such Subcontractor maintain records in accordance with this Article. Each daily record maintained hereunder shall be signed by Contractor's Superintendent or Contractor's authorized representative; such signature shall be deemed Contractor's representation and warranty that all information contained therein is true, accurate, complete and relate only to the Change referenced therein. All records maintained by a Subcontractor, of any tier, relating to the costs of a Change to the Work shall be signed by such Subcontractor's authorized representative or Superintendent. All records maintained hereunder shall be subject to inspection, review and/or reproduction by the District, the Architect or the Project Inspector upon request. In the event that Contractor shall fail or refuse, for any reason, to maintain or make available for inspection, review and/or reproduction such records and the adjustment to the Contract Price on account of any Change to the Work is determined pursuant to this Article, the District's reasonable good faith determination of the extent of adjustment to the Contract Price on account of such Change shall be final, conclusive, dispositive and binding upon Contractor. Contractor's obligation to maintain records hereunder is in addition to, and not in lieu of, any other Contractor obligation under the Contract Documents with respect to Changes to the Work.

9.4.2 Adjustment to Contract Time. In the event of any Change(s) to the Work pursuant to this Article 9, the Contract Time shall be extended or reduced by Change Order for a period of time commensurate with the time reasonably necessary to perform such Change. In the event that any Change shall require an extension of the Contract Time, the Contractor shall not be subject to Liquidated Damages for such period of time. If completion of the Work is delayed by causes for which the District is responsible and the delay is unreasonable under the circumstances involved, and not within the contemplation of the Contractor and the District at the time of execution of the Agreement, the Contractor shall not be precluded from the recovery of damages arising therefrom.

9.4.3 Addition or Deletion of Alternate Bid Item(s). If the Bid for the Work includes proposal(s) for Alternate Bid Item(s), during Contractor's performance of the Work, the District may elect, pursuant to this Article to add any such Alternate Bid Item(s) if the same did not form a basis for award of the Contract or delete any such Alternate Bid Item(s) if the same formed a basis for award of the Contract. If the District elects to add or delete any such Alternate Bid Item(s) pursuant to the foregoing, the cost or credit for such Alternate Bid Item(s) shall be as set forth in the Contractor's Bid. If any Alternate Bid Item is added or deleted from the Work pursuant to the foregoing, the Contract Time shall be adjusted by the number of days allocated for the added or deleted Alternate Bid Item in the

Contract Documents; if days are not allocated for any Alternate Bid Item added or deleted pursuant to the foregoing, the Contract Time shall be equitably adjusted.

9.5 Change Orders. If the District approves of a Change, a written Change Order prepared by the Construction Manager on behalf of the District shall be forwarded to the Contractor describing the Change and setting forth the adjustment to the Contract Time and the Contract Price, if any, on account of such Change. All Change Orders shall be in full payment and final settlement of all claims for direct, indirect and consequential costs, including without limitation, costs of delays or impacts related to, or arising out of, items covered and affected by the Change Order, as well as any adjustments to the Contract Time. Any claim or item relating to any Change incorporated into a Change Order not presented by the Contractor for inclusion in the Change Order shall be deemed waived. The Contractor shall execute the Change Order prepared pursuant to the foregoing; once the Change Order has been prepared and forwarded to the Contractor for execution, without the prior approval of the District which may be granted or withheld in the sole and exclusive discretion of the District, the Contractor shall not modify or amend the form or content of such Change Order, or any portion thereof. The Contractor's attempted or purported modification or amendment of any such Change Order, without the prior approval of the District, shall not be binding upon the District; any such unapproved modification or amendment to such Change Order shall be null, void and unenforceable. Unless otherwise expressly provided for in the Contract Documents or in the Change Order, any Change Order issued hereunder shall be binding upon the District only upon action of the District's Board of Trustees approving and ratifying such Change Order. In the event of any amendment or modification made by the Contractor to a Change Order for which there is no prior approval by the District, in accordance with the provisions of this Article 9.5, unless otherwise expressly stated in its approval and ratification of such Change Order, any action of the Board of Trustees to approve and ratify such Change Order shall be deemed to be limited to the Change Order as prepared by the Architect; such approval and ratification of such Change Order shall not be deemed the District's approval and ratification of any unapproved amendment or modification by the Contractor to such Change Order. Change Orders shall be issued on the form of Change Order and the content thereof, as attached to the Special Conditions.

9.6 Contractor Notice of Changes. If the Contractor should claim that any instruction, request, the Drawings, the Specifications, action, condition, omission, default, or other situation obligates the District to increase the Contract Price or to extend the Contract Time, the Contractor shall notify the District, Construction Manager, Project Inspector and the Architect, in writing, of such claim within ten (10) days from the date of its actual or constructive notice of the factual basis supporting the same. The District shall consider any such claim of the Contractor only if sufficient supporting documentation is submitted with the Contractor's notice to the District, Construction Manager, Project Inspector and the Architect. Time is of the essence in Contractor's written notice pursuant to the preceding sentence so that the District can promptly investigate and consider alternative measures to the address such instruction, request, Drawings, Specifications, action, condition, omission, default or other situation. Accordingly, Contractor acknowledges that its failure, for any reason, to give written notice (with sufficient supporting documentation to permit the District's review and evaluation) within ten (10) days of its actual or constructive knowledge of any instruction, request, Drawings, Specifications, action, condition, omission, default or other situation for which the Contractor believes there should an adjustment of the Contract Time or the Contract Price shall be deemed Contractor's waiver, release, discharge and relinquishment of any right to assert or claim any entitlement to an adjustment of the Contract Time or the Contract Price on account of any such instruction, request, Drawings, Specifications, action, condition,

omission, default or other situation. In the event that the District determines that the Contract Price or the Contract Time are subject to adjustment based upon the events, circumstances and supporting documentation submitted with the Contractor's written notice under this Article 9.6, any such adjustment shall be determined in accordance with the provisions of Articles 9.4.1 and 9.4.2.

- 9.7 Disputed Changes.** In the event of any dispute or disagreement between the Contractor and the District or the Architect regarding the characterization of any item as a Change to the Work or as to the appropriate adjustment of the Contract Price or the Contract Time on account thereof, the Contractor shall promptly proceed with the performance of such item of the Work, subject to a subsequent resolution of such dispute or disagreement in accordance with the terms of the Contract Documents. The Contractor's failure or refusal to so proceed with such Work may be deemed to be Contractor's default of a material obligation of the Contractor under the Contract Documents.
- 9.8 Emergencies.** In an emergency affecting the safety of life, or of the Work, or of property, the Contractor, without special instruction or prior authorization from the District or the Architect, is permitted to act at its discretion to prevent such threatened loss or injury. Any compensation claimed by the Contractor on account of such emergency work shall be submitted and determined in accordance with this Article 9.
- 9.9 Minor Changes in the Work.** The Architect may order minor Changes in the Work not involving an adjustment in the Contract Price or the Contract Time and not inconsistent with the intent of the Contract Documents. Such Changes shall be effected by written order and shall be binding on the District and the Contractor. The Construction Manager or the Project Inspector may direct the Contractor to perform Changes provided that each such Change does not result in an increase of more than \$500.00 to the Contract Price and no adjustment of the Contract Time. The Contractor shall carry out such orders promptly.
- 9.10 Unauthorized Changes.** Any Work beyond the extent of Work shown on the Contract Documents, or any extra Work performed or provided by the Contractor without notice to the Construction Manager, Architect, and the Project Inspector in the manner and within the time set forth in Articles 9.2 or 9.6 shall be considered unauthorized and at the sole expense of the Contractor. Work so done will not be measured or paid for, no extension to the Contract Time will be granted on account thereof and any such Work may be ordered removed at the Contractor's sole cost and expense. The failure of the District to direct or order removal of such Work shall not constitute acceptance or approval of such Work nor relieve the Contractor from any liability on account thereof.

ARTICLE 10: SEPARATE CONTRACTORS

- 10.1 District's Right to Award Separate Contracts.** The District reserves the right to perform construction or operations related to the Project with the District's own forces or to award separate contracts in connection with other portions of the Project or other construction or operations at or about the Site. If the Contractor claims that delay or additional cost is involved because of such action by the District, the Contractor shall seek an adjustment to the Contract Price or the Contract Time as provided for in the Contract Documents. Failure of the Contractor to request such an adjustment of the Contract Time or the Contract Price in strict conformity with the provisions of the Contract Documents applicable thereto shall be deemed a waiver of the same.

- 10.2 District's Coordination of Separate Contractors.** The District shall provide for coordination of the activities of the District's own forces and of each separate contractor with the Work of the Contractor, who shall cooperate with them. The Contractor shall participate with other separate contractors and the District in reviewing their respective Construction Schedules when directed to do so. The Contractor shall make any revisions to the Approved Construction Schedule for the Work hereunder deemed necessary after a joint review and mutual agreement. The Construction Schedules shall then constitute the Construction Schedules to be used by the Contractor, separate contractors and the District until subsequently revised.
- 10.3 Mutual Responsibility.** The Contractor shall afford the District and separate contractors' reasonable opportunity for storage of their materials and equipment and performance of their activities at the Site and shall connect and coordinate the Contractor's Work, construction and operations with theirs as required by the Contract Documents.
- 10.4 Discrepancies or Defects.** If part of the Contractor's Work depends for proper execution or results upon construction or operations by the District or a separate contractor, the Contractor shall, prior to proceeding with that portion of the Work, promptly report to the Architect and the Project Inspector any apparent discrepancies or defects in such other construction that would render it unsuitable for such proper execution and results. Failure of the Contractor to so report shall constitute an acknowledgment that the District's or separate contractors' completed or partially completed construction is fit and proper to receive the Contractor's Work, except as to defects not then discoverable by the Contractor's reasonable diligence.

ARTICLE 11: TESTS AND INSPECTIONS

11.1 Tests; Inspections; Observations.

- 11.1.1 Contractor's Notice.** If the Contract Documents, laws, ordinances or any public authority with jurisdiction over the Work requires the Work, or any portion thereof, to be specially tested, inspected or approved, the Contractor shall give the Architect, the Construction Manager and the Project Inspector written notice of the readiness of such Work for observation, testing or inspection at least two (2) working days prior to the time for the conducting of such test, inspection or observation. If inspection, testing or observation is by authority other than the District, the Contractor shall inform the Project Inspector and the Construction Manager not less than two (2) working days prior to the date fixed for such inspection, test or observation. The Contractor shall not cover up any portion of the Work subject to tests, inspections or observations prior to the completion and satisfaction of the requirements of such test, inspection or observation. In the event that any portion of the Work subject to tests, inspection or approval shall be covered up by Contractor prior to completion and satisfaction of the requirements of such tests, inspection or approval, Contractor shall be responsible for the uncovering of such portion of the Work as is necessary for performing such tests, inspection or approval without adjustment of the Contract Price or the Contract Time on account thereof.
- 11.1.2 Cost of Tests and Inspections.** Except as set forth below, the District will pay for fees, costs and expenses to complete the initial tests/inspections of portions of the Work as required by law, code or regulation, provided that such tests/inspections are conducted and completed at a location within a one hundred (100) mile radius of the Site. The foregoing notwithstanding, if the portion(s) of the Work subject to tests/inspections is/are not ready for such test/inspection at the time indicated in the Contractor's notice under

Article 11.1.1 or if upon completion of such test/inspection, the portion(s) of the Work subject to such test/inspection do not meet or exceed the minimum requirements of such test/inspection, the Contractor shall be solely responsible for the payment of all fees, costs or expenses arising out of or related in any manner to subsequent tests/inspections of such portion(s) of the Work. Notwithstanding the District's payment of fees, costs or expenses for conducting initial tests/inspections, if any actions or failures to act of the Contractor or person or entity providing or performing Work under the direction or control of the Contractor require tests/inspections to be conducted over a period of more than eight (8) hours per day by any single person or on weekends/holidays, the Contractor shall be solely responsible for the payment of fees, costs or expenses which result from test/inspection services which exceed eight (8) hours per day by any single person or on weekends/holidays. If any tests/inspections are conducted outside a one hundred (100) mile radius of the Site, the Contractor shall be solely responsible for all costs, fees or expenses to conduct and complete such tests/inspections conducted at such location, including without limitation, costs to complete such tests/inspections and travel, meal and related expenses.

11.1.3 Testing/Inspection Laboratory. The District shall select duly qualified person(s) or testing laboratory(ies) to conduct the tests and inspections to be paid for by the District and required by the Contract Documents. Tests and inspections required of the Work shall be as set forth in the Contract Documents and as required by applicable law, rule or regulation, including without limitation, Title 24 of the California Code of Regulations. Test/inspection standards shall be as set forth in the Contract Documents or established by applicable law, rule or regulation. Where inspection or testing is to be conducted by an independent laboratory or testing agency, materials or samples thereof shall be selected by the laboratory, testing agency, the Project Inspector, the Construction Manager or the Architect and not by the Contractor.

11.1.4 Additional Tests, Inspections and Approvals. If the Architect, the Construction Manager, the Project Inspector or public authorities having jurisdiction over the Work determine that portions of the Work require additional testing, inspection or approval, the Architect will, upon written authorization from the District, instruct the Contractor to make arrangements for such additional testing, inspection or approval by an entity acceptable to the District, and the Contractor shall give timely notice to the Architect, the Construction Manager and the Project Inspector of when and where tests and inspections are to be made so the Project Inspector and the Architect may observe such procedures. The District shall bear the costs of such additional tests, inspections or approvals, except to the extent that such additional tests, inspections or approvals reveal any failure of the Work to comply with the requirements of the Contract Documents, in which case the Contractor shall bear all costs made necessary by such failures, including without limitation, the costs of corrections, repeat tests, inspections or approvals and the costs of the Architect's services or its consultants in connection therewith.

11.2 Delivery of Certificates. Required certificates of testing, inspection or approval shall, unless otherwise required by the Contract Documents, be secured by the Contractor and promptly delivered to the Construction Manager.

11.3 Timeliness of Tests, Inspections and Approvals. Tests or inspections required and conducted pursuant to the Contract Documents shall be made or arranged by Contractor to avoid delay in the progress of the Work. Neither the Contract Time nor Contract Price shall be adjusted on account of the failure of the Contractor to timely arrange for the conduct of

required tests/inspections and the Contractor shall be liable to the District for all consequences of such failures, including without limitation, the assessment of Liquidated Damages for delayed Substantial Completion of the Work resulting from such failure of the Contractor.

ARTICLE 12: UNCOVERING AND CORRECTION OF WORK

12.1 Inspection of the Work.

12.1.1 Access to the Work. All Work and all materials and equipment forming a part of the Work or incorporated into the Work are subject to inspection by the District, the Construction Manager, the Architect and the Project Inspector for conformity with the Contract Documents. The Contractor shall, at its cost and without adjustment to the Contract Price or the Contract Time, furnish any facilities necessary for sufficient and safe access to the Work for purposes of inspection by the District, the Construction Manager, the Architect, the Project Inspector, DSA or any other public or quasi-public authority with jurisdiction over the Work or any portion thereof.

12.1.2 Limitations Upon Inspections. Inspections, tests, measurements, or other acts of the Architect, the Construction Manager and the Project Inspector hereunder are for the sole purpose of assisting them in determining that the Work, materials, equipment, progress of the Work, and quantities generally comply and conform with the requirements of the Contract Documents. These acts or functions shall not relieve the Contractor from performing the Work in full compliance with the Contract Documents. No inspection by the Architect or the Project Inspector shall constitute or imply acceptance of Work inspected. Inspection of the Work hereunder is in addition to, and not in lieu of, any other testing, inspections or approvals of the Work required under the Contract Documents.

12.2 Uncovering of Work. If any portion of the Work is covered contrary to the request of the Architect, the Construction Manager, the Project Inspector or the requirements of the Contract Documents, it must, if required by the Architect or the Project Inspector, be uncovered for observation by the Architect, Construction Manager and the Project Inspector and be replaced at the Contractor's expense without adjustment of the Contract Time or the Contract Price.

12.3 Rejection of Work. Prior to the District's Final Acceptance of the Work, any Work or materials or equipment forming a part of the Work or incorporated into the Work which is defective or not in conformity with the Contract Documents may be rejected by the District, the Construction Manager the Architect or the Project Inspector and the Contractor shall correct such rejected Work without any adjustment to the Contract Price or the Contract Time, even if the Work, materials or equipment have been previously inspected by the Architect or the Project Inspector or even if they failed to observe the defective or non-conforming Work, materials or equipment.

12.4 Correction of Work. The Contractor shall promptly correct any portion of the Work rejected by the District, the Construction Manager, the Architect or the Project Inspector for failing to conform to the requirements of the Contract Documents, or which is determined by them to be defective, whether observed before or after Substantial Completion and whether or not fabricated, installed or completed. The Contractor shall bear all costs of correcting such rejected Work, including additional testing and inspections and compensation for the Architect's services and expenses made necessary thereby. The Contractor shall bear all

costs of correcting destroyed or damaged construction, whether completed or partially completed, of the District or separate contractors, caused by the Contractor's correction or removal of Work which is not in accordance with the requirements of the Contract Documents, or which is defective. If the Contractor fails or refuses to correct Work deemed defective or non-conforming pursuant to the foregoing, such failure or refusal shall be deemed the Contractor's default in performance of a material obligation of the Contractor hereunder. In such event, the Contractor's Performance Bond Surety shall be liable for the costs to correct such defective or non-conforming Work and/or securing the performance of an alternative contractor to complete such corrective Work.

12.5 Removal of Non-Conforming or Defective Work. The Contractor shall, at its sole cost and expense, remove from the Site all portions of the Work which are defective or are not in accordance with the requirements of the Contract Documents which are neither corrected by the Contractor nor accepted by the District.

12.6 Failure of Contractor to Correct Work. If the Contractor fails to commence to correct defective or non-conforming Work within 3 days of notice of such condition and promptly thereafter complete the same within a reasonable time, the District may correct it in accordance with the Contract Documents. If the Contractor does not proceed with correction of such defective or non-conforming Work within the time fixed herein, the District may remove it and store the salvable materials or equipment at the Contractor's expense. If the Contractor does not pay costs of such removal and storage after written notice, the District may sell such materials or equipment at auction or at private sale and shall account for the proceeds thereof, after deducting costs and damages that should have been borne by the Contractor, including without limitation compensation for the Architect's services, attorneys fees and other expenses made necessary thereby. If such proceeds of sale do not cover costs which the Contractor should have borne, the Contract Price shall be reduced by the deficiency. If payments of the Contract Price then or thereafter due the Contractor are not sufficient to cover such amount, the Contractor and the Surety shall promptly pay the difference to the District.

12.7 Acceptance of Defective or Non-Conforming Work. The District may, in its sole and exclusive discretion, elect to accept Work which is defective or which is not in accordance with the requirements of the Contract Documents, instead of requiring its removal and correction, in which case the Contract Price shall be reduced as appropriate and equitable.

ARTICLE 13: WARRANTIES

13.1 Workmanship and Materials. The Contractor warrants to the District that all materials and equipment furnished under the Contract Documents shall be new, of good quality and of the most suitable grade and quality for the purpose intended, unless otherwise specified in the Contract Documents. All Work shall be of good quality, free from faults and defects and in conformity with the requirements of the Contract Documents. If required by the Architect or the District, the Contractor shall furnish satisfactory evidence as to the kind and quality of materials and equipment incorporated into the Work. Any Work, or portion thereof not conforming to these requirements, including substitutions or alternatives not properly approved in accordance with the Contract Documents may be deemed defective. Where there is an approved substitution of, or alternative to, material or equipment specified in the Contract Documents, the Contractor warrants to the District that such installation, construction, material, or equipment will equally perform the function and have the quality of the originally specified material or equipment. The Contractor expressly warrants the

merchantability, the fitness for use, and quality of all substitute or alternative items in addition to any warranty given by the manufacturer or supplier of such item.

- 13.2 Warranty Work.** If, within one year after the date of Final Acceptance, or such other time frame set forth elsewhere in the Contract Documents, any of the Work is found to be defective or not in accordance with the requirements of the Contract Documents, or otherwise contrary to the warranties contained in the Contract Documents, the Contractor shall commence all necessary corrective action not more than seven (7) days after receipt of a written notice from the District to do so, and to thereafter diligently complete the same. In the event that Contractor shall fail or refuse to commence correction of any such item within said seven (7) day period or to diligently prosecute such corrective actions to completion, the District may, without further notice to Contractor, cause such corrective Work to be performed and completed. In such event, Contractor and Contractor's Performance Bond Surety shall be responsible for all costs in connection with such corrective Work, including without limitation, general administrative overhead costs of the District in securing and overseeing such corrective Work. Nothing contained herein shall be construed to establish a period of limitation with respect to any obligation of the Contractor under the Contract Documents. The obligations of the Contractor hereunder shall be in addition to, and not in lieu of, any other obligations imposed by any special guarantee or warranty required by the Contract Documents, guarantees or warranties provided by any manufacturer of any item or equipment forming a part of, or incorporated into the Work, or otherwise recognized, prescribed or imposed by law. Neither the District's Final Acceptance, the making of Final Payment, any provision in Contract Documents, nor the use or occupancy of the Work, in whole or in part, by District shall constitute acceptance of Work not in accordance with the Contract Documents nor relieve the Contractor or the Contractor's Performance Bond Surety from liability with respect to any warranties or responsibility for faulty or defective Work or materials, equipment and workmanship incorporated therein.
- 13.3 Guarantee.** Upon completion of the Work, Contractor shall execute and deliver to the District the form of Guarantee included within the Contract Documents. The Contractor's execution and delivery of the form of Guarantee is an express condition precedent to any obligation of the District to disburse the Final Payment to the Contractor.
- 13.4 Survival of Warranties.** The provisions of this Article 13 shall survive the Contractor's completion of Work under the Contract Documents, the District's Final Acceptance or the termination of the Contract.

ARTICLE 14: SUSPENSION OF WORK

- 14.1 District's Right to Suspend Work.** The District may, without cause, and without invalidating or terminating the Contract, order the Contractor, in writing, to suspend, delay or interrupt the Work in whole or in part for such period of time as the District may determine. The Contractor shall resume and complete the Work suspended by the District in accordance with the District's directive, whether issued at the time of the directive suspending the Work or subsequent thereto.
- 14.2 Adjustments to Contract Price and Contract Time.** In the event the District shall order suspension of the Work, an adjustment shall be made to the Contract Price for increases in the direct cost of performance of the Work of the Contract Documents, actually caused by suspension, delay or interruption ordered by the District; provided however that no adjustment of the Contract Price shall be made to the extent: (i) that performance is, was or

would have been so suspended, delayed or interrupted by another cause for which the Contractor is responsible under the Contract Documents; or (ii) that an equitable adjustment is made or denied under another provision of the Contract Documents. The foregoing notwithstanding, any such adjustment of the Contract Price shall not include any adjustment to increase the Contractor's overhead, general administrative costs or profit, all of which will remain as reflected in the Cost Breakdown submitted by the Contractor pursuant to the Contract Documents. In the event of the District's suspension of the Work, the Contract Time shall be equitably adjusted.

ARTICLE 15: TERMINATION

15.1 Termination for Cause.

15.1.1 District's Right to Terminate. The District may terminate the Contract upon the occurrence of any one or more of the following events of the Contractor's default: (i) if the Contractor refuses or fails to prosecute the Work with diligence as will insure Substantial Completion of the Work within the Contract Time, or if the Contractor fails to substantially Complete the Work within the Contract Time; (ii) if the Contractor becomes bankrupt or insolvent, or makes a general assignment for the benefit of creditors, or if the Contractor or a third party files a petition to reorganize or for protection under any bankruptcy or similar laws, or if a trustee or receiver is appointed for the Contractor or for any of the Contractor's property on account of the Contractor's insolvency, and the Contractor or its successor in interest does not provide adequate assurance of future performance in accordance with the Contract Documents within 10 days of receipt of a request for such assurance from the District; (iii) if the Contractor repeatedly fails to supply sufficient skilled workmen or suitable materials or equipment; (iv) if the Contractor repeatedly fails to make prompt payments to any Subcontractor, of any tier, or Material Suppliers or others for labor, materials or equipment; (v) if the Contractor disregards laws, ordinances, rules, codes, regulations, orders applicable to the Work or similar requirements of any public entity having jurisdiction over the Work; (vi) if the Contractor disregards proper directives of the Architect, the Project Inspector or District under the Contract Documents; (vii) if the Contractor performs Work which deviates from the Contract Documents and neglects or refuses to correct such Work; or (viii) if the Contractor otherwise violates in any material way any provisions or requirements of the Contract Documents. Once the District determines that sufficient cause exists to justify the action, the District may terminate the Contract without prejudice to any other right or remedy the District may have, after giving the Contractor and the Surety at least seven (7) days advance written notice of the effective date of termination. The District shall have the sole discretion to permit the Contractor to remedy the cause for the termination without waiving the District's right to terminate the Contract, or otherwise waiving, restricting or limiting any other right or remedy of the District under the Contract Documents or at law.

15.1.2 District's Rights Upon Termination. In the event that the Contract is terminated pursuant to this Article 15.1, the District may take over the Work and prosecute it to completion, by contract or otherwise, and may exclude the Contractor from the site. The District may take possession of the Work and of all of the Contractor's tools, appliances, construction equipment, machinery, materials, and plant which may be on the site of the Work, and use the same to the full extent they could be used by the Contractor without liability to the Contractor. In exercising the District's right to prosecute the completion of the Work, the District may also take possession of all materials and equipment stored at the site of the Work or for which the District has paid the Contractor but which are stored

elsewhere, and finish the Work as the District deems expedient. In exercising the District's right to prosecute the completion of the Work, the District shall have the right to exercise its sole discretion as to the manner, methods, and reasonableness of the costs of completing the Work and the District shall not be required to obtain the lowest figure for completion of the Work. In the event that the District takes bids for remedial Work or completion of the Work, the Contractor shall not be eligible for the award of such contract(s).

15.1.3 Completion by the Surety. In the event that the Contract is terminated pursuant to this Article 15.1, the District may demand that the Surety take over and complete the Work. The District may require that in so doing, the Surety not utilize the Contractor in performing and completing the Work. Upon the failure or refusal of the Surety to take over and begin completion of the Work within twenty (20) days after demand therefor, the District may take over the Work and prosecute it to completion as provided for above.

15.1.4 Assignment and Assumption of Subcontracts. The District shall, in its sole and exclusive discretion, have the option of requiring any Subcontractor or Material Supplier to perform in accordance with its Subcontract or Purchase Order with the Contractor and assign the Subcontract or Purchase Order to the District or such other person or entity selected by the District to complete the Work.

15.1.5 Costs of Completion. In the event of termination under this Article 15.1, the Contractor shall not be entitled to receive any further payment of the Contract Price until the Work is completed. If the unpaid balance of the Contract Price as of the date of termination exceeds the District's direct and indirect costs and expenses for completing the Work, including without limitation, attorneys' fees and compensation for additional professional and consultant services, such excess shall be used to pay the Contractor for the cost of the Work performed prior to the effective date of termination with a reasonable allowance for overhead and profit. If the District's costs and expenses to complete the Work exceed the unpaid Contract Price, the Contractor and/or the Surety shall pay the difference to the District.

15.1.6 Contractor Responsibility for Damages. The Contractor and the Surety shall be liable for all damage sustained by the District resulting from, in any manner, the termination of Contract under this Article 15.1, including without limitation, attorneys' fees, and for all costs necessary for repair and completion of the Work over and beyond the Contract Price.

15.1.7 Conversion to Termination for Convenience. In the event the Contract is terminated under this Article 15.1, and it is determined, for any reason, that the Contractor was not in default under the provisions hereof, the termination shall be deemed a Termination for Convenience of the District and thereupon, the rights and obligations of the District and the Contractor shall be determined in accordance with Article 15.2 hereof.

15.1.8 District's Rights Cumulative. In the event the Contract is terminated pursuant to this Article 15.1, the termination shall not affect or limit any rights or remedies of the District against the Contractor or the Surety. The rights and remedies of the District under this Article 15.1 are in addition to, and not in lieu of, any other rights and remedies provided by law or otherwise under the Contract Documents. Any retention or payment of monies to the Contractor by the District shall not be deemed to release the Contractor or the Surety from any liability hereunder.

15.2 Termination for Convenience of the District. The District may at any time, in its sole and exclusive discretion, by written notice to the Contractor, terminate the Contract in whole or in part when it is in the interest of, or for the convenience of, the District. In such case, the Contractor shall be entitled to payment for: (i) Work actually performed and in place as of the effective date of such termination for convenience of the District, with a reasonable allowance for profit and overhead on such Work, and (ii) reasonable termination expenses for reasonable protection of Work in place and suitable storage and protection of materials and equipment delivered to the site of the Work but not yet incorporated into the Work, provided that such payments exclusive of termination expenses shall not exceed the total Contract Price as reduced by payments previously made to the Contractor and as further reduced by the value of the Work as not yet completed. The Contractor shall not be entitled to profit and overhead on Work which was not performed as of the effective date of the termination for convenience of the District. The District may, in its sole discretion, elect to have subcontracts assigned pursuant to Article 15.1.4 above after exercising the right hereunder to terminate for the District's convenience.

ARTICLE 16: MISCELLANEOUS

16.1 Governing Law. This Contract shall be governed by and interpreted in accordance with the laws of the State of California.

16.2 Marginal Headings; Interpretation. The titles of the various Articles of these General Conditions and elsewhere in the Contract Documents are used for convenience of reference only and are not intended to, and shall in no way, enlarge or diminish the rights or obligations of the District or the Contractor and shall have no effect upon the construction or interpretation of the Contract Documents. The Contract Documents shall be construed as a whole in accordance with their fair meaning and not strictly for or against the District or the Contractor.

16.3 Successors and Assigns. Except as otherwise expressly provided in the Contract Documents, all terms, conditions and covenants of the Contract Documents shall be binding upon, and shall inure to the benefit of the District and the Contractor and their respective heirs, representatives, successors-in-interest and assigns.

16.4 Cumulative Rights and Remedies; No Waiver. Duties and obligations imposed by the Contract Documents and rights and remedies available thereunder shall be in addition to and not in lieu of or otherwise a limitation or restriction of duties, obligations, rights and remedies otherwise imposed or available by law. No action or failure to act by the District shall constitute a waiver of a right or remedy afforded it under the Contract Documents or at law nor shall such an action or failure to act constitute approval of or acquiescence in a breach hereunder, except as may be specifically agreed in writing.

16.5 Severability. In the event any provision of the Contract Documents shall be deemed illegal, invalid, unenforceable and/or void, by a court or any other governmental agency of competent jurisdiction, such provision shall be deemed to be severed and deleted from the Contract Documents, but all remaining provisions hereof, shall in all other respects, continue in full force and effect.

16.6 No Assignment by Contractor. The Contractor shall not sublet or assign the Contract, or any portion thereof, or any monies due thereunder, without the express prior written consent and approval of the District, which approval may be withheld in the sole and exclusive discretion of the District. The District's approval to such assignment shall be upon such terms

and conditions as determined by the District in its sole and exclusive discretion.

16.7 Gender and Number. Whenever the context of the Contract Documents so require, the neuter gender shall include the feminine and masculine, the masculine gender shall include the feminine and neuter, the singular number shall include the plural and the plural number shall include the singular.

16.8 Independent Contractor Status. In performing its obligations under the Contract Documents, the Contractor is an independent contractor to the District and not an agent or employee of the District. Nothing contained herein shall be deemed or construed as creating a relationship of employer and employee between the District and the Contractor or any Subcontractors, employees of the Contractor or Subcontractors or their respective agents and representatives. Neither the Contractor, Subcontractors nor any employees of the Contractor or Subcontractors are entitled to any rights or privileges of District employees.

16.9 Notices. Except as otherwise expressly provided for in the Contract Documents, all notices which the District or the Contractor may be required, or may desire, to serve on the other, shall be effective only if delivered by personal delivery or by postage prepaid, First Class Certified Return Receipt Requested United States Mail, addressed to the District or the Contractor at their respective address set forth in the Contract Documents, or such other address(es) as either the District or the Contractor may designate from time to time by written notice to the other in conformity with the provisions hereof. In the event of personal delivery, such notices shall be deemed effective upon delivery, provided that such personal delivery requires a signed receipt by the recipient acknowledging delivery of the same. In the event of mailed notices, such notice shall be deemed effective on the third working day after deposit in the mail.

16.10 Disputes; Continuation of Work. Notwithstanding any claim, dispute or other disagreement between the District and the Contractor regarding performance under the Contract Documents, the scope of Work thereunder, or any other matter arising out of or related to, in any manner, the Contract Documents, the Contractor shall proceed diligently with performance of the Work in accordance with the District's written direction, pending any final determination or decision regarding any such claim, dispute or disagreement.

16.11 Dispute Resolution; Arbitration.

16.11.1 Claims Under \$375,000.00. Claims between the District and the Contractor of \$375,000.00 or less shall be resolved in accordance with the procedures established in Part 3, Chapter 1, Article 1.5 of the California Public Contract Code, §§20104 et seq.; provided however that California Public Contract Code §20104.2(a) shall not supersede the requirements of the Contract Documents with respect to the Contractor's notification to the District of such claim or extend the time for the giving of such notice as provided in the Contract Documents. The term "claims" as used herein shall be as defined in California Public Contract Code §20104(b) (2).

16.11.2 Government Code Claim Requirements. Pursuant to Government Code §930.6, any claim, demand, dispute, disagreement or other matter in controversy asserted by the Contractor against the District for money or damages, including, without limitation, a demand for arbitration, except for those subject to resolution pursuant to Article 16.11.1, shall be deemed a "suit for money or damages" and shall be subject to the provisions of Government Code §§945.4, 945.6 and 946. Notwithstanding the resolution of disputes

pursuant to the arbitration provisions set forth in Article 16.11.3 any claim, demand, dispute, disagreement or other matter in controversy between the Contractor and the District seeking money or damages in excess of \$375,000 shall first be presented to the District and acted upon or deemed rejected by the District in accordance with California Government Code section 900, et seq., as a condition precedent to the Contractor's commencement of arbitration proceedings. Any arbitration proceeding pursuant to Article 16.11.3 commenced by the Contractor without first complying with the foregoing provisions of the Government Code shall be stayed pending the Contractor's compliance with the foregoing provisions of the Government Code.

16.11.3 Arbitration. Except as provided in Article 16.11.1, any other claims, disputes, disagreements or other matters in controversy between the District and the Contractor arising out of, or related, in any manner, to the Contract Documents, or the interpretation, clarification or enforcement thereof shall be resolved by arbitration conducted in accordance with the Construction Industry Arbitration Rules of the American Arbitration Association ("AAA") in effect as of the date that a Demand for Arbitration is filed, except as expressly modified herein. The locale for any arbitration commenced hereunder shall be the regional office of the AAA closest to the Site. The award rendered by the Arbitrator(s) ("Arbitration Award") shall be final and binding upon the District and the Contractor only if the Arbitration Award is supported by law and substantial evidence pursuant to California Code of Civil Procedure §1296, including findings of fact and conclusions of law in conformity with California Code of Civil Procedure §1296 and Rule R-43 of the AAA Construction Industry Arbitration Rules. The District and Contractor hereby expressly agree that the Court shall, subject to California Code of Civil Procedure §§1286.4 and 1296, vacate the Arbitration Award if, after review of the Arbitration Award, the Court determines either that the Arbitration Award is: (i) not supported by substantial evidence; (ii) not accompanied by findings of fact and conclusions of law; or (iii) based on an error of law. In connection with any arbitration proceeding commenced hereunder, the discovery rights and procedures provided for in California Code of Civil Procedure §1283.05 shall be applicable, and the same shall be deemed incorporated herein by this reference. A Demand for Arbitration shall be filed and served within a reasonable time after the occurrence of the claim, dispute or other disagreement giving rise to the Demand for Arbitration, but in no event shall a Demand for Arbitration be filed or served after the date when the institution of legal or equitable proceedings based upon such claim, dispute or other disagreement would be barred by the applicable statute of limitations. In the event more than one Demand for Arbitration is made by either the District or the Contractor, all such controversies shall be consolidated into a single arbitration proceeding, unless otherwise agreed to by the District and the Contractor. The Contractor's Surety, a Subcontractor or Material Supplier to the Contractor and other third parties may be permitted to join in and be bound by an arbitration commenced hereunder if required by the terms of their respective agreements with the Contractor, except to the extent that such joinder would unduly delay or complicate the expeditious resolution of the claim, dispute or other disagreement between the District and the Contractor, in which case an appropriate severance order shall be issued by the Arbitrator(s). The expenses and fees of the Arbitrator(s) shall be divided equally among the parties to the arbitration. Each party to any arbitration commenced hereunder shall be responsible for and shall bear its own attorneys' fees, witness fees and other cost and expense incurred in connection with such arbitration. The foregoing notwithstanding, the Arbitrator(s) may award arbitration costs, including Arbitrators' fees but excluding attorneys' fees, to the prevailing party. The confirmation, enforcement, vacation or correction of an arbitration award rendered hereunder shall be the Superior Court of the State of California for the county in which the

Site is situated. The substantive and procedural rules for such post-award proceedings shall be as set forth in California Code of Civil Procedure §1285 et seq.

- 16.11.4 Inapplicability to Bid Bond.** The provisions of this Article 16.11 shall not be applicable to disputes, disagreements or enforcement of rights or obligations under the Bid Bond; all claims, disputes and actions to enforce rights or obligations under the Bid Bond shall be adjudicated only by judicial proceedings commenced in a court of competent jurisdiction.
- 16.12 Capitalized Terms.** Except as otherwise expressly provided, capitalized terms used in the Contract Documents shall have the meaning and definition for such term as set forth in the Contract Documents.
- 16.13 Attorneys Fees.** Except as expressly provided for in the Contract Documents, or authorized by law, neither the District nor the Contractor shall recover from the other any attorneys fees or other costs associated with or arising out of any legal, administrative or other proceedings filed or instituted in connection with or arising out of the Contract Documents or the performance of either the District or the Contractor thereunder.
- 16.14 Waiver of Special/Consequential Damages.** Notwithstanding any right conferred by law or arising by operation of law, by executing the Agreement, the Contractor expressly waives and relinquishes any and all right or entitlement to assert or recover any damages, losses or liabilities from the District which are in the nature of special or consequential damages, losses or liabilities arising out of or related in any manner to the District's breach or default of its obligations under the Contract Documents.
- 16.15 Provisions Required by Law Deemed Inserted.** Each and every provision of law and clause required by law to be inserted in the Contract Documents is deemed to be inserted herein and the Contract Documents shall be read and enforced as though such provision or clause are included herein, and if through mistake, or otherwise, any such provision or clause is not inserted or if not correctly inserted, then upon application of either party, the Contract Documents shall forthwith be physically amended to make such insertion or correction.
- 16.16 Days.** Unless otherwise expressly stated, references to "days" in the Contract Documents shall be deemed to be calendar days.
- 16.17 Prohibited Interests.** No employee of the District, who is authorized in such capacity on behalf of the District to negotiate, make, accept or approve, or to take part in negotiating, making, accepting or approving any architectural, engineering, inspection, construction or material supply contract or subcontract in connection with the Work shall become directly or indirectly financially interested in the Work or any part thereof.
- 16.18 Entire Agreement.** The Contract Documents contain the entire agreement and understanding between the District and the Contractor concerning the subject matter hereof, and supersedes and replaces all prior negotiations, proposed agreements or amendments, whether written or oral. No amendment or modification to any provision of the Contract Documents shall be effective or enforceable except by an agreement in writing executed by the District and the Contractor.

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SPECIAL CONDITIONS

Application of Special Conditions. These Special Conditions are a part of the Contract Documents for the Work generally described as: **BID NO.: B22/23-04 LANDSCAPE RENOVATION PROJECT**

1. Drawings and Specifications The number of sets of the Drawings and Specifications which the District will provide the Contractor, pursuant to Article 2.1.3 of the General Conditions will be mutually agreed upon and reasonable at the District’s discretion and will not exceed 3 sets.

2. Insurance

2.1 Insurance Requirements for Contractor Minimum coverage amounts for each policy of insurance required of the Contractor shall be as follows:

Workers Compensation Insurance	In accordance with applicable law
Employers Liability Insurance	\$1,000,000
Commercial General Liability Insurance (including coverage for bodily injury, death, property damage and motor vehicle liability)	
Per Occurrence	\$2,000,000
Aggregate	\$4,000,000
 Builder’s Risk	 Full value of the Work; seismic coverage is not required

2.2 Insurance Requirements for Subcontractors Minimum coverage amounts for each policy of insurance to be obtained and maintained by each Subcontractor to the Contractor shall be as follows:

Workers Compensation Insurance	In accordance with applicable law
Employers Liability Insurance	\$1,000,000
Commercial General Liability Insurance (including coverage for bodily injury, death, property damage and motor vehicle liability)	
Per Occurrence	\$1,000,000
Aggregate	\$2,000,000

3. Contract Time, Liquidated Damages

3.1 Contract Time: The Contract Time for the Contractor’s Final Completion of the Work is **One Hundred-Eighty (180) Calendar days** after the date for commencement of the Work as set forth in the Notice to Proceed issued by or on behalf of the District to the Contractor. The anticipated Notice to Proceed date of March 27, 2023. All work must be **Substantially Complete within thirty (30) days of September 23, 2023.**

3.2 Liquidated Damages

3.2.1 Delayed Submission of Preliminary Construction Schedule If the Contractor fails to submit the Contractor’s Preliminary Construction Schedule within the time established in the General Conditions, the Contractor shall be subject to assessment of Liquidated Damages in the amount of **One Thousand Dollars (\$1,000.00)** per day from the date the Preliminary Construction Schedule is

required to be submitted until submission thereof to the District.

- 3.2.2 Delayed Substantial Completion If the Contractor fails to achieve Substantial Completion of the Work within the Contract Time, including adjustments thereto in accordance with the Contract Documents, the Contractor shall be subject to assessment of Liquidated Damages in the amount **One Thousand Dollars (\$1,000.00)** per day from the scheduled date of Substantial Completion until Substantial Completion is achieved.
- 3.2.3 Delayed Final Completion If the Contractor fails to achieve Final Completion of the Work within the Contract Time, including adjustments thereto in accordance with the Contract Documents, the Contractor shall be subject to assessment of Liquidated Damages in the amount **One-Thousand Dollars (\$1,000.00)** per day from the scheduled date of Substantial Completion until Substantial Completion is achieved.
- 3.2.4 Delayed Completion of Punchlist Items If the Contractor fails to complete all Punchlist Items noted upon Substantial Completion within the time established for completion of all Punchlist Items, the Contractor shall be subject to assessment of Liquidated Damages in the amount **One Thousand Dollars (\$1,000.00)** per day from the scheduled date of completion until all Punchlist Items are completed.
- 3.2.5 District Withhold of Liquidated Damages; Performance Bond Surety If the Contractor is subject to assessment of Liquidated Damages for delayed Substantial Completion and/or delay completion of Punchlist Items, the District may withhold such assessments from the Contract Price then or thereafter due the Contractor. If the assessment of Liquidated Damages exceeds the then remaining balance of the Contract Price, the Contractor and the Surety issuing the Performance Bond shall be jointly and severally liable to the District for such amounts.

- 3.3 Delays due to Unanticipated, Unusually Severe Weather Conditions Delays due to adverse weather conditions will only be granted to the extent they exceed the “normal” anticipated Inclement Weather Days set forth herein. A weather delay day granted for each calendar day the Contractor can document adverse weather caused critical path delays in excess of 9 calendar days. This number is used in the schedules under the activity entitled “Remaining Inclement Weather Days”. See General Conditions Paragraph 7.3.9 for further information and notice requirements documenting “Inclement Weather Days”.

Weather Days Per Month					
March:	3	June	1	September	0
April:	3	July	0	October	1
May	1	August	0		

- 3.4 Notice of Delay - The Contractor shall notify the Construction Manager, in writing, of all delays Pursuant to Articles 7 and 9 of the General Conditions. Weather day are non-compensable.

4. Storm Water Permits

- 4.1 Contractor shall perform the Work of the Project related to being District’s Qualified SWPPP (Storm Water Pollution Prevention Plan) Practitioner (“QSP”).
- 4.2 As District’s QSP, Contractor shall provide a QSP who shall be onsite and implement and monitor any and all SWPPP requirements applicable to the Project, including but not

limited to:

- 4.2.1** At least forty-eight (48) hours prior to a forecasted rain event, implementing the Rain Event Action Plan (REAP) for any rain event requiring implementation of the REAP, including any erosion and sediment control measures needed to protect all exposed portions of the site.
- 4.3** 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.
- 4.4** Contractor's indemnity obligations are applicable to any damages, penalties, fee, 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.
- 5. District Provided Temporary Utilities** Pursuant to Article 4.3.4 of the General Conditions, during the Contractor's performance of the Work, the District will provide utility services and a point of connection for electrical power. The connection and placement, relocation and removal of temporary distributions of the electrical power service provided by the District will be by the Contractor at its cost and expense without adjustment of the Contract Price. The Contractor may use the temporary electrical power service furnished by the District provided that: (a) the District may discontinue, limit or condition use of such services by a Contractor if the District reasonably determines that the Contractor has wasted such utilities, and (b) the District shall not be liable to the Contractor, nor shall the Contract Time or the Contract Price be increased if any District provided temporary utility service is discontinued or disrupted for any reason other than the District's non-payment of undisputed utility charges.
- 6. Field Office**
Contractor shall provide sufficient space and facilities for its own force's needs.
- 7. Job Sign(s)**
Signs other than the specified Project sign and or signs required by law, for safety, or for egress, shall not be permitted, unless otherwise approved in advance by District.
- 8. Fixture, Furniture and Equipment –N/A**
- 9. Construction Laydown Area** Refer to Attachment F to the Special Conditions for location and the extent of the construction laydown area.
- 10. Parking** The Contractor is permitted to park in Lot D at designated area, see Attachment F. Construction parking permit instruction will be provided with Notice to Proceed.
- 11. Mark-Ups on Changes to the Work** In the event of Changes to the Work, pursuant to Article 9 of the General Conditions, the mark-up for all overhead (including home and field office overhead), general conditions costs and profit, shall not exceed the percentage of allowable direct actual costs for performance of the Change as set forth below. For the portion of any Change performed by Subcontractors of any tier, the percentage mark-up on allowable actual direct labor and materials costs incurred by all Subcontractors of any tier shall be Twelve Percent (12%). In addition, for the portion of any Change performed by a Subcontractor of any tier, the Contractor may add an amount equal to Five Percent (5%) of the allowable actual direct labor and materials costs of Subcontractors performing the Change. For the portion of any Change performed by the Contractor's own forces, the mark-up on the allowable actual direct labor and materials costs of such portion of a Change shall be Fifteen Percent (15%).

- 12. Form and Content of Change Orders** In accordance with the provisions of Article 9.5 of the General Conditions, if the District approves of a Change Order, the Change Order issued by the District and executed by the District, Architect, Construction Manager and Contractor shall be in the form and content as set forth in Attachment A to these Special Conditions.
- 13. Asbestos and Other Hazardous Materials Certification** Upon completion of the Work and as an additional express condition precedent to the District's obligation to disburse the Final Payment to the Contractor, the Contractor's duly authorized representative shall deliver to the District the completed and executed form of Asbestos and Other Hazardous Materials Certification included as Attachment B to the Special Conditions; the signature of the Contractor's representative shall be notarized by a California Notary Public.
- 14. Compliance with District Guidelines – Imported Soils** If the Project requires the use of imported soils, the Contractor shall be responsible to use and shall certify that the imported material it uses is free of any hazardous and/or toxic substance or material of any nature or type as defined in accordance with California Law and the California Health and Safety Code. The District and Architect reserves the right to reject any imported material that has come from agricultural or commercial land. Contractor must notify the District of the source of material and comply with all local applicable regulations, and when applicable, with the guidelines of the Department of Toxic Substances Control (DTSC).
- 15. Debris Recycling Statement** The District's form of Debris Recycling Statement is attached to these Special Conditions as Attachment C. The Contractor shall complete, execute and submit the Debris Recycling Statement in accordance with applicable provisions of the Contract Documents, under General Conditions, Supervision and Construction Procedures, Section 4.3.9.
- 16. Public Works Contractor Registration Certificate.** The District's form of Public Works Contractor Registration Certification form is attached to these Special Conditions as Attachment D. The Contractor and its Sub-Contractors shall complete, execute and submit the Public Works Contractor Registration Certification form with the Bid Proposal in accordance with the Bid Documents.
- 17. Additional Definitions** In addition to terms defined elsewhere in the Contract Documents, the following terms used in the Contract Documents are defined as set forth herein.
- 17.1 Owner** Unless otherwise expressly provided, references to the "Owner" shall be deemed references to the District, as that term is defined in the Contract Documents.
- 17.2 Inspector; Inspector of Record; IOR; Owner's Inspector** Unless otherwise expressly provided, references to Inspector, Inspector of Record, IOR or Owner's Inspector shall be deemed references to the Project Inspector as that term is defined in the Contract Documents. **N/A**
- 17.3 Contract Sum** Unless otherwise expressly provided, the terms "Contract Price" and "Contract Sum" are synonymous.
- 17.4 Campus** Unless otherwise expressly provided, the term "Campus" shall be deemed to refer to the District's Chabot College campus.
- 17.5 Rain Days.** Pursuant to Article 7.3.9 of the General Conditions, the rain days included within the contract period shall be Eleven (11) calendar days.
- 18. COVID 19** Where any District Consultant and its services professionals, employees or agents ("Consultant") will be physically present on any District site, all such Consultants shall comply with all Center for Disease Control, State of California, Alameda County and District

requirements related to COVID-19 and other communicable diseases. District Board Policy 7330 regarding Communicable Disease requires that all visitors to District campuses and sites must comply with all Cal/OSHA safety guidelines and other District policies and procedures, as well as any other District COVID-19 health and safety protocols in effect. Such health and safety protocols including requiring vaccinations of all employees providing services inside District owned/operated facilities as required by Board Policy 7330. Mask/Face Coverings are required at all times while inside District facilities, unless otherwise directed.

Please also take notice that, pursuant to Consultant's Agreement with the District, Consultant "shall comply with all applicable federal, state, and local laws, ordinances, rules, regulations, and orders in effect throughout the term of this Agreement including, but not limited to Executive Order No. 11246 of September 24, 1965, as amended (regarding Equal Employment Opportunity), and the orders of the Secretary of Labor pursuant thereto." (Exhibit C, General Provisions for Professional Services Agreement, Professional Services Agreement.)

This shall constitute sufficient notice of the applicable regulations and requirements set forth in District Board Policy 7330 and shall further act as a notice of compliance to all Consultants. The District requires compliance no later than April 30, 2023 and will proceed to enforce all of its rights and remedies as a result of any non-compliance herein as of March 30, 2023.

**CHANGE ORDER FORM
(ATTACHMENT A TO SPECIAL CONDITIONS)**

Project: _____ Change Order #: _____
Date: _____

Contractor: _____

Pursuant to the General Conditions, this Change Order Form shall be used for all Change Orders associated with the Work. No additions or deletions to this form shall be allowed, except with permission of the District.

You are hereby directed to provide the extra work necessary to comply with this Change Order.

DESCRIPTION OF CHANGE:

Contractor accepts the terms and conditions stated as full and final settlement of any and all claims arising from this Change Order. Contractor agrees to perform the above described changes in accordance with the terms set forth herein and in compliance with applicable sections of the Contract Documents. This Change Order is hereby agreed to, accepted and approved, all in accordance with the General Conditions of the Contract Documents. The adjustment of the Contract Price and the Contract Time for the changes noted in this Change Order (the "Changes") represents the full and complete adjustment of the Contract Time and the Contract Price due the Contractor for providing and completing such Changes, including without limitation: (i) all costs (whether direct or indirect) for labor, equipment, materials, tools, supplies and/or services; (ii) all general and administrative overhead costs (including without limitation, home office, field office and Site general conditions costs) and profit; and (iii) all impacts, delays, disruptions, interferences, or hindrances in providing and completing the Changes. Contractor waives all rights, including without limitation those arising under Civil Code Section 1542, for any other adjustment of the Contract Price or the Contract Time on account of the Changes set forth in this Change Order or the Contractor's performance and completion of the Changes.

NOT VALID UNTIL SIGNED BY THE OWNER, ARCHITECT, AND CONTRACTOR

The original Contract Sum was \$ _____

Net change by previously authorized Change Orders \$ _____

The Contract Sum prior to this Change Order was \$ _____

The Contract Sum will be changed by this Change Order in the amount of \$ _____

The adjusted Contract Sum including this Change Order will be \$ _____

The Contract Time will be (increased) (decreased) (unchanged) by (_____) Days

The Contractual date of Substantial Completion as of the date of this Change Order therefore is: . . . ____/____/____

ARCHITECT	CONTRACTOR	CONSTRUCTION MANAGER	OWNER
<u>KM</u>		<u>TBD</u>	

By: _____ By: _____ By: _____ PPM: _____

By: _____ Date: _____ Date: _____ Date: _____

CHABOT-LAS POSITAS COMMUNITY
COLLEGE DISTRICT
7600 Dublin Blvd., 3rd fl
Dublin, CA 94554

VC: _____
Date: _____

By: _____ Date: _____

**ASBESTOS AND OTHER HAZARDOUS MATERIALS CERTIFICATION
(ATTACHMENT B TO SPECIAL CONDITIONS)**

This Asbestos and Other Hazardous Materials Certification form is part of the Contract made by and between the CHABOT-LAS POSITAS COMMUNITY COLLEGE DISTRICT and **BID NO.: B22/23-04 LANDSCAPE RENOVATION PROJECT** (hereinafter referred to as the "Project").

To the best of my knowledge, information and belief, in completing the Work of the Project, no materials, equipment or other items furnished, installed or incorporated into the Project contains, or in itself be composed of, any asbestos, polychlorinated biphenyl (PCB), any material listed by the federal or state EPA or federal or state health agencies as a hazardous material, or defined as being hazardous under federal or state laws, rules or regulations.

The undersigned is duly authorized to complete, execute and submit this Asbestos and Other Hazardous Materials Certification on behalf of the Contractor. The undersigned has personal knowledge of the substantive representations set forth hereinabove or has made appropriate diligent inquiry to ascertain that the substantive representations set forth hereinabove are complete, true and accurate and do not omit material facts rendering such representations to be false or misleading.

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

Executed on this _____ day of _____, 2023 at _____.
(City and State)

Name of Contractor (Print or Type)

By: _____
Signature

Print Name

Title

Subscribed and sworn before me
this ____ day of _____, 2023

Notary Public in and for the State of California

My Commission Expires:

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Chabot – Las Positas Community College District

**Construction & Demolition
DEBRIS RECYCLING STATEMENT
(Attachment C to Special Conditions)**

Project Name / Location: _____			
_____ Demolition	_____ Construction		
Contractor Name: _____			
Contact Name: _____	Phone: _____	Fax: _____	
Anticipated Start Date: _____	Anticipated Completion Date: _____		
Statement Date: _____			
For the period between: _____ / _____ and _____ / _____			
Month	Year	Month	Year

Please indicate estimated quantities by matter, the proposed processing method and the vendor selected. Weight tag required as verification.

	Estimated Amount (Tons or Yards)			
	Recycled	Salvaged	Landfilled	
Asphalt				
Concrete				
Brick/Masonry Tile				
Corrugated Cardboard				
Dirt/Clean Full				
Drywall				
Padding – Carpet Foam				
Building Materials (doors, windows, cabinets, fixtures)				
Scrap Metals				
Mixed Recyclable Debris				
Other				
Un-painted wood/Pallets				
Green Waste/Yard Waste				
Garbage – Painted Wood- Trash				

If no materials are targeted for recycling, reuse or salvage, please state why: _____

The undersigned certifies that she/he is authorized to execute this Debris Recycling Statement on behalf of the above-identified Contractor. The undersigned further certifies that she/he has personal knowledge of the foregoing, or has made reasonable inquiry to ascertain, that the foregoing is true, complete and correct.

Submitted by: _____ Date: _____

IMPORTED MATERIALS CERTIFICATION
 (ATTACHMENT D TO SPECIAL CONDITIONS)

PROJECT/CONTRACT NO.: _____ between [Chabot-Las Positas CCD]
 ("District") and _____
 ("Contractor") **B22/23-04 LANDSCAPE RENOVATION PROJECT** ("Contract" or "Project").

This form shall be executed 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"), including requirements for a Phase I environmental assessment acceptable to the State of California Department of Education and Department of Toxic Substances Control

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.

PUBLIC WORKS CONTRACTOR REGISTRATION CERTIFICATION
(Attachment E to Special Conditions)

I, _____, am the _____ of
(Print Name) (Title)

(Contractor Name)

I declare, state and certify to all of the following:

1. I am aware of the provisions and requirements of California Senate Bill (SB) 854, the Public Works Contractor Registration Program.
2. I am authorized to certify, and do certify, on behalf of Contractor that an annual registration fee has been paid and I am registered as eligible to bid and work on public works projects by doing all of the following:
 - A. Must have workers' compensation coverage for any employees and only use subcontractors who are glistered public works contractors;
 - B. Must have Contractors State License Board license, if applicable to trade;
 - C. Must have no delinquent unpaid wage or penalty assessments owed to any employee or enforcement agency;
 - D. Must not be under federal or state debarment;
 - E. Must not be in prior violation of this registration requirement once it becomes effective on April 1, 2015.
3. Contractor and I understand that if the District determines that Contractor has either: (a) made a false certification herein, or (b) violated this certification by failing to carry out and to implement the requirements of the Department of Industrial Relations (DIR), the Contract awarded herein is subject to termination, suspension of payments, or both. Contractor and I further understand that, should Contractor violate the terms of the Public Works Contractor Registration Certification Law of California Senate Bill 854, Contractor may be subject to debarment in accordance with the provisions of California Labor Code §§1720, et seq.
4. Contractor and I acknowledge that Contractor and I are aware of the provisions of California Senate Bill 854 and hereby certify that Contractor and I will adhere to, fulfill, satisfy and discharge all provisions of and obligations under the Public Works Contractor Registration Program.

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

Executed at _____ this _____ day of
(City and State)

_____, 2023

(Signature)

(Handwritten or Typed Name)

Department of Industrial Relations Registration #

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Escrow Agreement for Security Deposits in Lieu of Retention

(Attachment F to Special Conditions)
P.C.C. §22300

THIS ESCROW AGREEMENT (“Escrow Agreement”) is made and entered into this _____ day of _____, 2023, by and between the CHABOT LAS POSITAS COMMUNITY COLLEGE DISTRICT (hereinafter called the “District”), whose address is 7600 Dublin Boulevard, Dublin, California 95554; _____ (“Contractor”), whose place of business is located at _____; and [District, as escrow agent ...OR... _____], a state or federally chartered bank in the State of California, whose place of business is located at _____] (“Escrow Agent”).

For the consideration hereinafter set forth, District, Contractor and Escrow Agent agree as follows:

1. Pursuant to Section 22300 of Public Contract Code of the State of California, Contractor has the option to deposit securities with Escrow Agent as a substitute for retention earnings required to be withheld by District pursuant to Contract Number [_____] entered into between District and Contractor for District-wide Emergency Call Station Project in the amount of [_____] dated [_____] (the “Contract”). Alternatively, on written request of Contractor, District shall make payments of the retention earnings directly to Escrow Agent. When Contractor deposits the securities as a substitute for Contract earnings, Escrow Agent shall notify District within ten (10) Days of the deposit. The market value of the securities at the time of substitution shall be at least equal to the cash amount then required to be withheld as retention under terms of Contract between District and Contractor. Securities shall be held in name of _____, and shall designate Contractor as the beneficial owner.
2. District shall make progress payments to Contractor for those funds which otherwise would be withheld from progress payments pursuant to Contract provisions, provided that Escrow Agent holds securities in form and amount specified in paragraph 1 of this Section 00680.
3. When District makes payment(s) of retention earned directly to Escrow Agent, Escrow Agent shall hold said payment(s) for the benefit of Contractor until the time that the escrow created under this Escrow Agreement is terminated. Contractor may direct the investment of the payments into securities. All terms and conditions of this Escrow Agreement and the rights and responsibilities of the parties shall be equally applicable and binding when District pays Escrow Agent directly.
4. Contractor shall be responsible for paying all fees for the expenses incurred by Escrow Agent in administering the Escrow Account, and all expenses of District. Such expenses and payment terms shall be determined by District, Contractor, and Escrow Agent.
5. Interest earned on securities or money market accounts held in escrow and all interest earned on that interest shall be for sole account of Contractor and shall be subject to withdrawal by Contractor at any time and from time to time without notice to District.
6. Contractor shall have the right to withdraw all or any part of the principal in the Escrow Account only by written notice to Escrow Agent accompanied by written authorization from District to Escrow Agent that District consents to withdrawal of amount sought to be withdrawn by Contractor.

7. District shall have the right to draw upon the securities in event of default by Contractor. Upon seven (7) Days written notice to Escrow Agent from District of the default, Escrow Agent shall immediately convert the securities to cash and shall distribute the cash as instructed by District.
8. Upon receipt of written notification from District certifying that the Contract is final and complete, and that Contractor has complied with all requirements and procedures applicable to the Contract, Escrow Agent shall release to Contractor all securities and interest on deposit less escrow fees and charges of the Escrow Account. The escrow shall be closed immediately upon disbursement of all moneys and securities on deposit and payments of fees and charges.
9. Escrow Agent shall rely on written notifications from District and Contractor pursuant to paragraphs 5 through 8, inclusive, of this Section 00680 and District and Contractor shall hold Escrow Agent harmless from Escrow Agent's release and disbursement of securities and interest as set forth.
10. Names of persons who are authorized to give written notice or to receive written notice on behalf of District and on behalf of Contractor in connection with the foregoing, and exemplars of their respective signatures are as follows:

On behalf of Escrow Agent:

Title

Name

Signature

Address

City/State/Zip

At the time the Escrow Account is opened, District and Contractor shall deliver to Escrow Agent a fully executed counterpart of this Agreement.

IN WITNESS WHEREOF, the parties have executed this Escrow Agreement by their proper officers on the date first set forth above.

District:

Contractor:

Vice Chancellor
Title

Title

Jonah Nicholas
Name

Name

Signature

Signature

7600 Dublin Boulevard
Address

Address

Dublin, California 95554
City/State/Zip

City/State/Zip

Escrow Agent:

Title

Name

Signature

Address

City/State/Zip

END OF SECTION

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GUARANTEE

District: CHABOT-LAS POSITAS COMMUNITY COLLEGE DISTRICT
Project: BID NO.: B22/23-04 LANDSCAPE RENOVATION PROJECT

Contractor Name: _____

The Contractor hereby warrants and guarantees to the District that all work, materials, equipment and workmanship provided, furnished or installed by or on behalf of Contractor in connection with the above-referenced Project (the "Work") have been provided, furnished and installed in strict conformity with the Contract Documents for the Work, including without limitation, the Drawings and the Specifications. Contractor further warrants and guarantees that all work, materials, equipment and workmanship as provided, furnished and/or installed are fit for use as specified and fulfill all applicable requirements of the Contract Documents including without limitation, the Drawings and the Specifications. Contractor shall, at its sole cost and expense, repair, correct and/or replace any or all of the work, materials, equipment and/or workmanship of the Work, together with any other items which may be affected by any such repairs, corrections or replacement, that may be unfit for use as specified or defective within a period of one (1) year from the date of the District's Final Acceptance of the Work, ordinary wear and tear and unusual abuse or neglect excepted.

In the event of the Contractor's failure and/or refusal to comply with the provisions of this Guarantee, within the period of time set forth in the Contract Documents after the District's issuance of the Notice to the Contractor of any defect(s) in the Work, materials, equipment or workmanship, Contractor authorizes the District, without further notice to Contractor, to repair, correct and/or replace any such defective item at the expense of the Contractor. The Contractor shall reimburse the District for all costs, expenses or fees incurred by the District in providing or performing such repairs, corrections or replacements within ten (10) days of the District's presentation of a demand to the Contractor for the same.

The provisions of this Guarantee and the provisions of the Contract Documents for the Work relating to the Contractor's Guarantee(s) and warranty(ies) relating to the Work shall be binding upon the Contractor's Performance Bond Surety and all successors or assigns of Contractor and/or Contractor's Performance Bond Surety.

The provisions of this Guarantee are in addition to, and not in lieu of, any provisions of the Contract Documents for the Work relating to the Contractor's guarantee(s) and warranty(ies) or any guarantee(s) or warranty(ies) provided by any material supplier or manufacturer of any equipment, materials or other items forming a part of, or incorporated into the Work, or any other guarantee or warranty obligation of the Contractor, prescribed, implied or imposed by law.

The undersigned individual executing this Guarantee on behalf of Contractor warrants and represents that he/she is duly authorized to execute this Guarantee on behalf of Contractor and to bind Contractor to each and every provision hereof.

Dated: _____

By: _____
(Signature)

(Typewritten or handwritten name)

(Title)

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Chabot-Las Positas Community College District

Measure A Bond Program

CONTRACT REQUIREMENTS

DIVISION 1 GENERAL REQUIREMENTS

PART 1 – GENERAL**1.01 SUMMARY**

- A. This section includes summary of work including:
 - 1. Work covered by Contract Documents
 - 2. Bid items, Allowances and Alternates
 - 3. Work under other contracts
 - 4. Future work
 - 5. Work sequence
 - 6. Cooperation of contractor and coordination with other work
 - 7. Maintenance
 - 8. Occupancy requirements
 - 9. Reference Standards
 - 10. Products ordered in advance
 - 11. CLPCCD furnished products

1.02 WORK COVERED BY CONTRACT DOCUMENTS

- A. The college existing area at the front entrance to the campus and in front of the Multi-Disciplinary Building, commonly known as 2400, that will have selective demolition of paving and landscaping areas. Included in the scope of work will be the re-routing of existing utilities and installation of new utilities, new lighting, electrical, concrete, Stormwater drainage, irrigation and new site work. The scope of work of this project includes but is not limited to the disposing and replacement of trees, grass, base rock, etc.
- B. The work shall include all work shown and specified except for work indicated “N.I.C” or “Not in Contract”.
- C. During construction, all buildings will remain in service and be occupied during normal campus hours as this campus will remain active throughout the entire project.
- D. The Contractor must maintain access to all buildings, sidewalks, and paths of travel at all times during the project. The contractor is to provide secure fencing to keep the general public from entering exterior work areas. Fencing is required to have a privacy screen.
- E. Unless provided otherwise in the Contract Documents, all risk of loss of Work covered by the Contract Documents shall rest with the Contractor until Final Completion and Acceptance of the Work.

1.03 BID ITEMS

- A. Base Bid- Furnish and install all work shown on Drawings and described in Specifications and all other Contract Documents, including connections to existing systems for a complete and operation product.

- B. Allowance- An Owner's unspecified allowance is as noted in Paragraph 1.1 of the Bid Proposal.

1.04 WORK UNDER OTHER CONTRACTS

Not Applicable

1.05 FUTURE WORK

Not Applicable.

1.06 WORK SEQUENCE

- A. The contractor shall coordinate their work with the Construction Manager. Work will be performed on an active college campus. Campus hours are from 7:00AM to 10:00PM Monday through Friday. Exterior work can occur during normal working hours.

1.07 COOPERATION OF CONTRACTOR AND COORDINATION WITH OTHER WORK.

- A. Should construction work, or work of any other nature, be underway by other forces or by other contractors within or adjacent to the limits of the Work at the time the Work was advertised for bids, the Contractor shall cooperate with all such other contractors or forces to the end that any delay or hindrance to their work will be avoided. The cost of such cooperation will be considered as included in the prices bid and no direct or additional payment will be made therefore. Contractor shall coordinate with such other contractors and forces as required by General Conditions.
- B. CLPCCD reserves the right to perform other or additional work, within or adjacent to the limits of the work specified, at any time by the use of other forces. Contractor shall coordinate with CLPCCD and any CLPCCD forces, or other forces, engaged by CLPCCD, as required by General Conditions. In the event that the performance of such other or additional work materially increases or decreases Contractor's costs, the work and the amount to be paid therefore will be appropriately adjusted as determined by the Construction Manager.
- C. Limit use of the Site for Work and for construction operations to allow for:
 - a. CLPCCD operation
 - b. Work by other contractors and tenants
- D. Coordinate use of the Site and access to site with other contractors, utilities, and CLPCCD forces, as required by General Conditions. Construction Manager has final authority over coordination, use of the Site, and access to site.
- E. Cooperate with CLPCCD and others who may occupy and begin work on site and inside building prior to completion of Work of this Contract.
- F. Cooperate with contractors for other area work, not included in Contract, but which may take place during construction period.

1.08 MAINTENANCE

- A. Cost of maintenance of systems and equipment prior to Final Acceptance will be considered as included in prices bid and no direct or additional payment will be made therefore.

1.09 OCCUPANCY REQUIREMENTS

- A. Whenever, in the opinion of Construction Manager, Work or any part thereof is in a condition suitable for use, and the best interest of CLPCCD requires such use, CLPCCD may take beneficial occupancy of and connect to, open for public use, or use the Work or such part thereof. In such case, CLPCCD will request Architect/Engineer to inspect the Work or part thereof, and issue a Certificate of Substantial Completion for that part of Work.
- B. Prior to date of Final Acceptance of the Work by CLPCCD, all necessary repairs or renewals in Work or part thereof so used, not due to ordinary wear and tear, but due to defective materials or workmanship or to operations of Contractor, shall be made at expense of Contractor, as required in General Conditions.
- C. Use by CLPCCD of Work or part thereof as contemplated by this section shall in no case be construed as constituting acceptance of Work or any part thereof. Such use shall neither relieve Contractor of any responsibilities under Contract, nor act as waiver by CLPCCD of any of the conditions thereof.
- D. CLPCCD may specify in the Contract Documents that portions of the Work, including electrical and mechanical systems or separate structures, shall be substantially completed on milestone dates prior to substantial completion of all of the Work. Contractor shall notify Architect/Engineer in writing when Contractor considers any such part of the Work ready for its intended use and substantially complete and request Architect/Engineer to issue a Certificate of Substantial Completion for that part of the Work.

PART 2 – PRODUCTS**2.01 REFERENCE STANDARDS**

- A. For products specified by association or trade standards, comply with requirements of standard, except where more rigid requirements are specified or are required by applicable codes.

2.02 PRODUCTS ORDERED IN ADVANCE

Not applicable.

2.03 CLPCCD FURNISHED PRODUCTS

For CLPCCD furnished products as specified, if any, shall be indicated on Construction Documents.

PART 3 – EXECUTION

Not applicable.

END OF SECTION

PART 1 – GENERAL**1.01 SUMMARY**

- A. This section describes general procedural requirements for alterations, modifications and extras.
- B. Related Sections
 - 1. Section 01 11 00: Summary of Work

1.02 GENERAL

- A. Any change in scope of work or deviation from Drawings or Specifications shall be accomplished only when authorized in writing by Construction Manager. As appropriate, change orders are subject to approval by the Division of the State Architect. Refer to section 4-338, Part 1, Title 24, California Code of Regulations.
- B. Changes in scope of Work or deviation from Drawings or Specifications may be initiated only by the Contractor or the Construction Manager.
 - 1. Contractor may initiate changes by submitting Requests for Information (RFI), Requests for Substitution (RFS), Notice of Concealed or Unknown Conditions, or Notice of Hazardous Waste Conditions.
 - a. RFI's shall be submitted to seek clarification of Contract Documents.
 - b. RFS's shall be submitted in accordance with paragraph 4.8.2 of General Conditions to request substitution of materials or methods of execution.
 - c. Notices of Changes shall be submitted in accordance with paragraph 9.6 of General Conditions.
 - d. Notices of Hazardous Waste Conditions shall be submitted in accordance with paragraph 4.17 of General Conditions.
 - e. Notices of concealed or unknown conditions shall be submitted to make Owner aware of a potential change in scope of the work.
 - 2. Contractor shall be responsible for its costs to implement and administer RFI's and RFS's throughout the Contract duration. Regardless of the number of RFI's submitted, Contractor will not be entitled to additional compensation. Contractor shall be responsible for both CLPCCD's and Architect's administrative costs for answering its RFI's where the answer could reasonably be found by reviewing the Contract Documents, as determined by CLPCCD; such costs will be deducted from progress payments.
 - 3. Architect/Engineer may initiate changes by issuing an Architectural Supplemental Instruction (which shall require written approval of the Construction Manager).
 - 4. Construction Manager may initiate changes by issuing a Construction Field Directive (CFD) to Contractor. Such CFD's will provide detail on the proposed changes in the Work and request a quotation of changes in Contract Sum and Contract Times from Contractor. A CFD may require Contractor to expedite the work and proceed on a time and material (force account) basis.

1.03 PROCEDURE

- A. Contractor shall submit RFI to Construction manager. Contractor shall reference each RFI to an activity on its Progress Schedule and note the time criticality of the RFI, indicating the time in which the response is required. Architect/Engineer shall respond by issuing a Clarification.
 - 1. If Contractor is satisfied with the Clarification and does not request change in Contract Sum or Contract Times, then the Clarification shall be executed without a change.
 - 2. If Contractor believes that the Clarification results in change in Contract Sum or Contract Times, Contractor shall notify Construction Manager who may then deny request for change or issue RFP.
- B. Contractor shall submit RFS to Construction Manager who may then deny request or issue RFP.
- C. Contractor shall submit Notices of Changes to resolve unanticipated conditions incurred in the execution of the Work. Procedures in Paragraph 9.6 of General Conditions shall be followed. If Construction Manager determines that a change in Contract Sum or contract Times is justified, Construction Manager shall issue RFP.
- D. Contractor shall submit Notices of Hazardous Waste Conditions to resolve problems regarding hazardous materials encountered in the execution of the Work. Procedures in Paragraph 4.17 of General Conditions shall be followed. If Construction Manager determines that a change in Contract Sum or contract Times is justified, Construction Manager shall issue RFP.
- E. Architect/Engineer shall issue Supplemental Instruction to the Construction Manager who shall forward onto Contractor. Contractor shall not proceed with Supplemental Instruction until Construction Manager approves it in writing.
 - 1. If Contractor is satisfied with Supplemental Instruction and does not request change in Contract Sum or Contract Times, then Supplemental Instruction shall be executed without a Change Order.
 - 2. If Contractor believes that Architectural Supplemental Instruction results in change in Contract Sum or Contract Times, Contractor shall notify Construction Manager. Construction Manager may then deny request for change, cancel Clarification or issue RFP.
- F. Responses by recipients shall be within a reasonable time.
- G. Contractor shall respond to Construction Manager's RFP within fifteen (15) working days by furnishing a complete breakdown of costs of both credits and extras; itemizing materials, labor, taxes, overhead and profit. Subcontract work shall be so indicated.
- H. Upon approval of RFP, Construction Manager will issue a Change Order or Construction Field Directive directing Contractor to proceed with extra work.
- I. Payment shall be made as follows:
 - 1. Change Orders which increase Contract Sum or Contract Times shall be included in next Contract Modification Form, signed by Construction Manager, accepted by Contractor.

2. Payment shall be made for Change Order work along with other work in progress payment following completion of Change Order work. Partial completion of Change Order work shall be paid for that part completed during the period covered by the monthly payment request.

1.04 COST DETERMINATION

A. Total cost of extra work shall be the sum of labor costs, material costs, equipment rental costs and specialist costs as defined herein plus overhead and profit as allowed herein. This limit applies in all cases of claims for extra work, whether calculating Change Orders, RFIs, or calculating claims of all types, and applies even in the event of fault, negligence, strict liability, or tort claims of all kinds, including misrepresentation, concealment, strict liability or negligence. No other costs arising out of or connected with the performance of extra work, of any nature, may be recovered by Contractor. No special, incidental or consequential damages may be claimed or recovered against CLPCCD, its representatives or agents, whether arising from breach of contract, negligence or strict liability, unless specifically authorized in the Contract Documents.

B. Overhead:

1. Overhead shall be as defined in Article 1.08.

C. Taxes:

1. Alameda County Sales Tax should be included.
2. Federal and Excise Tax shall not be included.

D. Owner Operated Equipment

When owner-operated equipment is used to perform extra work, Contractor will be paid for equipment and operator as follows:

1. Payment for equipment will be made in accordance with Paragraph 1.05. C.
2. Payment for cost of labor will be made at no more than rates of such labor established by collective bargaining agreements for type of worker and location of work, whether or not owner-operator is actually covered by such an agreement.

1.05 COST BREAKDOWN

A. Labor - Contractor will be paid cost of labor for workers (including fore persons when authorized by Construction Manager) used in actual and direct performance of extra work. Labor rate, whether employer is Contractor, subcontractor or other forces, will be sum of following:

1. **Actual Wages** - Actual wages paid shall be limited to the applicable prevailing wage rate for the classification of labor actually and reasonably necessary to complete a Change. Prevailing wage rates shall be deemed to include all direct payment of wages to workers completing a Change and all employer burdens thereon, including without limitation all employer payments to or on behalf of workers for Workers Compensation, health and welfare, pension, vacation and other similar labor burdens. Contractors and subcontractors are required to provide their corresponding wage rate breakdown for the classification of labor under which they will complete a Change and on the form provided by the Owner for review and approval by

the Owner and Construction Manager prior to processing and approval of payment for any completed Change.

B. Material - Only materials furnished by Contractor and necessarily used in performance of extra work will be paid for. Cost of such materials will be cost, including sales tax, to purchaser (Contractor, subcontractor or other forces) from supplier thereof, except, as the following are applicable:

1. If cash or trade discount by actual supplier is offered or available to purchaser, it shall be credited to CLPCCD notwithstanding fact that such discount may not have been taken.
2. For materials salvaged upon completion of extra work, salvage value of materials shall be deducted from cost, less discount, of materials.
3. If cost of a material is, in opinion of Construction Manager, excessive, then cost of material shall be deemed to be lowest current wholesale price at which material is available in quantities concerned delivered to Site, less any discounts as provided in subparagraph 1 above.

C. Equipment Rental

For Contractor or subcontractor-owned equipment, payment will be made at the lesser of actual rental rates or the rental rates listed for equipment in California Department of Transportation official equipment rental rate schedule which is in effect on date upon which extra work is accomplished and which schedule is incorporated herein by reference as though fully set forth herein. For rented equipment, payment will be made based on actual rental invoices. Equipment used on extra work shall be of proper size and type. If, however, equipment of unwarranted size or type and cost is used, cost of use of equipment shall be calculated at rental rate for equipment of proper size and type. Rental rates paid shall be deemed to cover cost of fuel, oil, lubrication, supplies, small tools, necessary attachments, repairs and maintenance of any kind, depreciation, storage, insurance, and all incidentals. Unless otherwise specified, manufacturer's ratings, and manufacturer-approved modifications, shall be used to classify equipment for determination of applicable rental rates. Individual pieces of equipment or tools not listed in said publication and having a replacement value of five hundred dollars (\$500) or less, whether or not consumed by use, shall be considered to be small tools and no payment will be made therefore as payment is included in payment for labor. Rental time will not be allowed while equipment is inoperative due to breakdowns.

1. For equipment on Site, rental time paid for equipment shall be the time equipment is in operation on extra work being performed. The following shall be used in computing rental time of equipment:
 - a. When hourly rates are listed, less than thirty (30) minutes of operation shall be considered to be one-half (1/2) hour of operation.
 - b. When daily rates are listed, less than four (4) hours of operation shall be considered to be one-half (1/2) day of operation. Anything over four (4) hours and not more than eight (8) hours is considered one (1) full day of operation.
2. For equipment, which must be brought to Site to be used exclusively on extra work, cost of transporting equipment to Site and its return to its original location shall be determined as follows:

- a. CLPCCD will pay for costs of loading and unloading equipment.
 - b. Cost of transporting equipment in low bed trailers shall not exceed hourly rates charged by established haulers.
 - c. Cost of transporting equipment shall not exceed applicable minimum established rates of California Public Utilities Commission.
 - d. Payment for transporting, and loading and unloading equipment as above provided will not be made if equipment is used on Work in any other way than upon extra work.
 - e. Equipment rental tags are to be provided with Change Order request, if no Equipment rental tag is provided, District has the right to reject cost.
3. Rental period shall begin at time equipment is unloaded at Site of extra work and terminate at end of day on which Construction Manager directs Contractor to discontinue use of equipment. Excluding Saturdays, Sundays, and legal holidays, unless equipment is used to perform extra work on such days, rental time to be paid per day shall be four (4) hours for zero (0) hours of operation, six (6) hours for four (4) hours of operation and eight (8) hours for eight (8) hours of operation, time being prorated between these parameters. Hours to be paid for equipment, which is operated less than eight (8) hours due to breakdowns, shall not exceed eight (8) less number of hours equipment is inoperative due to breakdowns.
- D. Work Performed by Special Forces or Other Special Services

When Construction Manager and Contractor, by agreement, determine that special service or item of extra work cannot be performed by forces of Contractor or those of any subcontractors, service or extra work item may be performed by specialist. Invoices for service or item of extra work on basis of current market price thereof may be accepted without complete itemization of labor, material, and equipment rental costs when it is impracticable and not in accordance with established practice of special service industry to provide complete itemization. In those instances wherein Contractor is required to perform extra work necessitating a fabrication or machining process in a fabrication or machine shop facility away from Site, charges for that portion of extra work performed in such facility may, by agreement, be accepted as a specialist billing. Construction Manager must be notified in advance of all offsite work. To specialist invoice price, less credit to CLPCCD for any cash or trade discount offered or available, whether or not such discount may have been taken, will be added 15 percent (15%) in lieu of overhead and profit provided in Paragraph 1.04.B.

1.06 FORCE-ACCOUNT

- A. If it is impracticable because of nature of work, or for any other reason, to fix an increase or decrease in price definitely in advance, Change Order may fix a maximum price which shall not under any circumstances be exceeded, and subject to such limitation, such alteration, modification or extra shall be paid for at actual necessary cost as determined by CLPCCD Authority, which cost shall be determined pursuant to Article 1.04, and shall be known as Force-Account work.
- B. Whenever any Force-Account work is in progress, definite price for which has not been agreed on in advance, Contractor shall report to Construction Manager each day in writing in detail amount and cost of labor and material used, and any

other expense incurred in Force-Account work on preceding work day, and no claim for compensation for Force-Account work will be allowed unless report shall have been made. Daily report(s) shall be delivered to Construction Manager within one (1) business day of the day the work was performed. No late reports will be accepted. The intent is to have daily agreement on hours expended for labor and equipment on Force-Account work.

- C. Above described methods of determining payment for work and materials shall not apply to performance of work or furnishings of material, which, in judgment of Construction Manager, may properly be classified under items for which prices are established in Contract.

1.07 CLPCCD FURNISHED MATERIALS

CLPCCD reserves right to furnish materials, as it deems advisable, and Contractor shall have no claims for costs and overhead and profit on such materials.

1.08 OVERHEAD DEFINED

- A. The following constitutes charges that are included in overhead for all contract modifications, including Force-Account work:
1. Drawings: field drawings, shop drawings, etc. including submissions of drawings
 2. Routine field inspection of work proposed
 3. General Superintendence
 4. General administration and preparation of change orders
 5. Computer services
 6. Reproduction services
 7. Salaries of project engineer, Construction Manager, superintendent, timekeeper, storekeeper and secretaries
 8. Janitorial services
 9. Temporary on-site facilities
 - a. Offices
 - b. Telephones
 - c. Plumbing
 - d. Electrical: Power, lighting
 - e. Platforms
 - f. Fencing, etc.
 10. Home office expenses
 11. Insurance Premium
 12. Procurement and use of vehicles and fuel used coincidentally in base bid work
 13. Surveying
 14. Estimating
 15. Protection of work

16. Final cleanup
17. Other incidental work
18. Record Drawings
19. Warranty
20. Transportation expense to site for labor

1.09 RECORDS AND CERTIFICATION

- A. Force-Account (cost reimbursement) charges shall be recorded daily upon Cost Breakdown for Contract Modification Form obtained from Inspector. Contractor or authorized representative shall complete and sign form. Inspector shall sign form for approval. Contract Modification Form shall provide names and classifications of workers and hours worked by each, itemize materials used, and also list size type and identification number of equipment, and hours operated, and shall indicate work done by specialists.
- B. No payment for Force-Account work shall be made until Contractor submits original invoices substantiating materials and specialist charges.
- C. CLPCCD shall have the right to audit all records in possession of Contractor relating to activities covered by Contractor's claims for modification of Contract, including Force-Account work, as set forth in General Conditions.
- D. Further, CLPCCD shall have right to audit, inspect, or copy all records maintained in connection with this Contract, including financial records, in possession of Contractor relating to any transaction or activity occurring or arising out of, or by virtue of, Contract. If Contractor is a joint venture, right of CLPCCD shall apply collaterally to same extent to records of joint venture sponsor, and of each individual joint venture member.

PART 2 – PRODUCTS

Not applicable to this section.

PART 3 – EXECUTION

Not applicable to this section.

**SAMPLE ONLY
COST BREAKDOWN FORM FOR CONTRACT MODIFICATION**

One separate form shall be used by Contractor, each first tier subcontractor and each lower tier subcontractor. One form for each shall be used for each change order. One form for each, for each day shall be used for Force-Account work.

**COST BREAKDOWN FOR CONTRACTOR PRICE PROPOSAL
SHEET 1 OF 3**

GENERAL CONTRACTOR FORM

PROJECT NUMBER: _____

PROJECT NAME: _____

CONTRACTOR : _____

CHANGE ORDER NUMBER : _____ **DATE:** _____

CHANGE ORDER DESCRIPTION: _____

SUMMARY OF TOTAL COSTS			
1. TOTAL LABOR COSTS		\$ -	
2. Fifteen percent (15%) of Line 1		\$ -	
3. Sum of Lines 1 & 2			\$ -
4. TOTAL MATERIAL COSTS		\$ -	
5. Fifteen percent (15%) of Line 4		\$ -	
6. Sum of Lines 4 & 5			\$ -
7. TOTAL EQUIPMENT RENTAL COSTS		\$ -	
8. Fifteen percent (15%) of line 7		\$ -	
9. Sum of lines 7 & 8			\$ -
10. TOTAL OF SUBCONTRACTED COST		\$ -	
11. Five percent (5%) of line 10 (excluding subcontractor markup)		\$ -	
12. Sum of Lines 10 & 11			\$ -
SUBTOTAL OF DIRECT COSTS & MARK-UP			\$ -
COST OF BONDS (does not apply to subcontractors)			\$ -
TOTAL OF CONTRACT MODIFICATION			\$ -

COST BREAKDOWN FOR CONTRACTOR PRICE PROPOSAL
SHEET 2 OF 3

CONTRACTOR : _____

CHANGE ORDER NUMBER : _____ DATE: _____

CHANGE ORDER DESCRIPTION: _____

LABOR				
NAME	CLASSIFICATION	HOURS	RATE	TOTAL
				\$ -
				\$ -
				\$ -
				\$ -
				\$ -
TOTAL LABOR COSTS (Transfers to Line 1 of Sheet 1)				\$ -

MATERIALS	
DESCRIPTION	COST
SUBTOTAL MATERIAL COSTS (Without Sales Tax)	\$ -
SALES TAX ON MATERIAL AT 9.00%	\$ -
TOTAL MATERIAL COSTS (Transfers to Line 4 of Sheet 1)	\$ -

EQUIPMENT				
SIZE AND TYPE	I.D. #	HOURS	RATE	TOTAL
				\$ -
				\$ -
				\$ -
				\$ -
				\$ -
TOTAL EQUIPMENT RENTAL COSTS (Transfers to Line 7 of Sheet 1)				\$ -

COST BREAKDOWN FORM FOR CONTRACT MODIFICATION
SHEET 3 OF 3

CHANGE ORDER NUMBER : _____ DATE: _____

CHANGE ORDER DESCRIPTION: _____

SUBCONTRACTED WORK		
SUBCONTRACTOR	DESCRIPTION OF WORK SUBCONTRACTED	COST
TOTAL COST OF SUBCONTRACTED WORK (Transfers to Line 10 of Sheet 1)		\$ -

CONTRACTOR: _____ Date: _____

VERIFIED BY INSPECTOR: _____ Date: _____

PART 1 – GENERAL**1.01 SECTION INCLUDES**

- A. Project coordination.
- B. Field engineering.
- C. Coordination drawings.
- D. Workmanship.
- E. Incidental costs.
- F. Correspondence and Notices.
- G. Miscellaneous provisions.
- H. Damage and restoration.

1.02 RELATED SECTIONS

- A. Section 011100 - Summary of Work.
- B. Section 014500 - Quality Control.
- C. Section 015000 – Temporary Facilities.
- D. Section 017000 - Contract Closeout.

1.03 PROJECT COORDINATION

- A. Coordination scheduling, submittals, and Work of the various Sections of specifications to assure efficient and orderly sequence of installation of interdependent construction elements, with provisions for accommodating items installed later.
- B. Verify that utility requirement characteristics of operating equipment are compatible with building utilities. Coordinate work of various Sections having interdependent responsibilities for installing, connecting to, and placing in service, such equipment.
- C. Coordinate space requirements and installation of mechanical and electrical work, which are indicated diagrammatically on drawings. Follow route shown for pipes, ducts, and conduit, as closely as practicable: place runs parallel with line of building. Utilize space efficiently to maximize accessibility for other installations, for maintenance, and for repairs.
- D. In finished areas except as otherwise indicated, conceal pipes, ducts, and wiring within the construction. Coordinate locations of fixtures and outlets with finished elements.
- E. Submit a copy of site drawing and certificate signed by the Civil Engineer that the elevations and locations of the Work of separate Sections in preparation for Substantial Completion.
- F. Coordinate completion and cleanup of Work of separate Sections in preparation for Substantial Completion.

- G. After Owner occupancy of the Site, coordinate access to site for correction of defective Work and Work not in accordance with Contract Documents, to minimize disruption of Owner's activities.

1.04 FIELD ENGINEERING

- A. Contractor shall locate and protect survey control and reference points.
- B. Control datum for survey is that shown on drawings.
- C. Contractor shall verify setbacks and easements; confirm drawing dimensions and elevations.
- D. Provide field engineering services. Contractor shall establish lines, and levels, utilizing recognized engineering practices

1.05 COORDINATION DRAWINGS

- A. Provide information required by Architect for preparation of coordination drawings.
- B. Review drawings prior to submission to Architect.

1.06 WORKMANSHIP

- A. Work shall be performed by craftsmen well experienced and competent in their particular trade.
- B. Workmanship shall be thorough, finished and complete in every detail for finest quality installations as intended under these specifications.

1.07 INCIDENTAL COSTS

- A. In addition to cost associated with GC Article 6: Insurance; Indemnity; Bonds:
 - 1. Utilities: Refer to Section 01 50 00.
 - 2. Contractors and Subcontractors shall furnish at their own cost and expense all tools, consumable supplies, appliances, equipment, etc., necessary for execution of their work; and shall be responsible for care and guarding thereof.
 - 3. Contractors and Subcontractors shall be entirely responsible for professional, trade, business or other licenses required by state statute or local government.

1.08 CORRESPONDENCE AND NOTICES

- A. Clearly identify correspondence, notices and submittals with project name, subject and detailed references to drawings and specifications.
- B. Notify Inspector or the Construction Manager two (2) working days in advance of required inspection.
- C. The District's project management system (ProjectSolve) shall be utilized for document controls for RFI, Submittals, Daily Logs, etc...

1.09 MISCELLANEOUS PROVISIONS

- A. Contractor shall immediately refer to the Construction Manager any requirement shown or specified which Contractor in their experience and background finds or believes:
 - 1. Is not equal to industry standards for achieving a first quality installation as intended;
 - 2. Is excessive in cost or effort to effect the intended results;
 - 3. Is below standard for proper enforcement of the guarantees required;
 - 4. Or, is at variance with governing laws, regulations, codes or standards.
- B. Work operations relative to any matter referred to Architect for consideration shall not proceed until receipt of appropriate instructions from Architect.
- C. Inspection of Work and Materials: Contractor shall immediately make a close and thorough inspection of all materials as delivered and all work in progress; shall promptly reject and return all defective materials and re-do; and shall check and verify adequate performance or satisfactory results of all tests and inspections before allowing sub-work to proceed.
- D. Warranty Period: During warranty periods, supervise investigation and correction of deficiencies found or occurring in the work.
- E. Shop Fabricate and pre-assemble interrelated parts where possible.
- F. Closing up of walls, partitions or furred spaces, backfilling and other covering up operations shall not proceed until all enclosed or covered work and inspections have been completed. Verify before proceeding.
- G. Provide holes, slots, cutouts, blocking, screeds, nailers, chases and similar preparation as the work progresses, as required to receive or pass subsequent work without damage to previously completed work.
- H. Exterior Work shall be made tight against direct or indirect entry of water into the concealed or interior spaces of the building. Seal joints or penetrations below grade or behind exterior trim and other conditions where water might enter the structure, as for exposed exterior work.
- I. Structural Connections and Fasteners: Include as required for complete fabrication and installation of the work; of materials, types and sizes adequate for the purposes.
 - 1. Place in concealed or obscured locations where possible.
 - 2. Include suitable welding or brazing where required.
- J. Powder Activated Fasteners: Limited to uses particularly shown, specified or approved by Architect. Operators shall be certified in accordance with California Industry Safety orders.
- K. Ferrous Work permanently exposed to exterior or below grade shall be galvanized; related accessory members and fastening non-ferrous, galvanized or made rustproof by approved methods.

- L. Galvanizing, prime painting and related touch-up and repair shall comply with requirements for metal fabricating and painting in Section 13125 - Relocatable Buildings.
- M. Isolation: Provide between ferrous and non-ferrous or dissimilar metal components to protect the work against electrolysis, as follows:
 - 1. For architectural work, provide cork fillers, asphaltic coatings, neoprene gaskets or similar separation as necessary; and use stainless steel fastenings only where interconnecting dissimilar parts.
 - 2. For mechanical and electrical work, provide dielectric unions or similar separation. In particular, provide isolation as necessary between exterior underground systems and interior above-grade systems where they meet dissimilar metals.
- N. Prior to starting a particular type or kind of work, examine for relevant information, all contract documents and subsequent data issued to the project.

1.10 DAMAGE AND RESTORATION

- A. Damage to previously existing or newly placed facilities caused by movement of equipment or other operations, whether accidental or made necessary by reason of Contract requirements, shall be restored or replaced as specified or directed by Architect or Construction Manager.
- B. Restoration shall be equal to the structural qualities or performance capacities of the original work, and finishes shall match the appearance of, as nearly as possible, like existing adjacent work. Restorations shall be subject to approval by Architect and shall be made as necessary at no added expense to Owner unless otherwise particularly provided for.
- C. Work not properly restored or where not capable of being restored as intended under these Specifications shall be removed and replaced as directed by Architect at no added expense to Owner.

PART 2 – PRODUCTS

Not applicable to this section.

PART 3 – EXECUTION**3.01 CUTTING AND PATCHING**

- A. Employ skilled and experienced installer to perform cutting and patching.
- B. Submit written request in advance of cutting or altering elements, which affects:
 - 1. Structural integrity of element.
 - 2. Integrity of weather-exposed or moisture-resistant elements.
 - 3. Efficiency, maintenance, or safety of element.
 - 4. Visual qualities of sight-exposed elements.
- C. Execute cutting, fitting, and patching including excavation and fill, to complete Work, and to:
 - 1. Fit the several parts together, to integrate with other Work.

2. Uncover Work to install or correct ill-timed work.
 3. Remove and replace defective and non-conforming Work.
 4. Remove samples of installed Work for testing.
 5. Provide openings in elements of Work for penetrations of mechanical and electrical Work.
- D. Execute work by methods, which will avoid damage to other Work, and provide proper surfaces to receive patching and finishing.
 - E. Cut rigid materials using masonry saw or core drill.
 - F. Restore Work with new products in accordance with requirements of Contract Document.
 - G. Fit Work tight to pipes, sleeves, ducts, conduit, and other penetrations through surfaces.
 - H. Maintain integrity of wall, ceiling, or floor construction; completely seal voids.
 - I. Refinish surfaces to match adjacent finishes. For continuous surfaces, refinish to nearest intersection; for an assembly, refinish entire unit.
 - J. Identify any hazardous substance or condition exposed during the Work to the Construction Manager for decision or remedy.

END OF SECTION

PART1 – GENERAL**1.01 SUMMARY**

- A. This section describes the required meetings for this work. These meetings include:
 - 1. Pre-construction Conference
 - 2. Scheduling Meetings
 - 3. Progress Meetings
 - 4. Special Meetings
- B. Related Sections
 - 1. Section 01 11 00: Summary of Work
 - 3. Section 01 32 00: Progress Schedules and Reports
 - 4. Section 01 33 00: Submittals

1.02 PRECONSTRUCTION CONFERENCE

- A. Construction Manager will call for and administer Pre-construction Conference at time and place to be announced. Conference will occur as soon after award as can be reasonably scheduled.
- B. Contractor, all subcontractors, and major suppliers shall attend Pre-construction Conference.
- C. Agenda will include, but not be limited to, the following items:
 - 1. Schedules
 - 2. Personnel
 - 3. Use of the Site
 - 4. Temporary Utilities
 - 5. Location of Contractor's on-site facilities
 - 6. Project access
 - 7. Employee parking
 - 8. Security/Safety
 - 9. Housekeeping
 - 10. Submittals
 - 11. Inspection and testing procedures, on-site and off-site
 - 12. Utility shutdown procedures
 - 13. Control and reference point survey procedures
 - 14. Injury and Illness Prevention Program
 - 15. Contractor's Initial CPM Schedule
 - 16. Contractor Invoicing, Schedule of Values, Approval Procedures

- D. Construction Manager will distribute copies of minutes to attendees. Attendees shall have five (5) working days to submit comments or additions to minutes. Minutes will constitute final memorialization of results of the Pre-construction Conference.

1.03 SCHEDULING MEETINGS

- A. Meet with Construction Manager and Architect on Start Date of Contract and conduct initial review of Contractor's draft Shop Drawing and Sample Submittal Schedule, and draft Schedule of Values and Initial Construction Schedule ("Schedule Review Meeting").
- B. Authorized representative in Contractor's organization, designated in writing, who will be responsible for working and coordinating with Construction Manager's representative(s) and Architect relative to preparation and maintenance of Progress Schedule shall attend initial Schedule Review Meeting.
- C. Contractor shall, within thirty (30) days from the Notice to Proceed date, meet with Construction Manager and Architect to review the Original CPM Schedule submittal.
 - 1. Contractor shall have its manager, superintendent, scheduler, and key subcontractor representatives, as required by CLPCCD, in attendance. The meeting will take place over a continuous one-day period.
 - 2. CLPCCD's review of Schedule Submittals will be limited to conformance to Contract requirements, including, but not limited to, coordination requirements. However, review may also include:
 - a. Clarifications of Contract Requirements
 - b. Directions to include activities and information missing from submittal
 - c. Requests to Contractor to clarify its schedule
 - 3. Within five (5) days of the initial Schedule Review Meeting, Contractor shall respond in writing to all questions and comments expressed by CLPCCD at the meeting.
- D. Construction Manager will administer scheduling meetings and shall distribute minutes of scheduling meetings to attendees. Attendees shall have five (5) working days to submit comments or additions to minutes. Minutes will constitute final memorialization of results of the scheduling meetings.

1.04 PROGRESS MEETINGS

- A. Construction Manager and Architect will schedule and administer Progress Meetings throughout duration of Work. Progress meetings will be held weekly unless otherwise directed by Construction Manager.
 - 1. Meetings shall be held at Construction Manager's on-site office unless otherwise directed by Construction Manager.
 - 2. Construction Manager will prepare agenda and distribute to Contractor, Inspector and Architect/Engineer 24 hours in advance of meeting.
 - 3. Construction Manager will preside at meeting.

4. Architect will record and distribute minutes to Contractor, Inspector, Construction Manager, all other participants, and those affected by decisions made at meeting, within three (3) working days after meeting. Attendees shall have five (5) working days to submit comments or additions to minutes. Minutes will constitute final memorialization of results of progress meetings.
- B. Progress Meetings shall be attended by Contractor's job superintendent, major subcontractors and suppliers, when requested by Construction Manager or as appropriate, Construction Manager, Architect/Engineer, Inspector and others as appropriate to agenda topics for each meeting.
- C. Agenda will contain the following items as appropriate:
 1. Review of work progress
 2. Status of Construction Schedule, adjustments
 3. Submittals
 4. Delivery schedules
 5. Utility shutdowns, traffic disruptions, and interferences with public scheduled during the subsequent 2 weeks
 6. Quality control
 7. Pending changes
 8. Substitutions
 9. Review of Contractor's safety program activities and results, including report on all serious injury and/or damage accidents
 10. Safety
 11. Other items affecting progress of work
- D. A separate meeting will be held on approximately the 25th of each month to review the schedule update submittal and progress payment application.
 1. At this meeting, at a minimum, the following items will be reviewed:
 - a. percent complete of each activity
 - b. time impact evaluations for Change Orders and Time Extension Request
 - c. actual and anticipated activity sequence changes
 - d. actual and anticipated duration changes
 - e. actual and anticipated contractor delays
 2. These meetings are considered a critical component of overall monthly schedule update submittal and Contractor shall have appropriate personnel attend. At a minimum, these meetings shall be attended by Contractor's General Superintendent and Scheduler.
 3. Contractor shall plan on progress meetings taking no less than four (4) hours.

1.05 SPECIAL MEETINGS

- A. Special meetings may be called by any party by notifying all desired participants, Construction Manager, Architect, and Inspector four (4) working days in

- advance, giving reason for meeting. Special Meetings may be held without advance notice in emergency situations.
- B. At any time during the progress of the Work, CLPCCD shall have authority to require Contractor to attend conference of any or all of the contractors engaged in the Work or in other work, and notice of such conference shall be duly observed and complied with by Contractor.
 - C. Contractor shall schedule and conduct coordination meetings as necessary to discharge coordination responsibilities in the General Conditions. Construction Manager shall be given five (5) days written notice of coordination meetings. Contractors shall maintain minutes of coordination meetings. Attendees shall have five (5) working days to submit comments or additions to minutes. Minutes will constitute final memorialization of results of the meetings.
 - D. Pre-installation meetings of manufactures' warranty scope of work, i.e., roofing, water-proofing, curtain wall, etc.
 - E. LEED kick-off meeting.

PART 2 – PRODUCTS

Not used.

PART 3 – EXECUTION

Not used.

END OF SECTION

PART 1 – GENERAL**1.01 SUMMARY**

- A. Scheduling of Work under this Contract shall be performed by Contractor in accordance with requirements of this Section.
1. Development of schedule, cost and manpower loading of the schedule and schedule updates, monthly payment requests and project status reporting requirements of the Contract shall employ computerized Critical Path Method (CPM) scheduling.
 2. Submit schedules and reports as specified in General Conditions.
- B. Upon Award of Contract, Contractor shall immediately commence development of Initial and Original CPM Schedules to ensure compliance with CPM schedule submittal requirements.
- C. Related Sections:
1. Section 01 11 00: Summary of Work
 2. Section 01 33 00: Submittals

- D. Definitions: The following definitions apply to this section:

ACTIVITY: A task, event or other project element on a schedule that contributes to completing the project. Activities have a description, start date, finish date, duration and one or more logic ties.

BASELINE SCHEDULE: The initial schedule representing the Contractor's work plan on the first day of the project.

CRITICAL PATH: The longest continuous chain of activities for the project that has the least amount of total float of all chains. In general, a delay on the critical path will extend the scheduled completion date.

CRITICAL PATH METHOD (CPM): A network based planning technique using activity durations and the relationships between activities to mathematically calculate a schedule for the entire project.

DATA DATE: The day after the date through which a schedule is current. Everything occurring earlier than the data date is "as-built" and everything on or after the data date is "planned".

EARLY COMPLETION TIME: The difference in time between an early scheduled completion date and the contract completion date.

FLOAT: The difference between the earliest and latest start or finish times for an activity.

MILESTONE: An event activity that has zero duration and is typically used to represent the beginning or end of a certain stage of the project.

NARRATIVE REPORT: A document submitted with each schedule that discusses topics related to project progress and scheduling.

NEAR CRITICAL PATH: A chain of activities with total float exceeding that of the critical path but having no more than 14 calendar days of total float.

SCHEDULED COMPLETION DATE: The planned project finish date shown on the current accepted schedule.

SUBSTANTIAL COMPLETION: The stage in the progress of the work when the work is complete in accordance with the Contract Documents, so that District can occupy or use the work for its intended purpose.

TIME IMPACT ANALYSIS: A schedule and narrative report developed specifically to demonstrate what effect a proposed change or delay has on the current scheduled completion date.

TIME-SCALED NETWORK DIAGRAM: A graphic depiction of a CPM schedule comprised of activity bars with relationships for each activity represented by arrows. The tail of each arrow connects to the activity bar for the predecessor and points to the successor.

TOTAL FLOAT: The amount of time that an activity or chain of activities can be delayed before extending the scheduled completion date.

UPDATED SCHEDULE: A current schedule developed from the baseline or subsequent schedule through regular monthly review to incorporate as-built progress and any planned changes.

1.02 QUALIFICATIONS

- A. Contractor shall employ experienced scheduling personnel qualified to use the latest version of Primavera Project Planner or Microsoft Project scheduling software. Experience level required is set forth below. Contractor may employ such personnel directly or may employ a consultant for this purpose. After bid opening, the apparent successful low bidder shall provide CLPCCD a written verification that Contractor has the required personnel under its employ or that Contractor will employ the required CPM scheduling consultant.
1. The written statement shall identify individual who will perform CPM scheduling.
 2. Capability and experience shall be verified by description of construction projects on which individual has successfully applied computerized CPM.
 3. Required level of experience shall include at least two projects of similar nature, scope and value not less than three-fourths the Total Bid Price of this Project. The written statement shall provide contact persons for referenced projects with current telephone and address information.
- B. CLPCCD reserves right to approve Contractor's scheduler, or consultant, and right to reject them at any time. CLPCCD also reserves right to refuse replacement of Contractor's scheduler or consultant, if it believes such replacement will negatively affect Contract.

1.03 GENERAL

- A. Progress Schedule shall be based on and incorporate milestones and completion dates specified in Contract Documents. Submit to the Owner baseline, monthly updated, and final updated schedules, each consistent in all respects with the time and order of work

requirements of the contract. Work must be executed in the sequence indicated on the current accepted schedule. Schedules must show the order in which you propose to execute the work with logical links between time-scaled work activities and calculations made using the critical path method to determine the controlling activities. You are responsible for assuring that all activity sequences are logical and that each schedule shows a coordinated plan for complete performance of the work.

- B. Overall time of completion and time of completion for each milestone shown on Progress Schedule shall adhere to times as stated in Contract Agreement, unless an earlier (advanced) time of completion is requested by Contractor and agreed to by CLPCCD. Any such agreement shall be formalized by a Change Order.
1. CLPCCD is not required to accept an earlier (advanced) schedule, i.e., one that shows early completion dates for the Contract Times.
 2. Contractor shall not be entitled to extra compensation in the event agreement is reached on an earlier (advanced) schedule and Contractor completes its Work, for whatever reason (excepting approved changes with added time components) beyond completion date shown in earlier (advanced) schedule but within the Contract Times.
 3. A schedule showing the work completed in less than the Contract Times, which has been accepted by CLPCCD, shall be considered to have Project Float. The Project Float is the time between the scheduled completion of the work and Contract Substantial Completion. Project Float is a resource available to both CLPCCD and the Contractor.
- C. Float Ownership: Neither CLPCCD nor Contractor owns float. The Project owns the float. As such, liability for delay of the Substantial Completion Date rests with the party whose actions, last in time, actually cause delay to the Substantial Completion Date.
1. For example, if Party A uses some, but not all of the float and Party B later uses remainder of the float as well as additional time beyond the float, Party B shall be liable for the time that represents a delay to the Substantial Completion Date.
 2. Party A would not be responsible for the time since it did not consume the entire float and additional float remained; therefore, the Substantial Completion Date was unaffected.
- D. Progress Schedule shall be the basis for evaluating job progress, payment requests, and time extension requests associated with the changes. Responsibility for developing Contract CPM schedule and monitoring actual progress as compared to Progress Schedule rests with Contractor.
- E. The Owner's review and acceptance of schedules does not waive any contract requirements and does not relieve Contractor of any obligation or responsibility for submitting complete and accurate information. Correct rejected schedules and resubmit corrected schedules to the Owner within seven (7) days of notification by the Owner, at which time a new review period of seven (7) days will begin.

Errors or omissions on schedules do not relieve Contractor from finishing all work within the time limit specified for completion of the contract. If, after a schedule has been accepted by the Owner, either the Contractor or the Owner discovers that any aspect of the schedule has an error or omission, it must be corrected on the next updated schedule.

- F. Use Microsoft Project for Windows or Primavera P6. Such software shall be compatible with Windows operating system. Contractor shall transmit contract schedule files to CLPCCD on CD-ROM or flash drive at times requested by CLPCCD.
- G. Transmit each item under form approved by CLPCCD.
 - 1. Identify Project with CLPCCD Contract number and name of Contractor and file by date, project, and update number.
 - 2. Provide space for Contractor's approval stamp and CLPCCD's review stamps.
 - 3. Submittals received from sources other than Contractor will be returned to the Contractor without CLPCCD's review.

1.04 INITIAL CRITICAL PATH METHOD (CPM) SCHEDULE

- A. Initial CPM Schedule submitted for review at the pre-construction conference shall serve as Contractor's schedule for up to ninety (90) calendar days after the Notice to Proceed.
- B. Indicate detailed plan for the Work to be completed in first sixty (60) days of the Contract; details of planned mobilization of plant and equipment; sequence of early operations; and procurement of materials and equipment. Show Work beyond sixty (60) calendar days in summary form.
- C. Initial CPM Schedule shall be time-scaled.
- D. Initial CPM Schedule shall be cost and manpower loaded. Accepted cost and manpower-loaded schedule will be used as basis for monthly progress payments until acceptance of the Original CPM Schedule. Use of Initial CPM Schedule for progress payments shall not exceed sixty (60) calendar days.
- E. CLPCCD and Contractor shall meet to review and discuss the Initial CPM Schedule within seven (7) calendar days after it has been submitted to CLPCCD.
 - 1. CLPCCD's review and comment on the schedule shall be limited to Contract conformance (with sequencing, coordination, and milestone requirements) and accepted CPM principals.
 - 2. Contractor shall make corrections to schedule necessary to comply with Contract requirements and shall adjust schedule to incorporate any missing information requested by CLPCCD. Contractor shall resubmit Initial CPM Schedule if requested by CLPCCD.
- F. If, during the first sixty (60) days after Notice-to-Proceed, the Contractor is of the opinion that any of the Work included on its Initial CPM Schedule has been impacted, the Contractor shall submit to CLPCCD a written Time Impact Evaluation (TIE) in accordance with Article 1.09 of this Section. The TIE shall be based on the most current update of the Initial CPM Schedule.

1.05 ORIGINAL CRITICAL PATH METHOD (CPM) SCHEDULE

- A. Submit a detailed proposed Original CPM Schedule presenting an orderly and realistic plan for completion of the Work, in conformance with requirements as specified herein.
- B. The baseline schedule must not extend beyond the number of contract days. The baseline schedule must have a data date of the first working day of the contract and not

include any completed work to date. The baseline schedule must not attribute negative float or negative lag to any activity.

C. Progress Schedule shall include or comply with following requirements:

1. Time scaled, cost and manpower loaded CPM schedule.
2. No activity on schedule shall have duration longer than twenty-one (21) calendar days, with exception of submittal, approval, fabrication and procurement activities, unless otherwise approved by CLPCCD.
 - a. Activity durations shall be total number of actual days required to perform that activity.
 - b. Activity coding capabilities to sort by responsibility, location, phase and CSI division.
3. The start and completion dates of all items of Work, their major components, and milestone completion dates, if any.
4. CLPCCD-furnished materials and equipment, if any, identified as separate activities.
5. Completion of the last activity in the schedule shall be constrained by the contract completion date. Schedule calculations shall result in a negative float when the calculated early finish date of the last activity is later than the contract completion date. The Contractor shall include as the last activity in the project schedule an activity called "Final Completion". The "Final Completion" activity shall have an "LF" constraint date equal to the contract completion date for the project, and with a zero day duration or by using the "project must finish by" date in the scheduling software. The schedule shall have no constrained dates other than those specified in the contract. The use of artificial float constraints such as "zero free float" or "zero total float" are typically prohibited. There shall only be two (2) open ended activities: Start Project (or NTP) with no predecessor logic and Final Completion with no successor logic.
6. Processing/approval of submittals and shop drawings for all Contract-required material and equipment. Activities that are dependent on submittal acceptance or material delivery shall not be scheduled to start earlier than expected acceptance or delivery dates.
 - a. Include time for submittals, resubmittals, and reviews by CLPCCD. Coordinate with accepted schedule for submission of shop drawings, samples and other submittals.
 - b. Contractor shall be responsible for all impacts resulting from resubmittal of shop drawings and submittals.
7. Procurement of all contract required material and equipment, identified as separate activity.
 - a. Include time for fabrication and delivery of manufactured products for the Work.
 - b. Show dependencies between procurement and construction.
8. Complete activity description; what Work is to be accomplished and where.

9. The total cost of performing each activity shall be total of labor, material, equipment, excluding overhead and profit of Contractor. Total overhead and profit of the General Contractor shall be shown on a separate activity in the schedule. Sum of cost for all activities shall equal total Contract value.
 10. Resources required (labor) to perform each activity.
 11. Responsibility code for each activity corresponding to Contractor or Subcontractor responsible for performing the Work.
 12. Identify the activities, which constitute the controlling operations or critical path. No more than twenty-five (25%) of the activities shall be critical or near critical. Near critical is defined as float in the range of one (1) to ten (10) days.
 13. At least twenty-eight (28) calendar days for developing punch list(s), completion of punch list items and final clean-up for the Work or any designated portion thereof. No other activities shall be scheduled during this period.
 14. Interface with the work of other contractors, CLPCCD, and agencies such as, but not limited to, utility companies.
 15. Show detailed Subcontractor Work activities. In addition, furnish copies of Subcontractor schedules upon which CPM was built.
 - a. Also furnish for each Subcontractor, as determined by CLPCCD, submitted on Subcontractor letterhead a statement certifying that Subcontractor concurs with Contractor's Original CPM Schedule and that Subcontractor's related schedules have been incorporated, including activity duration, cost and resource loading.
 - b. Subcontractor schedules shall be independently derived and not a copy of Contractor's schedule.
 - c. In addition to Contractor's schedule and resource loading, obtain from electrical, mechanical and plumbing Subcontractors, and other Subcontractors as required by CLPCCD, productivity calculations common to their trades, such as units per person day, feet of pipe per day per person, feet of wiring per day per person, and similar information.
 - d. Furnish schedule for Contractor/Subcontractor CPM Schedule meetings which shall be held prior to submission of Original CPM Schedule to CLPCCD. CLPCCD shall be permitted to attend scheduled meetings as an observer.
 16. Activity durations shall be in calendar days.
 17. Submit with the schedule a list of anticipated non-Work days, such as weekends and holidays.
- D. Original CPM Schedule Review Meeting: Contractor shall, within thirty (30) calendar days from the Notice to Proceed date, meet with CLPCCD to review the Original CPM Schedule submittal.
1. Contractor shall have its Construction Manager, Project Superintendent, Project Scheduler, and key Subcontractor representatives, as required by CLPCCD, in attendance. The meeting will take place over a continuous one-day period.

2. CLPCCD's review will be limited to submittal's conformance to Contract requirements, including, but not limited to, coordination requirements. However, review may also include:
 - a. Accepted critical path method principles and tenets.
 - b. Clarifications of Contract Requirements.
 - c. Directions to include activities and information missing from submittal.
 - d. Requests to Contractor to clarify its schedule.
3. Within five (5) days of the Schedule Review Meeting, Contractor shall respond in writing to all questions and comments expressed by CLPCCD at the Meeting.

1.06 ADJUSTMENTS TO CRITICAL PATH METHOD (CPM) SCHEDULE

- A. Adjustments to Original CPM Schedule: Contractor shall have adjusted the Original CPM Schedule submittal to address all review comments from original CPM Schedule review meeting and resubmit network diagrams and reports for CLPCCD's review.
 1. CLPCCD, within fourteen (14) days from date that Contractor submitted the revised schedule, will either:
 - a. accept schedule and cost and resource loaded activities as submitted, or
 - b. advise Contractor in writing to review any part or parts of schedule which either do not meet Contract requirements or are unsatisfactory for CLPCCD to monitor Project's progress, resources and status or evaluate monthly payment request by Contractor.
 2. CLPCCD may accept schedule with conditions that the first monthly CPM schedule update be revised to correct deficiencies identified.
 3. When schedule is accepted, it shall be considered as the "Original CPM Schedule" which will then be immediately updated to reflect the current status of the work.
 4. CLPCCD reserves the right to require Contractor to adjust, add to, or clarify any portion of schedule which may later be discovered to be insufficient for monitoring of Work or approval of partial payment requests. No additional compensation will be provided for such adjustments, additions, or clarifications.
- B. Acceptance of Contractor's schedule by CLPCCD will be based upon schedule's compliance with Contract requirements and accepted CPM principles.
 1. By way of Contractor assigning activity durations and proposing sequence of Work, Contractor agrees to utilize sufficient and necessary management and other resources to perform work in accordance with the schedule.
 2. Upon submittal of schedule update, updated schedule shall be considered "current" CPM schedule.
 3. Submission of Contractor's schedule to CLPCCD shall not relieve Contractor of total responsibility for scheduling, sequencing, and pursuing Work to comply with requirements of Contract Documents, including adverse effects such as delays resulting from ill-timed work.
- C. Submittal of Original CPM Schedule, and subsequent schedule updates, shall be understood to be Contractor's representation that the Schedule meets requirements of

Contract Documents and that Work shall be executed in sequence indicated on the schedule.

- D. Contractor shall distribute Original CPM Schedule to Subcontractors for review and written acceptance, which shall be noted on Subcontractors' letterhead to Contractor and transmitted to CLPCCD for the record.

1.07 MONTHLY CPM SCHEDULE UPDATE SUBMITTALS

- A. Following acceptance of Contractor's Original CPM Schedule, Contractor shall monitor progress of Work and adjust schedule each month to reflect actual progress and any pre-approved changes to planned activities or logic.
 - 1. Each schedule update submitted shall be complete, including all information requested for the Original CPM Schedule submittal.
 - 2. Each update shall continue to show all work activities including those already completed. These completed activities shall accurately reflect "as built" information by indicating when activities were actually started and completed.
- B. A meeting will be held on approximately the twenty-fifth (25th) of each month to review the schedule update submittal and progress payment application.
 - 1. At this meeting, at a minimum, the following items will be reviewed: Percent complete of each activity; time impact evaluations for Change Orders and Time Extension Request; anticipated activity sequence changes; anticipated duration changes; actual and anticipated contractor delays.
 - 2. These meetings are considered a critical component of overall monthly schedule update submittal and Contractor shall have appropriate personnel attend. At a minimum, these meetings shall be attended by Contractor's General Superintendent and Scheduler.
 - 3. Contractor shall plan on the meeting taking no less than four (4) hours.
- C. Within seven (7) calendar days after monthly schedule update meeting, Contractor shall submit the updated CPM Schedule update.
- D. Within seven (7) calendar days of receipt of above noted revised submittals, CLPCCD will either accept or reject monthly schedule update submittal.
 - 1. If accepted, percent complete shown in monthly update will be basis for Application for Payment by the Contractor. The schedule update shall be submitted as part of the Contractor's Application for Payment.
 - 2. If rejected, update shall be corrected and resubmitted by Contractor before the Application for Payment is submitted.
- E. Updating, changing or revising of any report, curve, schedule or narrative submitted to CLPCCD by Contractor under this Contract, nor CLPCCD's review or acceptance of any such report, curve, schedule or narrative shall not have the effect of amending or modifying, in any way, the Contract Substantial Completion date or milestone dates or of modifying or limiting, in any way, Contractor's obligations under this Contract.
- F. Final Updated Schedule. Submit final updated, as-built schedule with actual start and finish dates for the activities, within 30 days after completion of contract work. Provide a written certificate with this submittal signed by your Project Manager or an officer of the company stating, "To my knowledge and belief, the enclosed final update schedule

reflects that actual start date and finish dates of the actual activities for the project contained herein". An officer of the company may delegate in writing the authority to sign the certificate to a responsible manager.

1.08 SCHEDULE REVISIONS

- A. Updating the Schedule to reflect actual progress shall not be considered revisions to the Schedule. Since scheduling is a dynamic process, revisions to activity durations and sequences are expected on a monthly basis.
- B. To reflect revisions to the schedule, the Contractor shall provide CLPCCD with a written narrative with a full description and reasons for each Work activity revised. For revisions affecting the sequence of work, the Contractor shall provide a schedule diagram which compares the original sequence to the revised sequence of work. The Contractor shall provide the written narrative and schedule diagram for revisions two (2) working days in advance of the monthly schedule update meeting.
- C. Schedule revisions shall not be incorporated into any schedule update until the revisions have been reviewed by CLPCCD. CLPCCD may request further information and justification for schedule revisions and Contractor shall, within three (3) days, provide CLPCCD with a complete written narrative response to CLPCCD's request.
- D. If the Contractor's revision is still not accepted by CLPCCD, and the Contractor disagrees with CLPCCD's position, the Contractor has seven (7) calendar days from receipt of CLPCCD's letter rejecting the revision, to provide a written narrative providing full justification and explanation for the revision. The Contractor's failure to respond in writing within seven (7) calendar days of CLPCCD's written rejection of a schedule revision shall be contractually interpreted as acceptance of CLPCCD's position, and the Contractor waives its rights to subsequently dispute or file a claim regarding CLPCCD's position.
- E. At CLPCCD's discretion, the Contractor can be required to provide subcontractor certifications of performance regarding proposed schedule revisions affecting said subcontractors.

1.09 RECOVERY SCHEDULE

- A. If the Schedule Update shows a substantial completion date fourteen (14) calendar days beyond the Contract Substantial Completion date, or individual milestone completion dates, the Contractor shall submit to CLPCCD the proposed revisions to recover the lost time within seven (7) calendar days. As part of this submittal, the Contractor shall provide a written narrative for each revision made to recapture the lost time. If the revisions include sequence changes, the Contractor shall provide a schedule diagram comparing the original sequence to the revised sequence of work.
- B. The revisions shall not be incorporated into any schedule update until the revisions have been reviewed by CLPCCD.
- C. If the Contractor's revisions are not accepted by CLPCCD, CLPCCD and the Contractor shall follow the procedures in paragraph 1.08.C, 1.08.D and 1.08.E above.
- D. At CLPCCD's discretion, the Contractor can be required to provide subcontractor certifications for revisions affecting said subcontractors.

1.10 TIME IMPACTS EVALUATION (TIE) FOR CHANGE ORDERS, AND OTHER DELAYS

A. Time Impact Analysis (TIA). Submit a written TIA to the Owner with each request for adjustment of contract time, or when the Contractor or the Owner considers that an approved or anticipated change may impact the critical path or contract progress.

The TIA must illustrate the impacts of each change or delay on the current scheduled completion date or internal milestone, as appropriate. The analysis must use the accepted schedule that has

a data date closest to and before the event. If the Owner determines that the accepted schedule

used does not appropriately represent the conditions before the event, the accepted schedule

must be updated to the day before the event being analyzed. The TIA must include an impact

schedule developed from incorporating the event into the accepted schedule by adding or deleting activities, or by changing durations or logic of existing activities. If the impact

schedule shows that incorporating the event modifies the critical path and scheduled completion date of the accepted schedule, the difference between scheduled completion dates of the two schedules must be equal to the adjustment of contract time. The Owner may construct and use an appropriate project schedule or other recognized method to determine adjustments in contract time until the Contractor provide the TIA.

- B. Contractor shall be required to comply with the requirements of Paragraph 1.09.A for all types of delays such as, but not limited to, Contractor/Subcontractor delays, adverse weather delays, strikes, procurement delays, fabrication delays, etc.
- C. Contractor shall be responsible for all costs associated with the preparation of Time Impact Evaluations, and the process of incorporating them into the current schedule update. The Contractor shall provide CLPCCD with 4 copies of each TIE.
- D. Once agreement has been reached on a TIE, the Contract Times will be adjusted accordingly. If agreement is not reached on a TIE, the Contract Times may be extended in an amount CLPCCD allows, and the Contractor may submit a claim for additional time claimed by Contractor.

1.11 TIME EXTENSIONS

A. The Contractor is responsible for requesting time extensions for time impacts that, in the opinion of the Contractor, impact the critical path of the current schedule update. Notice of time impacts shall be given in accord with Articles 1.12 and 1.15 of Contract Document General Conditions.

B. Where an event for which CLPCCD is responsible impacts the projected Substantial Completion date, the Contractor shall provide a written mitigation plan, including a schedule diagram, which explains how (e.g., increase crew size, overtime, etc.) the impact can be mitigated. The Contractor shall also include a detailed cost breakdown of the labor; equipment and material the Contractor would expend to mitigate CLPCCD caused time impact. The Contractor shall submit its mitigation plan to CLPCCD within fourteen (14) calendar days from the date of discovery of said impact. The Contractor is responsible for the cost to prepare the mitigation plan.

C. Failure to request time, provides TIE, or provides the required mitigation plan will result in Contractor waiving its right to a time extension and cost to mitigate the delay.

- D. No time will be granted under this Contract for cumulative effect of changes.
- E. CLPCCD will not be obligated to consider any time extension request unless requirements of Contract Documents are complied with.
- F. Failure of the Contractor to perform in accordance with the current schedule update shall not be excused by submittal of time extension requests.
- G. If the Contractor does not submit a TIE within the required fourteen (14) calendar days for any issue, it is mutually agreed that the Contractor does not require a time extension for said issue.

1.12 SCHEDULE REPORTS

- A. Submit four (4) copies of the following reports with the Initial CPM Schedule, the Original CPM Schedule, and each monthly update.
- B. Required Reports:
 - 1. Two (2) activity-listing reports: one sorted by activity number and one by total float. These reports shall also include each activity's early/late and actual start and finish dates, original and remaining duration, float, responsibility code and the logic relationship of activities.
 - 2. Cost report sorted by activity number including each activity's associated cost, percentage of Work accomplished, earned value to-date, previous payments and amount earned for current update period.
 - 3. Schedule plots presenting time scaled network diagram showing activities and their relationships with the controlling operations or critical path clearly highlighted.
 - 4. Cash flow report calculated by early start, late start and indicating actual progress. Provide an exhibit depicting this information in graphic form.
- C. Furnish CLPCCD with report files in CD ROM and containing all Microsoft Project .mpp or Primavera .xer schedule files along with report files.

1.13 PROJECT STATUS REPORTING

- A. In addition to submittal requirements for CPM scheduling identified in this Section, Contractor shall provide a monthly project status report (i.e., written narrative report) to be submitted in conjunction with each CPM Schedule as specified herein. Status reporting shall be in form specified below.
- B. Contractor shall prepare monthly written narrative reports of status of Project for submission to CLPCCD. Written status reports shall include:
 - 1. Transmittal letter
 - 2. Work completed during the period, percent complete of activities
 - 3. Identification of unusual conditions or restrictions regarding labor, equipment or material:
including multiple shifts, 6-day work weeks, specified overtime or work at times other than regular days or hours
 - 4. Description of the current critical path

5. Changes to the critical path and scheduled completion date since the last schedule submittal
6. Description of problem areas
7. Current and anticipated delays:
 - 7.1 Cause of delay
 - 7.2 Impact of delay on other activities, milestones and completion dates
 - 7.3 Corrective action and schedule adjustments to correct the delay
8. Contractor may include any other information pertinent to status of Project.
Contractor shall include additional status information requested by CLPCCD at no additional cost.
9. Status reports, and the information contained therein, shall not be construed by the Contractor as claims, notice of claims, notice of delay, or requests for changes or compensation.

1.14 WEEKLY SCHEDULE REPORT

At the Weekly Progress Meeting, the Contractor shall provide and present a time scaled four (4) week schedule one (1) week behind and three (3) week look ahead schedule that is based and correlated by activity number to the current schedule (i.e., Initial, Original CPM, or Schedule Update).

1.15 DAILY CONSTRUCTION REPORTS

On a daily basis, Contractor shall submit a daily activity report to CLPCCD for each workday, including weekends and holidays, when worked. Contractor shall develop the daily construction reports on a computer generated database capable of sorting daily Work, manpower and man-hours by Contractor, Subcontractor, area, sub area, and change order work. Upon request of CLPCCD, furnish computer disk of this database. Obtain CLPCCD's written approval of daily construction report database format prior to implementation. Include in report:

- A. Project name and Project number.
- B. Contractor's name and address.
- C. Weather, temperature and any unusual site conditions.
- D. Brief description and location of the day's scheduled activities and any special problems and accidents, including Work of Subcontractors. Descriptions shall be referenced to CPM scheduled activities.
- E. Worker quantities for its own Work force and for Subcontractors of any tier.
- F. Equipment, other than hand tools, utilized by Contractor and Subcontractors.

1.16 PERIODIC VERIFIED REPORTS

The Contractor shall complete and submit the Final Verified Report required by DSA. In addition to other conditions precedent to Final Payment, the Contractor's completion and submission of the Final Verified Report is an express condition precedent to the District's obligation to make the Final Payment. In addition to completion and submission of the Final Verified Report, as a material obligation under the Contract Documents, the Contractor shall comply all DSA requests for reports or other data relating to the Work, the status thereof or conformity of the Work to the Contract Documents.

PART 2 – PRODUCTS

Not applicable to this section.

PART 3 – EXECUTION

Not applicable to this section.

END OF SECTION

PART 1 - GENERAL**1.1 RELATED DOCUMENTS**

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

1.2 SUMMARY

- A. This Section includes administrative and procedural requirements for submitting Shop Drawings, Product Data, Samples, and other submittals including:
 - 1. Procedures
 - 2. Schedule of Shop Drawing and Sample Submittals
 - 3. Safety Plan
 - 4. Progress Schedule
 - 5. Product Data
 - 6. Shop Drawings
 - 7. Samples
 - 8. Quality Control Submittals
 - 9. Design Data
 - 10. Test Reports
 - 11. Certificates
 - 12. Manufacturers' Instructions
 - 13. Machine Inventory Sheets Operations and Maintenance Manuals Computer Programs
 - 14. Project Record Documents
 - 15. LEED Submittals

1.3 RELATED SECTIONS

- A. Section 01 11 00: Summary of Work.
- B. Section 01 26 00: Contract Modification Procedures.
- C. Section 01 32 00: "Progress Schedules and Reports" for submitting schedules and reports, including Contractor's Construction Schedule and the Submittals Schedule.
- D. Section 01 70 00: Contract Closeout
- E. Section 01 78 00: Project Record Documents.

1.4 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 responsive action. Submittals may be rejected for not complying with requirements.

1.5 SUBMITTAL PROCEDURES

- A. General: Electronic copies of CAD Drawings of the Contract Drawings are always through Architect for Contractor's use in preparing submittals. Files are used as background use only.
- B. Coordination: Coordinate preparation and processing of submittals with performance of construction activities.
 - 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.
- C. Submittals Schedule: Comply with requirements in Division 1 Section "Construction Progress Documentation" for list of submittals and time requirements for scheduled performance of related construction activities.
- D. Processing Time: Allow enough time for submittal review, including time for resubmittals, as follows. Time for review shall commence on Construction Manager's receipt of submittal. No extension of the Contract Time will be authorized because of failure to transmit submittals enough in advance of the Work to permit processing, including resubmittals.
 - 1. Initial Review: Allow 15 work days for initial review of each submittal. Allow additional time if coordination with subsequent submittals is required. Construction Manager will advise Contractor when a submittal being processed must be delayed for coordination.
 - 2. Sequential Review: Where sequential review of submittals by Architect's consultants, Owner, or other parties is indicated, allow 21 days for initial review of each submittal.
- E. Submit at own expense, a minimum of two (2) printed sets or copies and one (1) electronic PDF set- Schedule of Shop Drawing and Sample Submittals, Safety Plans, Progress Schedule, Product Data, Shop Drawings, Samples, Quality Control Data, Machine Inventory Sheets, Operations and Maintenance Manuals, Computer Programs, and Project Record Documents required by the Contract Documents.
- F. Transmit each item with a standard letter of transmittal in form approved by Construction Manager.
- G. Identify project, Contractor, subcontractor, major supplier, pertinent drawing sheet and detail number, and specification section number as appropriate. Provide space for Contractor, Construction Manager and Architect/Engineer review stamps.
- H. Where manufacturer's standard drawings or data sheets are used, they shall be marked clearly to show those portions of the data, which are applicable to this project.
- I. Submit Shop Drawings, Samples and other submittals to Construction Manager for review and approval by Architect/Engineer in accordance with accepted schedule of Shop Drawings and Samples submittals. If no such schedule is agreed upon, then all Shop Drawing, Samples and product data submittals shall be completed within ninety (90) days after receipt of Notice to Proceed from CLPCCD.

- J. The data shown on the Shop Drawings shall be complete with respect to quantities, dimensions, specified performance and design criteria, materials and similar data to show Architect/Engineer the materials and equipment Contractor proposes to provide and to enable Architect/Engineer to review the information for the limited purposes specified below. Samples shall be identified clearly as to material, supplier, pertinent data such as catalog numbers and the use for which it is intended and otherwise as Architect/Engineer may require enabling Architect/Engineer to review the submittal. The number of each Sample to be submitted will be as specified in the Specifications.
- K. At the time of each submission, Contractor shall give Construction Manager, Architect/Engineer, and Inspector specific written notice of all variations, if any; that the Shop Drawing or Sample submitted may have from the requirements of the Contract Documents, and the reasons therefore. This written notice shall be in a written communication separate from the submittal. In addition, Contractor shall cause a specific notation to be made on each Shop Drawing and Sample submitted to Construction Manager for review and approval of each such variation by Architect/Engineer. The Architect/Engineer may make adjustments to submittals that may result in changes to the contract. The appropriate change order request should be prepared by the Contractor within ten (10) days of receipt of submittals.
- L. If CLPCCD accepts deviation, CLPCCD shall issue appropriate Contract Modification.
- M. Submittal coordination and verification is responsibility of Contractor; this responsibility shall not be delegated in whole or in part to subcontractors or suppliers. Before submitting each Shop Drawing or Sample, Contractor shall have determined and verified:
1. All field measurements, quantities, dimensions, specified performance criteria, installation requirements, materials, catalog numbers and similar information with respect thereto;
 2. All materials with respect to intended use, fabrication, shipping, handling, storage, assembly and installation pertaining to the performance of the Work; and
 3. All information relative to Contractor's sole responsibilities and of means, methods, techniques, sequences and procedures of construction and safety precautions and programs incident thereto.
- N. Contractor shall also have reviewed and coordinated each Shop Drawing or Sample with other Shop Drawings and Samples and with the requirements of the Work and the Contract Documents.
- O. Contractor's submission to Construction Manager of a Shop Drawing or Sample submittal will constitute Contractor's representation that it has satisfied its obligations under the Contract Documents, and as set forth immediately above, with respect to Contractor's review and approval of that submittal.
- P. Designation of work "by others", if shown in submittals, shall mean that work will be responsibility of Contractor rather than subcontractor or supplier who has prepared submittals.
- Q. After review by Architect/Engineer of each of Contractor's submittals, one electronic set will be returned to Contractor with actions defined as follows:
1. NO ACTION TAKEN – Submittal is unreviewed.
 2. NO EXCEPTIONS TAKEN - Accepted subject to its compatibility with future submittals and additional partial submittals for portions of the work not covered in this submittal. Does not constitute approval or deletion of specified or required items not shown on the submittal.

3. MAKE CORRECTIONS NOTED (NO RESUBMISSIONS REQUIRED) - Same as 2. above, except that minor corrections as noted shall be made by Contractor.
 4. REVISE AND RESUBMIT - Rejected because of major inconsistencies or errors which shall be resolved or corrected by Contractor prior to subsequent review by Architect/Engineer.
 5. REJECTED (RESUBMIT) - Submitted material does not conform to Plans and Specifications in major respect, i.e.: wrong size, model, capacity, or material.
- R. It is considered reasonable that Contractor shall make a complete and acceptable submittal at least by second submission.
1. CLPCCD reserves the right to deduct monies from payments due Contractor to cover additional costs of Architect's/Engineer's review beyond the second submission. Illegible submittals will be rejected and returned to Contractor for resubmission.
- S. Favorable review will not constitute acceptance by CLPCCD or Architect/Engineer of any responsibility for the accuracy, coordination and completeness of the submittals. Accuracy, coordination, and completeness of Submittals shall be sole responsibility of Contractor, including responsibility to back check comments, corrections, and modifications from CLPCCD's or Architect's/Engineer's review before fabrications. Submittals may be prepared by Contractor, subcontractors, or suppliers, but Contractor shall ascertain that submittals meet requirements of Contract Documents, while conforming to structural space and access conditions at point of installation. Architect/Engineer's review will be only to determine if the items covered by the submittals will, after installation or incorporation in the Work, conform to the information given in the Contract Documents and be compatible with the design concept of the completed Project as a functioning whole as indicated by the Contract Documents. Favorable review of submittal, method of work, or information regarding materials and equipment Contractor proposes to furnish shall not relieve Contractor of responsibility for errors therein and shall not be regarded as assumption of risks or liability by Architect/Engineer or CLPCCD, or any officer or employee thereof, and Contractor shall have no claim under Contract on account of failure or partial failure or inefficiency or insufficiency of any plan or method of work or material and equipment so accepted. Favorable review shall be considered to mean merely that Architect/Engineer or CLPCCD has no objection to Contractor using, upon his own full responsibility, plan or method of work proposed, or furnishing materials and equipment proposed.
- T. Architect's/Engineer's review will not extend the means, methods, techniques, sequences or procedures of construction or to safety precautions or programs incident thereto. The review and approval of a separate item as such will not indicate approval of the assembly in which the item functions.
- U. Submit complete initial submittal for those items where required by individual specification Sections. Complete submittal shall contain sufficient data to demonstrate that items comply with Specifications, shall meet minimum requirements for submissions cited in technical specifications, shall include motor data and seismic anchorage certifications, where required, and shall include necessary revisions required for equipment other than first named. If Contractor submits incomplete initial submittal, when complete submittal is required, submittal may be returned to Contractor without review.
- V. It shall be Contractor's responsibility to copy, conform and distribute reviewed submittals in sufficient numbers for Contractor's files, subcontractors and vendors.
- W. After Architect/Engineer review of submittal, revise and resubmit as required. Identify changes made since previous submittal.

1. Begin no fabrication or work, which require submittals until return of submittals not requiring resubmittal.
2. Normally, submittals will be processed and returned to Construction Manager within fifteen (15) working days of receipt by Architect. The processing time spent to review submittals by Construction Manager shall be in addition to the fifteen (15) days.
3. Distribute copies of reviewed submittals to concerned persons. Instruct recipients to promptly report any inability to comply with provisions.

1.6 SCHEDULE OF SHOP DRAWING, DSA DEFERRED APPROVAL SUBMITTALS AND SAMPLE SUBMITTALS

- A. Submit preliminary Schedule of Shop Drawing and Sample Submittals as required by General Conditions. Submit two (2) copies and one (1) electronic PDF of final and accepted schedule of submittals of shop drawings and samples as required by General Conditions, and in no event later than thirty (30) days following Notice of Award.
- B. Schedule of Shop Drawing and Sample Submittals will be used by Architect/Engineer to schedule their activities relating to review of submittals. Schedule of submittals shall indicate a spreading out of submittals and early submittals of long lead-time items and of items, which require extensive review.
- C. Schedule of Shop Drawing and Sample Submittals shall be reviewed by Construction Manager and shall be revised and resubmitted until accepted by Construction Manager.
- D. DSA Deferred Approval Submittals shall be prepared for review by the Architect/Engineer within 30 days of receipt of Notice to Proceed. Contractor shall promptly make corrections to documents for Architect to submit to DSA for approval. Contractor shall have the sole responsibility for obtaining DSA approval via the Architect's office for all deferred approval submittals in a timely manner. There will be no time extensions granted for delay in obtaining such approval.

1.7 SAFETY PLAN

- A. Submit one (1) copies and one (1) electronic PDF of Safety Plan specific to this Contract to Construction Manager within fifteen (15) calendar days after Start Date of the Contract Time.
- B. No on-site work shall be started until Safety Plan has been reviewed and accepted by CLPCCD. Acceptance of Safety Plan shall not affect Contractor's responsibility for maintaining a safe working place and instituting safety programs in connection with project in full compliance with local, state and federal regulations.

1.8 PROGRESS SCHEDULE

- A. Schedule all items requiring Architect action for submission during first 25 percent of construction period.
- B. See Section 01 32 00 "Progress Schedules and Reports" for schedule and report requirements.
- C. Submit (3) print copies, one (1) electronic report file in PDF format, and either Microsoft Project .mpp or Primavera .xer schedule program files:
 1. Initial CPM Schedule at the Pre-construction Conference.

2. Original CPM Schedule within thirty (30) days of Notice to Proceed (NTP).
 3. Adjustments to the CPM Schedule as required.
 4. CPM Schedule updates monthly, five (5) days prior to monthly progress meeting.
- D. Submit three (3) copies and one (1) electronic PDF copy of the reports listed in Section 01 32 00 "Progress Schedules and Reports" with:
1. Initial CPM Schedule
 2. Original CPM Schedule
 3. Each monthly Schedule update
 4. Each weekly three (3) week look ahead Schedule
- E. Progress Schedules and Reports shall be submitted electronically, in addition to hard copies as specified above.

1.9 QUALITY CONTROL SUBMITTALS

- A. Design Data: Not applicable.
- B. Test Reports: Three (3) copies minimum. One (1) copy will be marked with Architect's/Engineer's review comments and returned to Contractor.
1. Indicate that material or product conforms to or exceeds specified requirements.
 2. Reports may be from recent or previous tests on material or product, but must be acceptable to Construction Manager. Comply with requirements of each individual specification Section.
- C. Certificates: Three (3) copies minimum. One (1) copy will be marked with Architect's/Engineer's review comments and returned to Contractor.
1. Indicate that material or product conforms to or exceeds specified requirements.
 2. Submit supporting reference data, affidavits, and certifications as appropriate.
 3. Certificates may be recent or from previous test results on material or product, but must be acceptable to Construction Manager.
- D. Manufacturers' Instructions: Three (3) copies minimum. One (1) copy will be marked with Architect's/Engineer's review comments and returned to Contractor.
1. Include manufacturer's printed instructions for delivery, storage, assembly, installation, startup, adjusting, and finishing.
 2. Identify conflicts between manufacturer's instructions and Contract Documents.

1.10 COMPUTER PROGRAMS

- A. When any equipment requires operation by computer programs, submit copy of program on CD(s) plus all user manuals and guides for operating the programs and making changes in the programs for upgrading and expanding the databases. Provide required licenses to CLPCCD at no additional cost.
1. Include at least three (3) years prepaid software license renewals, which includes software upgrades and updates.

1.11 PROJECT RECORD DOCUMENTS

- A. Submit one copy of each of the Project Record Documents listed in Section 01 70 00 Contract Closeout.

1.12 DELAY OF SUBMITTALS

- A. Delay of submittals by Contractor is considered avoidable delay. Liquidated damages incurred because of late submittals will be assessed to the Contractor.

PART 2 - PRODUCTS**2.1 SUBMITTALS**

- A. Within fifteen (15) calendar days after Start Date of the Contract Time submit two (2) copies and one (1) electronic PDF of complete list of substitutions of major products proposed for use, with name of manufacturer, trade name, and model number of each product.
- B. Contractor shall be responsible for and make all submissions.
 - 1. Submit items specified herein to Architect and Construction Manager.
 - 2. Submit all submittals through the Construction Manager's Electronic Submittal Program.
 - 3. Identify each transmittal using the 6-digit specification number, i.e., metal handrails might be numbered 05 5000, along with an individual submittal number for each section number. Submittal numbers shall be sequential. If returning submittal "12" for re-submission, second submission would be identified as "12A". Should submittal be rejected multiple times (12b, 12c, etc), the Contractor may be required to reimburse the Owner/Architect for labor to review subsequent submissions.
 - 4. Develop, for maintenance by the Construction Manager, a schedule of all submittals and their status. Refer to Paragraph 1.3 below. The schedule will be reviewed each week at the project meeting.
- C. Transmittals, shop drawings, or samples submitted to Architect shall have the Contractor's stamp on it with his signature and be marked "approved." Contractor's stamp on these items indicates that Contractor has performed the following:
 - 1. Verified field dimensions and quantities.
 - 2. Verified field construction criteria, materials, catalog numbers and similar data.
 - 3. Reviewed and coordinated submittal data with requirements of the Work and the Contract Documents.
 - 4. **ITEMS NOT STAMPED BY THE CONTRACTOR WILL BE RETURNED UNREVIEWED.**
- D. Indicate any item, component, material or portion of Work, which deviates from Contract Documents. Unless such departures are accepted as indicated in paragraph "Review" below, such departures will not be permitted.
- E. Make submittals sufficiently in advance of data required to allow Architect reasonable time for review and additional resubmission and review cycles if necessary.

1. Items submitted without Contractor's review stamp will be returned, without action, for resubmission.
2. Items not submitted in accordance with provisions of this Section will be returned, without action, for resubmission.
3. Submissions on items not approved for use by specifications or addenda will be rejected.
4. Drawings transmitted by other than the Prime Contractor will be returned to the Prime Contractor without action of any kind. Drawings will not be returned to subcontractors.

2.2 SUBMITTALS – PRODUCT DATA

- A. For products specified only by reference standards, give manufacturer, trade name, model or catalog designation, and reference standards.
- B. Tabulate products by specification section number.
- C. Supplemental Data:
 1. Submit number of copies, which Contractor requires, plus three (3) copies, which will be retained by Construction Manager.
 2. Mark each copy to identify applicable products, models, options, and other data. Supplement manufacturer's standard data to provide information unique to Project.
- D. Provide copies for Project Record Documents described in Section 01 70 00 Contract Closeout.

2.3 SUBMITTALS - SHOP DRAWINGS

- A. Identify drawings with manufacturer, item, use, type, project designation, specification section or drawing detail reference.
- B. Minimum Sheet Size: 8-1/2 inches by 11 inches. All others: Multiples of 8-1/2 inches by 11 inches, 34 inches by 44 inches maximum.
- C. For 8-1/2 inch by 11 inch and 11 inch by 17-inch sheets, submit number of copies, which contractor requires plus three (3) copies, which will be retained by Construction Manager.
- D. For 17 inch by 22 inch through 34 inch by 44-inch sheets, submit one [1] electronic and a minimum of three [3] prints. After review, reproduce and distribute.
- E. Original sheet or reproducible transparency will be marked with Architect's/Engineer's review comments and returned to Contractor.
- F. Each sheet/copy must include project name and project number and bid number on all sheets.
- G. Mark each copy to identify applicable Products, models, options, and other data; supplement manufacturers' standard data to provide information unique to Work.
- H. Include manufacturers' installation instructions when required by specification section.
- I. Submit a copy of the Shop Drawing Transmittal Form with each submittal and resubmittal.

2.4 SUBMITTALS - SAMPLES

- A. Identify samples with manufacturer's name, item, use, type, project designation, specification section or drawing detail reference, color, range, texture, finish and other pertinent data.
 - 1. Submit samples to illustrate functional and aesthetic characteristics of Product, with integral parts and attachment devices. Coordinate submittal of different categories for interfacing work.
- B. Submit full range of manufacturers' standard colors, textures, and patterns for Construction Manager's selection.
- C. Submit a minimum of three (3) samples unless otherwise specified in the construction documents.
- D. Sizes: Unless otherwise specified, provide the following:
 - 1. Paint Chips: Manufacturers' standard
 - 2. Flat or Sheet Products: Minimum 6 inches square, maximum 12 inches square
 - 3. Linear Products: Minimum 6 inches, maximum 12 inches long
 - 4. Bulk Products: Minimum 1 pint, maximum 1 gallon
- E. Full size samples may be used in Work upon approval.
- F. Mock-ups:
 - 1. Erect field samples and mock-ups at Project site in accordance with requirements of Specification sections.
 - 2. Modify or make additional field samples and mock-ups as required to provide appearance and finishes approved by Construction Manager.
 - 3. Approved field samples and mock-ups may be used in Work upon approval.
- G. Architect may, at his option, retain samples for comparison purposes until completion of Work.
 - 1. Samples will be returned or may be used in the Work unless the technical section specifically indicates otherwise.
 - 2. Remove samples when directed.
 - 3. Pay all costs of furnishing or constructing, and removing samples.
- H. Resubmit samples of rejected items.
- I. Performance and Design Criteria: Where professional design services or certifications by a design professional are specifically required of Contractor by the Contract Documents, provide products and systems complying with specific performance and design criteria indicated.
 - 1. If criteria indicated are not sufficient to perform services or certification required, submit a written request for additional information to Architect.
- J. Delegated-Design Submittal: In addition to Shop Drawings, Product Data, and other required submittals, submit three copies of a statement, signed and sealed by the responsible design professional, for each product and system specifically assigned to Contractor to be designed or certified by a design professional.

1. Indicate that products and systems comply with performance and design criteria in the Contract Documents. Include list of codes, loads, and other factors used in performing these services.

PART 3 - EXECUTION

3.1 CONTRACTOR'S REVIEW

- A. Review each submittal and check for coordination with other Work of the Contract and for compliance with the Contract Documents. Note corrections and field dimensions. Mark with approval stamp before submitting to Architect and Construction Manager.
- 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, and statement certifying that submittal has been reviewed, checked, and approved for compliance with the Contract Documents.

3.2 ARCHITECT REVIEW

- A. General: Architect and Construction Manager will not review submittals that do not bear Contractor's approval stamp and will return them without action.
- B. Action Submittals: Architect and Construction Manager will review each submittal, make marks to indicate corrections or modifications required, and return it. Architect and Construction Manager will stamp each submittal with an action stamp and will mark stamp appropriately to indicate action taken.
- C. Reproduce and distribute submittals that the Architect reviews and stamps as follows, to indicate the action taken:
 1. Reviewed: Where submittal is marked "Reviewed," that part of the Work covered by the submittal may proceed provided it complies with requirements of the Contract Documents; final acceptance will depend upon that compliance.
 2. Reviewed -- Additional Information Required: Where submittal is marked "Reviewed -- Additional Information Required," the information submitted has been reviewed and approved as noted. However, additional information as noted and/or required by Contract Documents needs to be submitted.
 3. Make Corrections As Noted: When submittal is marked "Furnish As Corrected," that part of the Work covered by the submittal may proceed provided it complies with notations or corrections on the submittal and requirements of the Contract Documents; final acceptance will depend on that compliance.
 4. Submit Specified Item: When submittal is marked "Revise and Resubmit," do not proceed with that part of the Work covered by the submittal, including purchasing, fabrication, delivery, or other activity. Revise or prepare a new submittal in accordance with the notations; resubmit without delay. Repeat if necessary to obtain a different action mark.
 - a. Do not permit submittals marked "Revise and Resubmit" to be used at the Project site, or elsewhere where Work is in progress.
 5. Rejected: When submittal is marked "Rejected," information submitted is not in compliance with Contract Documents. Resubmit submittal as required by Contract Documents.

- D. Contractor shall retain 1 copy of each "Reviewed," "Reviewed -- Additional Information Required" or "Furnish as Corrected" submittal on file at the job site.
- E. Architect shall retain 1 copy of each "Reviewed," "Reviewed -- Additional Information Required" or "Furnish as Corrected" submittal in the project file.
- F. Contractor shall resubmit items stamped "Revise and Resubmit" or "Rejected" by Architect.
 - 1. Provide a print of previous drawing with resubmission for comparison.
 - 2. Add letter suffix to previous transmittal number, to indicate resubmission.
 - 3. It shall be the Contractor's responsibility to assure that previously approved documents are destroyed when they are superseded by a resubmittal.
- G. Architect review is general and does not:
 - 1. Permit departure from Contract Documents.
 - 2. Relieve Contractor from responsibility for errors in detail, in dimensions or related items.
 - 3. Approve departure from previous instructions or details.
 - 4. Relieve Contractor of the responsibility to provide all components, wiring, etc., required to make item operable or usable.
 - 5. Imply acceptance of items for which no data is submitted.
- H. For items constituting a departure from Contract Documents see Section 01 2500.
- I. Reviewed samples submitted or constructed and approved by Architect constitute criterion for judging completed work. Finish work or items not equal to samples will be rejected.
- J. Start of work which requires submittals, prior to return of submittals with Architect or Owner's stamp indicating review and approval is at Contractor's risk.

3.3 DISTRIBUTION

- A. Contractor shall copy and distribute all "Reviewed," "Reviewed -- Additional Information Required" or "Furnish as Corrected" submittals, including one copy to the Owner.

END OF SECTION

PART 1 – GENERAL**1.01 SUMMARY**

This section includes regulatory requirements applicable to Contract.

1.02 REFERENCES TO REGULATORY REQUIREMENTS

- A. Codes, laws, ordinances, rules and regulations referred to shall have full force and effect as though printed in full in these specifications.
- B. Conform to referenced codes, laws, ordinances, rules and regulations, which are in effect on date of receipt of bids.

1.03 CODES

Codes, which apply to Contract, include, but are not limited to, the following:

- A. 2007 California Building Code (Part 2, Title 24, C.C.R.)
- B. 2007 California Electrical Code (Part 3, Title 24, C.C.R.)
- C. 2007 California Mechanical Code (Part 4, Title 24, C.C.R.)
- D. 2007 California Plumbing Code (Part 5, Title 24, C.C.R.),
- E. 2007 State Elevator Safety Regulations (Part 7, Title 24, C.C.R.)
- F. 2007 California Fire Code (Part 9, Title 24, C.C.R.)
- G. 2007 California Energy Code (Part 6, Title 24, C.C.R.)

1.04 LAWS, ORDINANCES, RULES AND REGULATIONS

- A. During prosecution of Work to be done under Contract, comply with applicable laws, ordinances, rules and regulations, including, but not limited to, the following:
 - B. Federal
 - 1. Americans With Disabilities Act
 - 2. 29 CFR, Section 1910.1001, Asbestos
 - 3. 40 CFR, Subpart M, National Emission Standards for Asbestos
 - 4. Executive Order 11246
 - C. State of California
 - 1. California Code of Regulations, Titles 5, 8, 19, 21, 24
 - 2. California Education Code
 - 3. California Public Contract Code
 - 4. California Health and Safety Code
 - 5. California Government Code
 - 6. California Labor Code
 - 7. California Civil Code
 - 8. California Code of Civil Procedure

9. CPUC General Order 95, Rules for Overhead Electric Line Construction
10. CPUC General Order 128, Rules for Construction of Underground Electric Supply and Communications Systems

D. State of California Agencies

Bay Area Air Quality Management District (BAAQMD / www.baaqmd.gov)

State and Consumer Services Agency

Department of General Services

Division of the State Architect Office of the State Fire Marshall Office of Public School Construction

E. Local Agencies:

City of Hayward, California (www.ci.hayward.ca.us)

1.06 COMPLIANCE WITH AMERICANS WITH DISABILITIES ACT

- A. Contractor acknowledges that, pursuant to the Americans with Disabilities Act (ADA), programs, services and other activities provided by a public entity to the public, whether directly or through a contractor, must be accessible to the disabled public. Contractor shall provide the services specified in this Agreement in a manner that complies with the ADA and any and all other applicable federal, state and local disability rights legislation. Contractor agrees not to discriminate against disabled persons in the provision of services, benefits or activities provided under this Agreement and further agrees that any violation of this prohibition on the part of Contractor, its employees, agents or assigns shall constitute a material breach of this Agreement.

PART 2 – PRODUCTS

Not applicable.

PART 3 – EXECUTION

Not applicable.

END OF SECTION

PART 1 – GENERAL**1.01 SUMMARY**

- A. This section includes regulatory requirements applicable to Contract work in connection with hazardous waste abatement and disposal, including, but not limited to, asbestos and asbestos containing materials, lead based paint, polychlorinated biphenyls, petroleum contaminated soils and materials, construction and demolition debris and any other hazardous substance or hazardous waste.
- B. This section supplements Section 01 41 00 and the work specific listings of applicable regulatory requirements elsewhere in the specifications.
- C. Related Sections.
 - 1. Section 01 41 00: Regulatory Requirements.

1.02 REFERENCES TO REGULATORY REQUIREMENTS

- A. Codes, laws, ordinances, rules and regulations applicable to the Work shall have full force and effect as though printed in full in these specifications. Codes, laws, ordinances, rules and regulations are not furnished to Contractor, since Contractor is assumed to be familiar with their requirements. The listing herein of applicable codes, laws and regulations for hazardous waste abatement work is supplied to Contractor as a courtesy and shall not limit Contractor's responsibility for complying with all applicable laws, regulations or ordinances having application to the Work. Where conflict among the requirements or with these specifications exists, the most stringent requirements shall be used.
- B. Contractor's work shall conform to all applicable codes, laws, ordinances, rules and regulations that are in effect on date of receipt of bids.

1.03 LAWS, ORDINANCES, RULES AND REGULATIONS

- A. During prosecution of Work under Contract, Contractor shall comply with applicable laws, ordinances, rules and regulations, including, but not limited to, those listed below.
- B. Federal:
 - 1. Statutory Requirements:
 - a. Resource Conservation and Recovery Act, 42 U.S.C.. 6901 et seq.
 - b. Comprehensive Environmental Response, Compensation and Liability Act of 1980, as amended by the Superfund Amendments and Reauthorization Act of 1986, 42 U.S. C" 9601 et seq.
 - c. Toxic Substances Control Act of 1976, 15 U.S.C.. 2601 et seq.
 - d. Hazardous Materials Transportation Act of 1975, 49 U.S. C" 1801 et seq.
 - e. Clean Water Act, 33 U.S.C.. 1251 et seq.
 - f. Safe Drinking Water Act, 42 U.S. C.. 3001 et seq.
 - g. Clean Air Act, section 112, 42 U.S. C.. 7412
 - h. Occupational Safety and Health Act of 1970, 29 U.S.C.. 651 et seq.
 - i. Underground Storage Tank Law, 42 U.S. C.. 6991 et seq.

- j. The Emergency Planning and Community Right to Know Act of 1986, 42 U.S.C. 11001 et seq.
 2. Environmental Protection Agency (EPA):
 - a. 40 C.F.R. Parts. 260, 264, 265, 268, 270
 - b. 40 C.F.R. Parts 258 et seq.
 - c. 40 C.F.R. Part 761
 - d. 40 C.F.R. Parts 122-124
 3. Occupational Safety and Health Administration (OSHA):
 - a. OSHA Worker Protection Standards, Title 29 CFR Part 1926.58, Construction Standards and 29 CFR 1910.1001 General Industry Standard
 - b. OSHA, 29 C. F. R. Part 1926.1101, Construction Standards for Asbestos
 - c. OSHA, Lead Exposure in Construction: Interim Final Rule, 29 C.F.R. 1926.62
 - d. National Emission Standard for Hazardous Air Pollutants, Title 40 CFR Part 61
 - e. Asbestos Hazardous Emergency Response Act, Title 40 C.F.R. 763
 4. Department of Transportation:
 - a. Title 49 C.F.R. 173.1090
 - b. Title 49 C.F.R.172
 - c. Title 49 C.F.R. 173
 - d. DOT, HM 181 and MH126f
- C. State of California Requirements:
 1. Statutory Law:
 - a. The Carpenter-Presley-Tanner Hazardous Substance Account Act, Cal. Health & Saf. Cod~ 25300 et seq.
 - b. Health and Safety Cod~ 25359.4
 - c. Hazardous Waste Control Law, Health & Safety Code. 25100 § seq.
 - d. Porter Cologne Water Quality Control Act, Cal. Water Cod~ 13000 et seq.
 - e. Health and Safety Cod~ 25915-25924
 - f. Cal. Labor Code Chapter 6, including, without limitation, . 6382, 6501.5-6501.9,6503.5, 9021.5, 9080
 - g. Cal. Bus. and Prof. Code, including without limitation, . 7058.5, 7065.01, 7118.5. Underground Storage of Hazardous Substance Act,
 - h. Cal. Health & Saf. Cod~ 25280 § seq.
 - i. Petroleum Underground Storage Tank Cleanup, Health and Safety Cod~ 25299.10 et seq.
 - j. Safe Drinking Water and Toxic Enforcement Act of 1986, Health & Saf. Cod~ 25249.5 et seq. (Proposition 65)

- k. Above Ground Petroleum Storage Act, Health and Safety Code. 25270 et seq.
2. Hazardous Materials Release Response Plans and Inventory, California Health and Safety Code Chapter 6.95.
3. Administrative Code and Regulations:
 - a. 22 C.C.R.. 6600 et seq.
 - b. Title 22 C.C.R.. Standards for Management of Hazardous and Extremely Hazardous Waste
 - c. DTSC Treatment Standard for PCB Wastes, Title 22 C.C.R.,. 66268.110
 - d. Cal OSHA Worker Protection Standards, Title 8 C.C.R.. 1529, 5208
 - e. Title 8 C. C. R.. 1532.1, Lead in Construction
 - f. 22 C.C.R.. 66999(b)
 - g. Title 23 C.C.R.. 2610 et seq.
4. Local Agency Requirements:
 - a. Bay Area Air Quality Management District, Fugitive Dust Rules
 - b. Bay Area Air Quality Management District Regulation 11-2-303
 - c. State Water Resource Control Board, General Construction Activity Stormwater Permit Requirements (Order 92-0S DWQ)
5. City Requirements:
 - a. Hayward Fire Department (www.haywardcal.us/fire_dept/fd.htm)
 - b. Ordinances

1.04 PERMITS

- A. Contractor shall comply with, implement or acknowledge effectiveness of all CLPCCD held permits, and initiate and cooperate in securing all required notifications or approvals therefore, including but not limited to permits affecting environmental work and the following:
 1. BAAQMD, Permit to Excavate or Treat Contaminated Soil;
 2. State Water Resources Control Board, General Construction Activity Stormwater Permit

PART 2 – PRODUCTS

Not used.

PART 3 – EXECUTION

Not used.

END OF SECTION

PART 1 – GENERAL**1.01 DSA DEFERRED APPROVALS**

- A. Refer to Contract Drawings.

1.02 INSPECTION AND SUPERVISION

- A. Supervision by DSA shall be in accordance with Section 4-334 of Part 1, Title 24, CCR.
- B. District shall employ a full-time Project Inspector approved by DSA. The Project Inspector shall observe construction in accordance with Section 4-333(b) and 4-342 of Part 1, Title 24, CCR.
- C. Reports: Project Inspector shall submit the following in accordance with DSA IR A-7.
 - 1. Start of Project Report: Notify DSA of start of construction in accordance with Section 4-331 of Part 1, Title 24, CCR.
 - 2. Semi-Monthly Reports: Comply with Section 4-337 of Part 1, Title 24, CCR.
 - 3. Verified Reports: Comply with Section 4-336 of Part 1, Title 24, CCR.
- D. Special Inspection Requirements:
 - 1. Comply with Section 4-333(c) of Part 1, Title 24, CCR.
 - 2. Special inspection costs are to be paid by the Owner.
 - 3. Conduct special inspection as per DSA Structural Tests and Inspections Sheet (SSS 103-1).

1.03 TESTING LABORATORY REQUIREMENTS

- A. Comply with Section 4-335 of Part 1, Title 24, CCR.
- B. The Owner shall select the testing Laboratory approved by DSA, Architect, and Structural Engineer.
- C. Sampling and testing shall be performed by properly qualified persons in accordance with American Society for Testing and Materials (ASTM) standards.
- D. Conduct tests as per DSA Structural Tests and Inspections Sheet (SSS 103-1).
- E. Submit one copy of test reports to DSA.

1.04 ADDENDA AND CHANGE ORDERS

- A. Comply with Section 4-338 of Part 1, Title 24, CCR.
- B. Comply with DSA IR A-6.
- C. Obtain DSA approval for changes to code-regulated construction and inspection/testing functions prior to start of that work. Code-regulated construction refers to work that is regulated by code provisions applicable to public school construction, including those adopted by DSA Structural Safety (DSA/SS), DSA Access Compliance (DSA/AC) and State Fire Marshal (SFM).
- D. Changes can be approved through either the change order (CO) process or preliminary change order (PCO) process. Comply with DSA IR A-6, Sub-paragraph 2.2 - Change Order Process and DSA IR A-6, Sub-paragraph 2.1 - Preliminary Change Order Process.

- E. Do not begin any work under addendum or change order until required DSA written approval is obtained.

PART 2 – PRODUCTS

Not Applicable.

PART 3 – EXECUTION

Not Applicable.

END OF SECTION

PART 1 – GENERAL**1.01 SUMMARY**

- A. This section includes reference standards, abbreviations, symbols and definitions used in Contract Documents.
- B. Full titles and edition dates are given in this section for standards cited in other sections of Specifications.
- C. Material and workmanship specified by reference to number, symbol, or title of specific standard such as state standard, commercial standard, federal specifications, technical society, or trade association standard, or other similar standard shall comply with requirements of standards except when more rigid requirements are specified or required by applicable codes.
- D. Standards referred to, except as modified herein, shall have full force and effect as though printed in the Contract Documents. Standards are not furnished to Contractor, since manufacturers and trades involved are assumed to be familiar with their requirements.

1.02 REFERENCE TO STANDARDS AND SPECIFICATIONS OF TECHNICAL SOCIETIES; REPORTING AND RESOLVING DISCREPANCIES:

- A. Reference to standards, specifications, manuals or codes of any technical society, organization or association, or to the laws or regulations of any governmental authority, whether such reference be specific or by implication, shall mean the latest standard, specification, manual, code or laws or regulations in effect at the time of opening of Bids, except as may be otherwise specifically stated in the Contract Documents.
- B. If during the performance of the Work, Contractor discovers any conflict, error, ambiguity or discrepancy within the Contract Documents or between the Contract Documents and any provision of any such law or regulation applicable to the performance of the Work or of any such standard, specification, manual or code or of any instruction of any supplier, Contractor shall report it in writing at once to Inspector, with copies to Construction Manager and Architect, and Contractor shall not proceed with the Work affected thereby until consent to do so is given by the Construction Manager.
- C. Except as otherwise specifically stated in the Contract Documents or as may be provided by Change Order, or supplemental instruction, the provisions of the Contract Documents shall take precedence in resolving any conflict, error, ambiguity or discrepancy between the Contract Documents and:
 - 1. The provisions of any such standard, specification, manual, code, or instruction (whether or not specifically incorporated by reference in the Contract Documents); or
 - 2. The provisions of any such laws or regulations applicable to the performance of the Work (unless such an interpretation of the provisions of the Contract Documents would result in violation of such law or regulation).

No provision of any such standard, specification, manual, code or instruction shall be effective to change the duties and responsibilities of CLPCCD, Contractor, Construction Manager, or Architect/Engineer, or any of their subcontractors, consultants, agents, or employees, from those set forth in the Contract Documents, nor shall it be effective to

assign to CLPCCD, Architect/Engineer, Construction Manager, or any of their consultants, agents or employees any duty or authority to supervise or direct the furnishing or performance of the Work or any duty or authority to undertake responsibility inconsistent with the provisions of the Contract Documents.

1.03 STANDARDS

- A. ACI (American Concrete Institute)
Standard 318, Building Code Requirements for Reinforced Concrete
- B. AISC (American Institute of Steel Construction)
Specifications and Code of Standard Practice for Steel Buildings and Bridges
- C. ANSI (American National Standards Institute, formerly American Standards Association)
Standard C2, NESC (National Electrical Safety Code)
- D. ASTM (American Society for Testing and Materials)
 - 1. C31, Making and Curing Concrete Test Specimens in the Field
 - 2. C42, Obtaining and Testing Drilled Cores and Sawed Beams of Concrete
 - 3. C143, Test Method for Slump of Portland Cement Concrete
- E. IAPMO (International Association of Plumbing and Mechanical Officials)
- F. ICC (International Code Council)
 - 1. Refer to Section 01 41 00 – Regulatory Requirements
- G. NEMA (National Electric Manufacturer's Association)
- H. NFPA (National Fire Protection Association)
 - 1. Pamphlet 1, Fire Prevention Code
 - 2. Pamphlet 13, Sprinkler Systems, Installation
 - 3. Pamphlet 24, Private Fire Service Mains
 - 4. Pamphlet 70, NEC (National Electric Code)
 - 5. Pamphlet 71, Signaling Systems, Central Station
 - 6. Pamphlet 80, Fire Doors and Windows
 - 7. Pamphlet 101, Life Safety Code
- I. UL (Underwriters' Laboratories, Inc.)

1.04 ABBREVIATIONS

- A. Following abbreviations may be used in Contract Documents:
 - AAP Affirmative Action Program
 - ACI American Concrete Institute
 - ADA American Disabled Act

AISC	American Institute of Steel Construction
ANSI	American National Standards Institute (formerly American Standards Association)
ASI	Architect's Supplemental Instructions
ASTM	American Society for Testing and Materials
BIL	Basic Insulation Level
Cal/OSHA	California Occupational Safety and Health Administration
CCD	Construction Change Directive
CCR	California Code of Regulations
CFR	Code of Federal Regulations
CO	Change Order
CPUC	California Public Utilities Commission
CPM	Critical Path Method
DSA	Division of State Architect
HVAC	Heating, Ventilating and Air Conditioning
IAPMO	International Association of Plumbing and Mechanical Officials
ICBO	International Conference of Building Officials
I.D.	Identification
JATC	Joint Apprenticeship Training Committee
JV	Joint Venture
Kw	Kilowatt
LBE	Local Business Enterprise
MBE	Minority Business Enterprise
M/WBE	Minority and Woman-Owned Business Enterprise
ml	milliliter
mm	millimeter
NEC	National Electric Code
NEMA	National Electric Manufacturer's Association National Electrical Safety Code
NFPA	National Fire Protection Association
PM	Preventive Maintenance
PR	Proposal Request
RFI	Request for Information
RFS	Request for Substitution
SFM	State of California, Office of State Fire Marshal
CBC	California Building Code
CFC	California Fire Code
UL	Underwriters' Laboratories, Inc.
CMC	California Mechanical Code
CPC	California Plumbing Code
WOBE	Woman-Owned Business Enterprise
WMBE	Woman/Minority Business Enterprise

B. Additional abbreviations, used only on drawings, are listed thereon.

1.05 SYMBOLS

Symbols, used only on Drawings, are shown thereon.

1.06 DEFINITIONS

- A. Wherever any of the words or phrases defined below, or a pronoun used in place thereof, is used in any part of the Contract Documents, it shall have the meaning here set forth:

ADDENDA: Written or graphic instruments issued prior to the opening of Bids, which clarify, correct or change the bidding requirements or the Contract Documents. Addenda shall not include the minutes of the Pre-bid Conference and Site Visit.

ADDITIVE BID: The sum to be added to the Base Bid if the change in scope of work as described in Additive Bid is accepted by CLPCCD.

AGREEMENT: Agreement is the basic contract document that binds the parties to construction Work. Agreement defines relationships and obligations between CLPCCD and Contractor and by reference incorporates Conditions of Contract, Drawings, and Specifications and contains Addenda and all Modifications subsequent to execution of Contract.

ALTERNATE: Work added to or deducted from the Base Bid, if accepted by CLPCCD.

APPROVED EQUAL: Approved in writing by CLPCCD as being of equivalent quality, utility and appearance.

ARCHITECT or ARCHITECT/ENGINEER: The person holding a valid California State Architect's license, whose firm has been designated within the Contract Documents as the Architect to provide architectural services on the project. Refer to Section 341, Part 1, Title 24, C. C. R.

When the Architect is referred to within the Contract Documents and no Architect has in fact been designated, then the matter shall be referred to CLPCCD. The term Architect shall be construed to include all its consultants retained for the project, as well as employees of the Architect. When the designated Architect is an employee of CLPCCD, his authorized representations on the project within the district will be included under the term Architect.

BID: The offer or proposal of the Bidder submitted on the prescribed form setting forth the prices for the Work to be performed.

BIDDER: One who submits a Bid.

CLPCCD: Chabot-Las Positas Community College District. Unless otherwise expressly indicated or required by the context of usage, the terms "District" and "Owner" as used in the Contract Documents shall be deemed references to CLPCCD.

CLPCCD-FURNISHED, CONTRACTOR-INSTALLED: Items furnished by CLPCCD at its cost for installation by Contractor at its cost under this Contract.

CLPCCD REPRESENTATIVE(S): The person or persons assigned by CLPCCD to be CLPCCD's representatives or, if so designated, agent(s) at the site.

BY CLPCCD: Work that will be performed by CLPCCD or its agents at the CLPCCD's expense.

BY OTHERS: Work that is outside scope of Work to be performed by Contractor under this Contract, which will be performed by CLPCCD, other contractors, or other means.

CHANGE ORDER: A written instrument prepared by CLPCCD and signed by CLPCCD and Contractor, stating their agreement upon all of the following:

- a. a change in the Work,
- b. the amount of the adjustment in the Contract Sum, if any, and
- c. the amount of the adjustment in the Contract Time, if any.

As appropriate, change orders are subject to approval by the Division of the State Architect. Refer to section 4-338, Part 1, Title 24, California Code of Regulations.

CONCEALED: Work not exposed to view in the finished Work, including within or behind various construction elements.

CONTRACT CONDITIONS: Conditions of Contract define basic rights, responsibilities and relationships of Contractor and CLPCCD and consists of two parts: General Conditions and Supplementary Conditions.

- a. General Conditions are general clauses, which are common to the CLPCCD Contracts.
- b. Supplementary conditions modify or supplement General Conditions to meet specific requirements for this Contract.

CONSTRUCTION MANAGER: CLPCCD's authorized representative, who shall represent CLPCCD in all matters relative to this Contract. Construction Manager may authorize agents and representatives to act in carrying out Construction Manager's duties, including a "Project Manager", to act under the authority of the Construction Manager. As CLPCCD's agent, the Construction Manager is the beneficiary of all contract obligations of Contractor to CLPCCD, including without limitation, all releases and indemnities. Construction Manager shall not have any personal liability arising from this Contract or any activity there under and Contractor releases Construction Manager fully from all loss, cost, damage, expense or liability arising out of or connected with this Project, whether arising from contract, negligence or tort claims of all kinds.

CONTRACT DOCUMENTS: Contract Documents shall consist of the documents identified as the Contract Documents in Contract Agreement, plus all changes, addenda and modifications thereto.

CONTRACT MODIFICATION: Either:

- a. a written amendment to Contract signed by Contractor and CLPCCD; or
- b. a Change Order; or
- c. a written directive for a minor change in the Work issued by CLPCCD.

CONTRACT SUM: The sum stated in the Agreement and, including authorized adjustments, the total amount payable by CLPCCD to Contractor for performance of the Work and the Contract Documents. (Also referred to as the CONTRACT PRICE.)

CONTRACT TIMES: The number or numbers of days or the dates stated in the Agreement (i) to achieve substantial completion of the Work or designated milestones and/or (ii) to complete the Work so that it is ready for final payment and is accepted.

CONTRACTOR: The person or entity identified as such in the Agreement and referred to throughout the Contract Documents as if singular in number and neuter in gender. The term "Contractor" means the Contractor or its authorized representative.

CONTRACTOR'S EMPLOYEES: Persons engaged in execution of Work under Contract as direct employees of Contractor, as subcontractors, or as employees of subcontractors.

DATE OF SUBSTANTIAL COMPLETION: Date of Substantial Completion of Work or designated portion thereof is date certified by Construction Manager when construction is sufficiently complete in accordance with Contract Documents for CLPCCD to occupy Work or designated portion thereof for its use for which it is intended.

DAY: One calendar day, unless the word "day" is specifically modified to the contrary.

DEDUCTIVE BID: The sum to be subtracting to the Base Bid if the change in scope of work as described in Deductive Bid is accepted by CLPCCD.

DEFECTIVE: An adjective which, when modifying the word "Work", refers to Work that is unsatisfactory or unsuited for the use intended, faulty, or deficient, that it does not conform to the Contract Documents, or does not meet the requirements of any inspection, reference standard, test or approval referred to in the Contract Documents (including but not limited to approval of samples and "or equal" items), or has been damaged prior to final payment (unless responsibility for the protection thereof has been assumed by CLPCCD). Construction Manager is the judge of whether Work is defective.

DRAWINGS: The graphic and pictorial portions of Contract Documents, wherever located and whenever issued, showing the design, location and dimensions of the Work, generally including plans, elevations, sections, details, schedules and diagrams.

ENGINEER: Where referenced in the Contract Documents, the person holding a valid California State Engineer's license, whose firm has been designated (if any designated) within the Contract Documents as the Engineer to provide engineering services on the project. Refer to section 4-341, Part 1, Title 24, C.C.R.

EQUAL: Equal in opinion of Architect. Burden of proof of equality is responsibility of Contractor.

EXPOSED: Work exposed to view in the finished Work, including behind louvers, grilles, registers and various other construction elements.

FINAL ACCEPTANCE or FINAL COMPLETION: All Work satisfactorily completed in accordance with Contract Documents. It includes, but is not limited to:

- a. All Systems having been tested and accepted as having met requirements of Contract Documents.

- b. All required instructions and training sessions having been given by Contractor.
- c. All as-built drawings and operations and maintenance manuals and Machine Inventory Sheets having been submitted by Contractor, reviewed by Architect/Engineer and accepted by CLPCCD.
- d. All punch list work, as directed by CLPCCD, having been completed by Contractor.
- e. Generally all work, except Contractor maintenance after Final Acceptance, having been completed to satisfaction of CLPCCD.

FORCE-ACCOUNT: Work directed to be performed without prior agreement as to lump sum or unit price cost thereof, and which is to be billed at cost for labor, materials, equipment, taxes, and other costs, plus a specified percentage for overhead and profit.

FURNISH: Supply only, do not install.

INDICATED: Shown or noted on the Drawings.

INSPECTOR: The person engaged by CLPCCD to inspect the workmanship, materials, or manner of construction of buildings or portions of buildings, to determine if such construction complies with the Contract Documents and applicable codes. The inspector is subject to approval by the Architect, CLPCCD and, as appropriate, Division of the State Architect, and he will report to CLPCCD. Refer to section 4-333 and section 4-342, Part 1, Title 24, California Code of Regulations. The terms "Inspector" and "Project Inspector" are used interchangeably in the Contract Documents.

INSTALL: Install or apply only, do not furnish.

LATENT: Not apparent by reasonable inspection, including but not limited to, the inspections and research required as a condition to bidding under the General Conditions.

MATERIAL OR MATERIALS: These words shall be construed to embrace machinery, manufactured articles, materials of construction (fabricated or otherwise), and any other classes of material to be furnished in connection with Contract, except where a more limited meaning is indicated by context.

MILESTONE: A principal event specified in Contract Documents relating to an intermediate completion date or time prior to Substantial Completion of all Work.

MODIFICATION: Same as Contract Modification.

NOT IN CONTRACT: Work that is outside the scope of work to be performed by Contractor under this Contract.

NOTICE OF AWARD: A written notice given by CLPCCD to lowest responsive, responsible bidder advising that Bidder's bid and other qualifying information is acceptable to CLPCCD, requiring Bidder to fulfill the requirements of Article 1.03 of Document 00600 General Conditions.

NOTICE TO PROCEED: A written notice given by CLPCCD to Contractor fixing the date on which the Contract Time will commence to run and on which contractor shall start to perform Contractor's obligations under the Contract Documents.

OFF SITE: Outside geographical location of the Project.

OWNER: Chabot Las Positas Community College District (CLPCCD).

PROGRESS REPORT: a periodic report submitted by Contractor to CLPCCD with progress payment invoices accompanying actual work accomplished to the Project Schedule. See Section 01310 Progress Schedules and Reports, Document 00600 General Conditions.

PROJECT: Total construction of which Work performed under this Contract may be whole or part.

PROJECT MANUAL: Project Manual consists of Bidding Requirements, Agreement, Bonds, Certificates, Contract Conditions, and Specifications. The Project Manual is deemed to include and incorporate all matters noted in any Addenda issued by or on behalf of the District during the bidding for the Work.

PROJECT STABILIZATION AGREEMENT: The Contractor or Subcontractor (CONTRACTOR) on this project accepts and agrees to be bound by the terms and conditions of the "Chabot-Las Positas Project Stabilization Agreement", together with any and all amendments and supplements now existing or which are later made by executing the Letter of Assent.

PROVIDE: Furnish and install.

REQUEST FOR INFORMATION (RFI): A document prepared by Contractor, CLPCCD or Architect/Engineer requesting information from one of the parties regarding the Project or Contract Documents. The RFI system is also a means for CLPCCD and Architect to submit Contract Document clarifications or supplements to Contractor.

RFI-REPLY: A document consisting of supplementary details, instructions or information issued by the Architect/Engineer, which clarifies or supplements Contract Documents and with which Contractor shall comply. RFI-Replies do not constitute changes in Contract Sum or Contract Times except as otherwise agreed in writing by CLPCCD. RFI-Replies will be issued through the RFI administrative system.

SAMPLES: Physical examples of materials, equipment, or workmanship that are representative of some portion of the Work and which establish the standards by which such portion of the Work will be judged.

SHOP DRAWINGS: All drawings, diagrams, illustrations, schedules and other data or information which are specifically prepared or assembled by or for Contractor and submitted by Contractor to illustrate some portion of the work.

SHOWN: As indicated on Drawings.

SITE: The particular geographical location of Work performed pursuant to Contract, including staging areas, work areas, storage and lay down areas, access and parking.

SPECIFICATIONS: The written portion of the Contract Documents consisting of requirements for materials, equipment, construction systems, standards and workmanship for the Work, and performance of related services; and are contained in Divisions 1 through 32.

SPECIFIED: As written in Specifications.

SUBCONTRACTOR: A person or entity who has a direct contract with Contractor to perform a portion of the Work at the site. The term "subcontractor" is referred to throughout the Contract Documents as if singular in number and neuter in gender and means a subcontractor or an authorized representative of the subcontractor. The term "subcontractor" does not include a separate contractor or subcontractors of a separate contractor.

SUBSTANTIAL COMPLETION: The Work (or a specified part thereof) has progressed to the point where, in the opinion of the Construction Manager and the Architect/Engineer as evidenced by a Certificate of Substantial Completion, it is sufficiently complete, in accordance with Contract Documents, so that the Work (or specified part) can be utilized for the purposes for which it is intended; or if no such certificate is issued, when the Work is complete and ready for final payment is evidenced by written recommendation of the Construction Manager and the Architect/Engineer for final payment. The terms "substantially complete" and "substantially completed" as applied to all or part of the Work refer to Substantial Completion thereof.

SUPPLEMENTAL INSTRUCTION: A written work change directive to Contractor from Architect/Engineer, approved by Construction Manager, ordering alterations or modifications which do not result in change in Contract Sum or Contract Times, and do not substantially change Drawings or Specifications.

UNDERGROUND FACILITIES: All pipelines, conduits, ducts, cables, wires, manholes, vaults, tanks, tunnels or other such facilities or attachments, and any encasements containing such facilities which have been installed underground to furnish any of the following services or materials: Electricity, gases, steam, liquid petroleum products, telephone or other communications, cable television, sewage and drainage removal, traffic or other control systems or water.

VERIFIED REPORT: A periodic verified report submitted to DSA. Refer to sections 4-336, 4-337 and 4-343, Part 1, Title 24, California Code of Regulations.

WORK: The entire completed construction or the various separately identifiable parts thereof required to be furnished under the Contract Documents. Work includes and is the result of performing or furnishing labor and furnishing and incorporating materials and equipment into the construction, and performing or furnishing services and furnishing documents, all is required by the Contract Documents. Wherever the word "work" is used, rather than the word "Work", it shall be understood to have its ordinary and customary meaning.

- A. Wherever words "as directed", "as required", "as permitted", or words of like effect are used, it shall be understood that direction, requirements, or permission of CLPCCD or Construction Manager is intended. Words "sufficient", "necessary", "proper", and the like shall mean sufficient, necessary or proper in judgment of CLPCCD or Construction Manager. Words "approved", "acceptable", "satisfactory", "favorably reviewed" or words of like import, shall mean approved by, or acceptable to, or satisfactory to, or favorably reviewed by CLPCCD or Construction Manager.
- B. Wherever the word "may" is used, the action to which it refers is discretionary. Wherever the word "shall" is used, the action to which it refers is mandatory.

PART 2 – PRODUCTS

Not applicable.

PART 3 – EXECUTION

Not applicable.

END OF SECTION

PART 1 – GENERAL**1.01 SECTION INCLUDES**

- A. Quality assurance and control of installation.
- B. References.
- C. Mock-Up.
- D. Inspection and testing laboratory services.
- E. Manufacturer's field services.

1.02 RELATED SECTIONS

- A. Submission of manufacturers' instructions and
- B. Sections requiring Laboratory Testing:
 - 1. Section 01 33 00 - Submittals: certificates
 - 2. Section 31 00 00 - Earthwork
 - 3. Section 32 12 16 - Asphalt Concrete Paving
 - 4. Section 32 13 13 - Portland Cement Concrete Paving Section xx xx - Concrete Reinforcement
 - 5. Section 03 30 00 - Cast-in-Place Concrete
 - 6. Section 04 22 00 - Concrete Unit Masonry
 - 7. Section 05 12 00 - Structural Steel
 - 8. Section 05 50 10 - Metal Fabrications

1.03 QUALITY ASSURANCE AND CONTROL OF INSTALLATION

- A. Monitor quality control over suppliers, manufacturers, products, services, site conditions, and workmanship, to produce Work of specified quality.
- B. Comply fully with manufacturers' instructions, including each step in sequence.
- C. If manufacturers' instructions conflict with Contract Documents, request clarification from Architect/Engineer before proceeding.
- D. Comply with specified standards as a minimum quality for the Work except when more stringent tolerances, codes, or specified requirements indicate higher standards or more precise workmanship.
- E. Perform work by persons qualified to produce workmanship of specified quality.
- F. Secure products in place with positive anchorage devices designed and sized to withstand stresses, vibration, physical distortion or disfigurement.

1.04 REFERENCES

- A. Conform to reference standard by date of issue current on date specified in product sections.
- B. Should specified reference standards conflict with Contract Documents, request clarification from Architect/Engineer before proceeding.

- C. The contractual relationship of the parties to the Contract shall not be altered from the Contract Documents by mention or inference otherwise in any reference document.

1.05 MOCK-UP

- A. Mock-up and sample panels will be performed under various sections and identified as sample panels or mock-ups.
- B. Assemble and erect specified items with specified attachments, anchorage, flashing, seals and finishes.
- C. Where mock-up has been accepted by Architect/Engineer and is specified in product specification section to be removed, remove mock-up and clear area as directed.
- D. Whereas, mock-up submittals will be submitted until the acceptance by Architect/Engineer and Construction Manager.

1.06 INSPECTION AND TESTING LABORATORY SERVICES

- A. CLPCCD will appoint, employ and pay for services of an independent firm to perform inspection and testing.
- B. The independent firm will perform inspections, tests, and other services specified in individual specification sections and as required by the Architect/Engineer. Promptly notify Construction Manager, Architect/Engineer, DSA, Project Inspector, and Contractor of observed irregularities or deficiencies of work or products.
- C. Reports will be submitted by the independent firm, one copy each, to the Construction Manager, Architect, Engineer, Division of the State Architect, Contractor and Project Inspector. Indicate observations and results of tests and indicate compliance or non-compliance with Contract Documents and Title 24, C.C.R. specifically, each report will include the following:
 - 1. Date issued; date and time of sampling or inspection; date of test.
 - 2. Project title and number; testing laboratory name, address and telephone number; name and signature of laboratory inspector.
 - 3. Location of sampling or test; temperature and weather condition.
 - 4. Type of inspection or test; identification of product and specification section; results of test and compliance with Contract Documents and Title 24, C.C.R.
 - 5. Perform additional tests as required by Architect/Engineer and/or Project Inspector; interpret test results, when requested by Architect/Engineer.
 - 6. Special Inspections: as shown on attached Tests & Inspections (T&I) list for each section.
- D. Contractor shall cooperate with independent firm; furnish samples of materials, design mix, equipment, tools, storage and assistance as requested.
 - 1. Notify Architect/Engineer 72 hours in advance and/or independent firm 24 hours prior to expected time for operations requiring services.
 - 2. Make arrangements with independent firm and pay for additional samples and tests required for Contractor's use.
 - 3. Employment of the laboratory shall in no way relieve Contractor's obligations to perform the work of the contract.

- E. Retesting required because of non-conformance to specified requirements shall be performed by the same independent firm on instructions by the Architect/Engineer and/or Project Inspector. Payment for retesting will be paid by the Contractor by deducting inspection or testing charges from the Contract Sum on the next scheduled payment.

1.07 MANUFACTURER'S FIELD SERVICES

- A. When specified in individual specification sections, require material or product suppliers or manufacturers to provide qualified staff personnel to observe site conditions, conditions of surfaces and installation, quality of workmanship, startup of equipment as applicable, and to initiate instructions when necessary.
- B. Submit qualifications of observer to Construction Manager thirty (30) calendar days in advance of required observations. Observer shall be subject to approval of Construction Manager and Architect/Engineer.
- C. Report observations and site decisions or instructions given to applicators or installers that are supplemental or contrary to manufacturers' written instructions.
- D. Refer to Section 01 33 00 - Submittals: Manufacturers' Instructions.

PART 2 – PRODUCTS

Not applicable to this section.

PART 3 – EXECUTION

Not applicable to this section.

END OF SECTION

PART 1 GENERAL**1.01 SUMMARY**

This section describes the temporary facilities required for the Project site. The Project site shall be maintained by Contractor as set forth in this section.

1.02 TEMPORARY FACILITIES

- A. Contractor shall obtain permits for, install and maintain in safe condition, whatever scaffolds, hoisting equipment, barricades, walkways, or other temporary structures, which may be required to accomplish the work on the Project. Contractor shall enclose and secure Project Site, including lay down area with a temporary chain link fence. Such structures shall be adequate for the intended use and capable of safely accepting all loads that may be imposed upon them. They shall be installed and maintained in accordance with all applicable State and local codes and regulations.
- B. Contractor shall provide and maintain temporary heat from an approved source whenever in the course of the Work it may become necessary for curing and drying of materials or to warm spaces as may be required for the installation of materials or finishes.
- C. Contractor shall provide and maintain any and all facilities that may be required for dewatering in order that work may proceed on the Project. If it is necessary for dewatering to occur continually, Contractor shall have on hand whatever spare parts or equipment that may be required to prevent interruption of dewatering.
- D. Contractor shall provide and maintain all utility services necessary to perform the work under this Contract. These may include, but are not limited to, temporary electricity, water, gas, sewer and telephone, including charges and installation fees. Contractor shall furnish and maintain all means of distribution of utility services required within the site to properly complete the Project.
- E. Materials, tools, accessories, etc., shall be stored only where directed by CLPCCD. Storage area shall be kept neat and clean. Security of stored items shall be Contractor's responsibility.
- F. When flammable materials are stored on site, extra precautions, including clear identification, shall be the responsibility of Contractor.
- G. Contractor shall provide and maintain temporary toilets in quantities and locations as required by CAL/OSHA and other local codes and regulations. They shall be maintained and supplied in a usable and sanitary condition at all times.
- H. If water at construction site is determined to be non-potable by Inspector, Contractor shall provide and maintain adequate potable water stations at site until final completion of the Project.
- I. Contractor shall maintain an office at the Project site, which will be his headquarters for the Project. Any communications delivered to this office shall be considered as delivered to Contractor. Location and size of office shall be such that it will adequately serve the needs of Contractor's superintendent and assistants in the performance of their duties.
- J. Contractor shall also provide and maintain the following temporary facilities for the duration of the project. Contractor shall obtain approval of the plans and specifications for all the following temporary facilities from Construction Manager prior to delivery to

job site. Construction Manager shall have the option to reject said facilities if they do not meet Construction Manager's needs.

- K. Contractor shall promptly remove all such Temporary Facilities when they are no longer needed for the work or for completion of the Project, mutually agreed upon by Contractor and CLPCCD.
- L. Contractor shall provide and maintain in the Temporary Facilities a copy of the California Code of Regulations Title 24 (latest edition) Parts I & II.

1.03 SIGNS

No signs may be displayed on or about CLPCCD's property (except those required by law) without CLPCCD's specific approval; the size, content, and location to be as specified by CLPCCD.

1.04 USE OF ROADWAYS AND WALKWAYS

Contractor shall never block or interfere with use of any existing roadway, walkway or other facility for vehicular or pedestrian traffic, from any party entitled to use it. Wherever and whenever such interference becomes necessary for the proper and convenient performance of the Work, and no satisfactory detour route exists, Contractor shall, before beginning the interference, provide a satisfactory detour, including temporary bridge if necessary, or other proper facility for traffic to pass around or over the interference. Contractor shall maintain the detour in a safe and satisfactory condition as long as the interference continues, all without extra payment unless otherwise expressly stipulated in the Specifications.

PART 2 – PRODUCTS

Not used.

PART 3 – EXECUTION

Not used.

END OF SECTION

PART 1 – GENERAL**1.01 SECTION INCLUDES**

- A. Products
- B. Transportation and handling.
- C. Storage and protection.

1.02 RELATED SECTIONS

- A. Section 01 11 00 - Summary of Work.
- B. Section 01 45 00 - Quality Control: Product Quality Monitoring.

1.03 PRODUCTS

- A. Products: Means new material, machinery, components, equipment, fixtures, and systems forming the Work. Does not include machinery and equipment used for preparation, fabrication, conveying and erection of the Work.
- B. Provide interchangeable components of the same manufacturer, for similar components.

1.04 TRANSPORTATION AND HANDLING

- A. Transport and handle products in accordance with manufacturer's instructions and construction schedules. Coordinate to avoid conflict with work and conditions at the site.
- B. Promptly inspect shipments to assure that products comply with requirements, quantities are correct, and products are undamaged.
- C. Provide equipment and personnel to handle products by methods to prevent soiling, disfigurement, or damage.

1.05 STORAGE AND PROTECTION

- A. Store and protect products in accordance with manufacturer's instructions, with seals and labels intact and legible. Store sensitive products in weather-tight, climate controlled enclosures.
- B. For exterior storage of fabricated products, place on sloped supports, above ground, to prevent soiling and staining.
- C. Provide off-site storage and protection when site does not permit on-site storage or protection.

- D. Cover products subject to deterioration with impervious sheet covering. Provide ventilation to avoid condensation.
- E. Store loose granular materials on solid flat surfaces in a well-drained area. Prevent mixing with foreign matter.
- F. Provide equipment and personnel to store products by methods to prevent soiling, disfigurement, or damage.
- G. Arrange storage of products to permit access for inspection. Periodically inspect to assure products are undamaged and are maintained under specified conditions.
- H. Provide substantial covering and protection after installation of products from damage due to traffic and subsequent construction operations. Remove when no longer needed.

PART 2–PRODUCTS

Not applicable to this section.

PART 3–EXECUTION

Not applicable to this section.

END OF SECTION

PART 1 – GENERAL**1.01 SUMMARY**

- A. Procedures are described for selecting products and requesting substitutions of unlisted materials in lieu of materials named in the specifications or approved for use in addenda.
- B. Related Sections
 - 1. Section 01 26 00: Contract Modification Procedures
 - 2. Section 01 33 00: Submittals

1.02 CONTRACTOR'S OPTIONS

- A. For products specified only by reference standard: Select any product meeting that standard.
- B. For products specified by naming one or more products or manufacturers:
 - 1. Select products of any named manufacturer meeting specifications.
 - 2. For any product or manufacturer, which is not specifically named, submit Request for Substitution (RFS).
- C. For products indicated or specified by naming only one product and manufacturer, followed by the words “no substitution allowed”, there is no option.

1.03 SUBSTITUTIONS

- A. No substitutions shall be allowed for District standard systems, products, and/or materials unless approved in writing from the Architect's office five (5) days prior to bid. The entire District Standard systems, products, and/or materials can be found on the District's website at:

<http://www.clpccd.org/facilities/DistrictStandardsandGuidelines-ChabotCollege.php>
- B. Within a period of thirty-five (35) days after Award of Contract, Construction Manager and Architect/Engineer will consider RFS from Contractor. After that period, requests will be considered only when product becomes unavailable due to no fault of Contractor. Requests for review of proposed substitute items will not be accepted from anyone other than Contractor. The RFS will state the extent, if any, to which the evaluation and acceptance of the proposed substitute will prejudice Contractor's achievement of substantial completion on time, whether or not acceptance of the substitute for use in the Work will require a change in any of the Contract Documents (or in the provisions of any other direct contract with CLPCCD for work on the Project).
- C. Submit separate RFS for each product and support each request with:
 - 1. Product identification
 - 2. Manufacturer's literature
 - 3. Samples, as applicable

4. Name and address of similar projects on which product has been used, and date of installation
 5. Name, address and telephone number of manufacturer's representative or sales engineer
 6. Where DSA approval is required, product shall be reviewed and approved by DSA
- D. Itemize a comparison of the proposed substitution with product specified and list significant variations. If variation from product specified is not pointed out in submittal, variation will be rejected even though submittal was favorably reviewed.
- E. State whether the substitute will require a change in any of the Contract documents (or provisions of any other direct contract with CLPCCD for work on the Project) to adapt the design of the proposed substitute, and whether or not incorporation or use of the substitute in connection with Work is subject to payment of any license fee or royalty. Submit data relating to changes in construction schedule.
- F. All variations of the proposed substitute from that specified will be identified in the RFS and available maintenance, repair and replacement service will be indicated.
- G. Include accurate cost data comparing proposed substitution with product and amount of net change in Contract price, including but not limited to, an itemized estimate of all costs or credits that will result directly or indirectly from acceptance of such substitute, including costs of redesign and claims of other contractors effected by the resulting change, all of which will be considered by Construction Manager and Architect/Engineer in evaluating the proposed substitute. Construction Manager and Architect/Engineer may require Contractor to furnish additional data about the proposed substitute.
- H. Substitutions will not be considered for acceptance when:
1. They will result in delay meeting construction milestones or completion dates.
 2. They are indicated or implied on submittals without formal request from Contractor.
 3. They are requested directly by subcontractor or supplier.
 4. Acceptance will require substantial revision of Contract Documents.
 5. They disrupt Contractor's job rhythm or ability to perform efficiently.
- I. Substitute products shall not be ordered without written acceptance of Construction Manager and Architect/Engineer.
- J. Construction Manager and Architect/Engineer will determine acceptability of proposed substitutions and reserve right to reject proposals due to insufficient information.
- K. Accepted substitutions will be evidenced by a change order or Supplemental Instruction. All Contract requirements apply to Work involving substitutions.

1.04 CONTRACTOR'S REPRESENTATION AND WARRANTY

- A. Requests constitute a representation and warranty that Contractor:
 - 1. Has investigated proposed product and determined that it meets or exceeds, in all respects, specified product
 - 2. Will provide the same warranty for substitution as for specified product
 - 3. Will coordinate installation and make other changes, which may be required for Work to be complete in all respects
 - 4. Waives claims for additional costs, which may subsequently become apparent
 - 5. Will compensate CLPCCD for additional redesign costs associated with substitution, if required
 - 6. Will be responsible for Construction Schedule slippage due to substitution
 - 7. Will be responsible for Construction Schedule delay due to late ordering of available specified products caused by requests for substitution, which is subsequently rejected by Construction Manager
 - 8. Will compensate CLPCCD for all costs; including extra costs of Contract, extra cost to other contractors, and any claims brought against CLPCCD, caused by late requests for substitutions or late ordering of products.

1.05 CONSTRUCTION MANAGER'S AND ARCHITECT/ENGINEER'S DUTIES

- A. Review Contractor's RFS within seven (7) working days.
- B. Notify Contractor in writing of decision to accept or reject requested substitution within seven (7) working days.

1.06 COST OF REVIEW

- A. Construction Manager and Engineer will record time required in evaluating substitutes proposed or submitted by Contractor. Whether or not Construction Manager or Architect/Engineer accepts the substitute item so proposed or submitted by Contractor, Contractor shall reimburse CLPCCD for the charges of Architect/Engineer and Construction Manager for evaluating each such proposed substitute item.
- B. The CLPCCD reserves the right to waive the requirement of paragraph A above.

PART 2—PRODUCTS

Not used.

PART 3—EXECUTION

Not used.

END OF SECTION

PART 1 – GENERAL**1.01 SUMMARY**

This section describes contract closeout procedures including:

1. Removal of temporary construction facilities
2. Substantial completion
3. Final completion
4. Final cleaning
5. Project record documents
6. Material, equipment and finish data
7. Project guarantee
8. Warranties
9. Turn-in
10. Release of claims
11. Guaranty and Maintenance Bonds

1.02 REMOVAL OF TEMPORARY CONSTRUCTION FACILITIES

- A. Remove temporary materials, equipment, services, and construction prior to Substantial Completion Inspection.
- B. Clean and repair damage caused by installation or use of temporary facilities.
- C. Restore permanent facilities used during construction to specified condition.

1.03 SUBSTANTIAL COMPLETION

- A. When Contractor considers Work or designated portion thereof as substantially complete, submit written notice, with list of items to be completed or corrected to Construction Manager.
- B. Within reasonable time, Construction Manager and Architect/Engineer will inspect to determine status of completion.
- C. Should Construction Manager or Architect/Engineer determine that Work is not substantially complete; Construction Manager will promptly notify Contractor in writing, listing all defects and omissions.
- D. Remedy deficiencies and send a second written notice of substantial completion. Architect/Engineer will reinspect the Work. If deficiencies previously noted are not corrected on reinspection, then Contractor shall pay the cost of the reinspection.
- E. When Architect/Engineer determines that Work is substantially complete, Construction Manager will issue a Certificate of Substantial Completion.
- F. Manufactured units, equipment and systems, which require startup, must have been started up and run for periods prescribed by Construction Manager, Architect/Engineer, or Owner before a Certificate of Substantial Completion will be issued.

1.04 FINAL COMPLETION

- A. When Contractor considers Work is complete, submit written certification that:
 - 1. Contractor has inspected Work for compliance with Contract Documents.
 - 2. Work, except for Contractor maintenance after Final Acceptance, has been completed in accordance with Contract Documents and deficiencies listed with Certificate of Substantial Completion have been corrected.
 - 3. Work is complete and ready for final inspection.
 - 4. Contractor has achieved all requirements for Final Acceptance as that term is defined in Section 01 41 00 – Regulatory Requirements.
- B. In addition to submittals required by conditions of Contract, provide submittals required by governing authorities and submit final statement of accounting giving total adjusted Contract Sum, previous payments, and sum remaining due.
- C. When Architect/Engineer finds Work is acceptable and final submittal is complete, Construction Manager will issue final change order reflecting approved adjustments to Contract Sum not previously made by Change Order.

1.05 FINAL CLEANING

- A. Execute final cleaning prior to final inspection.
- B. Clean interior and exterior surfaces exposed to view; remove temporary labels, stains and foreign substances, polish transparent and glossy surfaces, vacuum carpeted and soft surfaces.
 - 1. Clean equipment and fixtures to a sanitary condition, clean or replace filters of mechanical equipment operated during construction, clean ducts, blowers and coils of units operated without filters during construction.
 - 2. Employ skilled workers for final cleaning.
- C. Clean Site; mechanically sweep-paved areas.
- D. Remove waste and surplus materials, rubbish, and construction facilities from Site.

1.06 PROJECT RECORD DOCUMENTS

- A. General
 - 1. Project Record Documents required include:
 - a. Marked-up copies of Contract Drawings
 - b. Marked-up copies of Shop Drawings
 - c. Newly prepared Drawings
 - d. Marked-up copies of Specifications, Addenda and Change Orders
 - e. Marked-up Project Data submittals
 - f. Record Samples
 - g. Field records for variable and concealed conditions
 - h. Record information on Work that is recorded only schematically
 - i. Comments to all required DSA documentation
 - j. All approved change orders

2. Specific Project Record Documents requirements that expand requirements of this Section are included in the individual Sections of Divisions 2 through 33.
 3. Maintenance of Documents and Samples:
 - a. Store Project Record Documents and samples in the field office apart from Contract Documents used for construction.
 - b. Do not permit Project Record Documents to be used for construction purposes.
 - c. Maintain Project Record Documents in good order, and in a clean, dry, legible condition.
 - d. Make documents and samples available at all times for inspection by Architect/Engineer.
 4. CLPCCD will provide one set of sepias and one blueline set of the construction drawings and one-project manuals for the Contractor's use and copying during construction.
- B. Project Record Drawings
1. Mark-up Procedure: During the construction period, maintain a set of blueline or blackline prints of Contract Drawings and Shop Drawings for Project Record Document purposes.
 2. Mark these Drawings to indicate the actual installation where the installation varies appreciably from the installation shown originally. Give particular attention to information on concealed elements, which would be difficult to identify or measure and record later. Items required to be marked include, but are not limited to:
 - a. Dimensional changes to the building
 - b. Drawings Revisions to details shown on the Contract Drawings
 - c. Drawings Depths of foundations below the first floor
 - d. Locations and depths of underground utilities
 - e. Revisions to routing of piping and conduits
 - f. Revisions to electrical circuitry
 - g. Actual equipment locations
 - h. Duct size and routing
 - i. Locations of concealed internal utilities
 - j. Changes made by Change Order
 - k. Details not on original Contract Drawings
 3. Mark completely and accurately Project Record Drawing prints of Contract Drawings or Shop Drawings, whichever is the most capable of showing actual physical conditions. Where Shop Drawings are marked, show cross-reference on Contract Drawings location.
 4. Mark Project Record Drawing sets with red erasable colored pencil; use other colors to distinguish between changes for different categories of the Work at the same location.
 5. Mark important additional information, which was either shown schematically or omitted from original Drawings.
 6. Note construction change directive numbers; alternate numbers; Change Order numbers and similar identification.
 7. Responsibility for Mark-up: Where feasible, the individual or entity who obtained Project Record Drawing data, whether the individual or entity is the installer, subcontractor, or similar entity, is required to prepare the mark-up on Project Record Drawings.

- a. Accurately record information in an understandable and legible drawing technique.
- b. Record data as soon as possible after it has been obtained. In the case of concealed installations, record and check the mark-up prior to concealment.
8. At time of Substantial Completion, submit Project Record Drawings to Construction Manager for CLPCCD's records. Organize into sets, bind and label sets for CLPCCD's continued use.
9. All record documents shall be submitted in an electronic format and hard copy.
- C. Preparation of Documents: Immediately prior to inspection for Certification of Substantial Completion, review completed marked-up Project Record Drawings with the Architect/Engineer. When authorized, prepare a full set of correct Contract Drawings and Shop Drawings.
 1. Incorporate changes and additional information previously marked on print sets. Erase, redraw, and add details and notations where applicable. Identify and date each Drawing; include the printed designation "PROJECT RECORD DRAWINGS" in a prominent location on each Drawing.
 2. Refer instances of uncertainty to the Architect/Engineer for resolution.
 3. Review of Documents: Before copying and distributing, submit corrected drawings and the original marked-up prints to the Architect/Engineer for review. When acceptable, the Architect/Engineer will initial and date each document, indicating acceptance of general scope of changes and additional information recorded, and of the quality of drafting.
 - a. Documents and the original marked-up prints will be returned to the Contractor for organizing into sets, printing, binding, and final submittal.
- D. Copies and Distribution: After completing the preparation of Project Record Drawings, print three (3) blue-line or black-line prints of each Drawing, whether or not changes and additional information were recorded. Organize the copies into manageable sets. Bind each set with durable paper cover sheets, with appropriate identification, including titles, dates and other information on cover sheets.
 1. Organize and bind original marked-up set of prints that were maintained during the construction period in the same manner.
 2. Organize Project Record Drawings into sets matching the print sets. Place these sets in durable tube-type drawing containers with end caps. Mark the end cap of each container with suitable identification.
 3. Submit the marked-up Project Record Drawings set and three (3) copy sets to the Construction Manager for CLPCCD's records; the Architect/Engineer will retain one copy set.

E. PROJECT RECORD SPECIFICATIONS

During the construction period, maintain one copy of the Project Specifications, including addenda and modifications issued, for Project Record Document purposes.

1. Mark the Project Record Specifications to indicate the actual installation where the installation varies substantially from that indicated in Specifications and Modifications issued. Note related Project Record Drawing information, where applicable. Give particular attention to substitutions, selection of product options, and information on concealed installation that would be difficult to identify or measure and record later.
 - a. In each Specification Section where products, materials or units of equipment are specified or scheduled, mark the copy with the proprietary name and model number of the product furnished.

- b. Record the name of the manufacturer, supplier and installer, and other information necessary to provide a record of selections made and to document coordination with Project Record Product Data submittals and maintenance manuals.
 - c. Note related Project Record Product Data, where applicable, for each principal product specified, indicate whether Project Record Product Data has been submitted in maintenance manual instead of submitted as Project Record Product Data.
2. Upon completion of mark-up, submit Project Record Specifications to the Construction Manager for CLPCCD's records.
- F. PROJECT RECORD PRODUCT DATA. During the construction period, maintain one copy of each Project Record Product Data submittal for Project Record Document purposes.
1. Mark Project Record Product Data to indicate the actual product installation where the installation varies substantially from that indicated in Project Record Product Data submitted. Include significant changes in the product delivered to the site, and changes in manufacturer's instructions and recommendations for installation.
 2. Give particular attention to information on concealed products and installations that cannot be readily identified and recorded later.
 3. Note related Change Orders and mark-up of Project Record Drawings, where applicable.
 4. Upon completion of mark-up, submit a complete set of Project Record Product Data to the Construction Manager for CLPCCD's records.
 5. Where Project Record Product Data is required as part of maintenance manuals, submit marked-up Project Record Product Data as an insert in the manual, instead of submittal as Project Record Product Data.
 6. Each prime Contractor is responsible for mark-up and submittal of record Project Record Product Data for its own Work.
- G. MATERIAL, EQUIPMENT AND FINISH DATA.
1. Provide data for primary materials, equipment and finishes as required under each specification section.
 2. Submit two (2) sets prior to final inspection, bound in 8-1/2 inches by 11 inches three-ring binders with durable plastic covers; provide typewritten table of contents for each volume.
 3. Arrange by Specification division and give names, addresses, and telephone numbers of subcontractors and suppliers. List:
 - a. Trade names
 - b. Model or type numbers
 - c. Assembly diagrams
 - d. Operating instructions
 - e. Cleaning instructions
 - f. Maintenance instructions
 - g. Recommended spare parts
 - h. Product data
- H. FINAL AS-BUILT DRAWINGS, SPECIFICATIONS.

1. As-Built Drawings and Specifications are the official record drawing that documents what was constructed
2. These drawings shall be available to the Architect and shall be provided to the District upon completion of the of the work.
3. Requirements:
 - a. One hard copy set of full size (24x36) or (36x48) As-Built Plans, with DSA App #, and "AS BUILT" stamped on each sheet in red.
 - b. One hard copy set of half size As-Built Plans, with DSA App #, and "AS BUILT" stamped on each sheet in red.
 - c. One hard copy set of specifications with "AS BUILT" stamped on the cover page in red.
 - d. A CD/DVD in PDF and CAD formats (CAD format to be compatible with AutoCAD 2016) with the following naming convention for the CD/DVD cover:
 - i. College Name
 - ii. Project Name
 - iii. DSA Application #
 - iv. Do not check the "read only" option
 - v. Do not password protect any files

1.08 MISCELLANEOUS PROJECT RECORD SUBMITTALS

Refer to other Specification Sections for miscellaneous record keeping requirements and submittals in connection with various construction activities. Immediately prior to Substantial Completion, complete miscellaneous records and place in good order, properly identified and bound or filed, ready for use and reference. Submit to the Construction Manager for CLPCCD's records.

Categories of requirements resulting in miscellaneous records include, but are not limited to the following:

- a. Field records on excavations and foundations
- b. Field records on underground construction and similar work
- c. Survey showing locations and elevations of underground lines
- d. Invert elevations of drainage piping
- e. Surveys establishing building lines and levels
- f. Authorized measurements utilizing unit prices or allowances
- g. Records of plant treatment
- h. Ambient and substrate condition tests
- i. Certifications received in lieu of labels on bulk products
- j. Batch mixing and bulk delivery records
- k. Testing and qualification of tradespersons
- l. Documented qualification of installation firms
- m. load and performance testing
- n. Inspections and certifications by governing authorities leakage and water-penetration tests

- o. Fire resistance and flame spread test results
- p. Final inspection and correction procedures

1.09 PROJECT GUARANTEE

- A. Neither recordation of final acceptance nor final certificate for neither payment nor provision of the Contract nor partial or entire use or occupancy of the Site by CLPCCD shall constitute acceptance of Work not done in accordance with Contract Documents nor relieve Contractor of liability in respect to express warranties or responsibility for faulty materials or workmanship.
- B. Requirements for Contractor's guarantee of completed Work are included in General Conditions, Article 1.09. Contractor shall guarantee Work done under Contract against failures, leaks or breaks or other unsatisfactory conditions due to defective equipment, materials or workmanship, and perform repair work or replacement required, at Contractor's sole expense, for period of 2 years from date of Final Acceptance, as required by paragraph 13.2 of General Conditions.
- C. CLPCCD may make repairs to defective Work as set forth in paragraph 12.6 of General Conditions, if, within 5 working days after mailing of written notice of defective work to Contractor or authorized agent, Contractor shall neglect to make or undertake with due diligence repairs; provided, however, that in case of leak or emergency where, in opinion of CLPCCD, delay would cause hazard to health or serious loss or damage, repairs may be made without notice being sent to Contractor, and Contractor shall pay cost thereof.
- D. If, after installation, operation or use of materials or equipment to be furnished under Contract proves to be unsatisfactory to Construction Manager, CLPCCD shall have right to operate and use materials or equipment until it can, without damage to CLPCCD, be taken out of service for correction or replacement. Period of use of defective materials or equipment pending correction or replacement shall in no way decrease guarantee period required for acceptable corrected or replaced items of materials or equipment.
- E. Nothing in this Section shall be construed to limit, relieve or release Contractor's, subcontractors' and equipment suppliers' liability to CLPCCD for damages sustained as result of latent defects in equipment caused by negligence of suppliers' agents, employees or subcontractors. Stated in another manner, warranty contained in the Contract Documents shall not amount to, nor shall it be deemed to be, waiver by CLPCCD of any rights or remedies (or time limits in which to enforce such rights or remedies) it may have for defective workmanship or defective materials under laws of this State pertaining to acts of negligence.

1.10 WARRANTIES AND BONDS

- A. Execute Contractor's submittals and assemble documents executed by subcontractors, suppliers, and manufacturers.
 - 1. Provide table of contents and assemble in 8-1/2 inches by 11 inches three-ring binder with durable plastic cover.
 - 2. Assemble in Specification Section order.
 - 3. Provide an electronic copy of all warranties on thumb drive in PDF format
- B. Submit material prior to final application for payment.
 - 1. For equipment put into use with CLPCCD's permission during construction, submit within ten (10) working days after first operation.
 - 2. For items of Work delayed materially beyond Date of Substantial Completion, provide updated submittal within ten (10) working days after acceptance, listing date of acceptance as start of warranty period.

- C. Warranties are intended to protect CLPCCD against failure of work and against deficient, defective and faulty materials and workmanship, regardless of sources.
- D. Limitations: Warranties are not intended to cover failures, which result from the following:
 - 1. Unusual or abnormal phenomena of the elements
 - 2. Vandalism after substantial completion
 - 3. Insurrection or acts of aggression including war
- E. Related Damages and Losses: Remove and replace Work which is damaged as result of defective Work, or which must be removed and replaced to provide access for correction of warranted Work.
- F. Warranty Reinstatement: After correction of warranted Work, reinstate warranty for corrected Work to date of original warranty expiration or to a date not less than 365 days after corrected Work was done, whichever is later.
- G. Replacement Cost: Replace or restore failing warranted items without regard to anticipated useful service lives.
- H. Warranty Forms: Submit drafts to Construction Manager for approval prior to execution. Forms shall not detract from or confuse requirements or interpretations of Contract Documents.
 - 1. Warranty shall be countersigned by manufacturers.
 - 2. Where specified, warranty shall be countersigned by subcontractors and installers.
- I. Rejection of Warranties: CLPCCD reserves right to reject unsolicited and coincidental product warranties, which detract from or confuse requirements or interpretations of Contract Documents.
- J. Term of Warranties: For materials, equipment, systems and workmanship warranty period shall be two (2) years minimum from date of substantial completion of entire Work except where:
 - 1. Detailed specifications for certain materials, equipment or systems require longer warranty periods.
 - 2. Materials, equipment or systems are put into beneficial use of CLPCCD prior to Substantial Completion as agreed to in writing by Construction Manager.
- K. Warranty of Title: No material, supplies, or equipment for Work under Contract shall be purchased subject to any chattel mortgage, security agreement, or under a conditional sale or other agreement by which an interest therein or any part thereof is retained by seller or supplier. Contractor warrants good title to all material, supplies, and equipment installed or incorporated in Work and agrees upon completion of all work to deliver the Site, together with improvements and appurtenances constructed or placed thereon by Contractor, to CLPCCD free from any claim, liens, security interest, or charges, and further agrees that neither Contractor nor any person, firm, or corporation furnishing any materials or labor for any Work covered by Contract shall have right to lien upon the Site or improvement or appurtenances thereon. Nothing contained in this Paragraph, however, shall defeat or impair right of persons furnishing materials or labor under bond given by Contractor for their protection or any rights under law permitting persons to look to funds due Contractor in hands of CLPCCD.

1.11 TURN-IN

Contract will not be closed out and final payment will not be made until all personnel Identification Media, vehicle permits and keys issued to Contractor during prosecution of Work are turned in to CLPCCD.

1.12 RELEASE OF CLAIMS

Contract will not be closed out and final payment will not be made until Contract Agreement and Release of Any and All Claims, is completed and executed by Contractor and CLPCCD.

1.13 FIRE INSPECTION COORDINATION

Contractor shall coordinate fire inspection and secure sufficient notice to CLPCCD to permit convenient scheduling.

PART 2 – PRODUCTS

Not applicable to this section.

PART 3 – EXECUTION

Not applicable to this section.

END OF SECTION

PART 1 - GENERAL**1.1 RELATED DOCUMENTS**

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

1.2 DESCRIPTION

- A. Work Included: This Section establishes general requirements pertaining to cutting, fitting, and patching of the work required to:
 - 1. Make the several parts fit properly.
 - 2. Uncover work to provide for installation, inspection, or both of ill-timed work.
 - 3. Remove and replace work not conforming to requirements of the Contract Documents.
 - 4. Remove and replace defective work.

1.3 QUALITY ASSURANCE

- A. Perform all cutting and patching in accordance with pertinent requirements of the specifications and in the event no such requirements are determined, in conformance with the Architect's written direction. In the absence of either of the previous, the work shall be completed as a minimum to industry standards for the given scope and project.
- B. In all cases, exercise extreme care in cutting operations and perform such operations under adequate supervision by competent mechanics skilled in the applicable trade. Openings shall be neatly cut and shall be kept as small as possible to avoid unnecessary damage. Careless and/or avoidable cutting damage, etc., will not be tolerated, and the Contractor will be held responsible for such avoidable or willful damage.
- C. All replacing, patching, and repairing of materials and surfaces cut or damaged in the execution of the work shall be performed by experienced mechanics of the several trades involved. Such replacing, repairing, and/or patching shall be done with the applicable materials, in such a manner that all surfaces so replaced, etc., will upon completion of the work, match the surrounding similar surfaces.

1.4 SUBMITTALS

- A. Request for the Architect's Consent:
 - 1. Prior to cutting which affects structural safety, submit a written request to the Architect for permission to proceed with cutting.
 - 2. Should conditions of the work, or schedule, indicate a required change of materials or methods for cutting and patching, notify the Architect and secure his written permission prior to proceeding.
- B. Notices to the Architect:

1. Submit written notice to the Architect and Construction Manager designating the time the work will be uncovered, therefore providing a time for the Architect's observation.

PART 2 - PRODUCTS**2.1 MATERIALS**

- A. For replacement of work removed, use materials which comply with the pertinent Section of these specifications. If materials are not covered within these documents, products and methods shall be provided and installed to match existing conditions.

2.2 CUTTING AND PATCHING

- A. Employ skilled and experienced installer to perform cutting and patching.
- B. Submit written request in advance of cutting or altering elements, which affects:
 1. Structural integrity of element.
 2. Integrity of weather-exposed or moisture-resistant elements.
 3. Efficiency, maintenance, or safety of element.
 4. Visual qualities of sight-exposed elements.
- C. Execute cutting, fitting, and patching including excavation and fill, to complete Work, and to:
 1. Fit the several parts together, to integrate with other Work.
 2. Uncover Work to install or correct ill-timed work.
 3. Remove and replace defective and non-conforming Work.
 4. Remove samples of installed Work for testing.
 5. Provide openings in elements of Work for penetrations of mechanical and electrical Work.
- D. Execute work by methods, which will avoid damage to other Work, and provide proper surfaces to receive patching and finishing.
- E. Cut rigid materials using masonry saw or core drill.
- F. Restore Work with new products in accordance with requirements of Contract Document.
- G. Fit Work tight to pipes, sleeves, ducts, conduit, and other penetrations through surfaces.
- H. Maintain integrity of wall, ceiling, or floor construction; completely seal voids.
- I. Refinish surfaces to match adjacent finishes. For continuous surfaces, refinish to nearest intersection; for an assembly, refinish entire unit.
- J. Identify any hazardous substance or condition exposed during the Work to the Architect for decision or remedy.

PART 3 – EXECUTION

3.1 CONDITIONS

- A. Inspect existing conditions, including elements subject to movement or damage during cutting and patching.
- B. After uncovering the work, inspect conditions affecting installation of new work.

3.2 DISCREPANCIES

- A. If uncovered conditions are not as anticipated, immediately notify the Architect through the Construction Manager and secure needed directions.
- B. Do not proceed in areas of discrepancy until all such discrepancies have been fully resolved.

3.3 PREPARATION PRIOR TO CUTTING

- A. Provide all required protection including, but not necessarily limited to, shoring, bracing, and support to maintain structural integrity of the work.

3.4 PERFORMANCE

- A. Perform cutting and demolition by methods which will prevent damage to other portions of the work and will provide a proper surface to receive new installation or repair and new work. Perform fitting and adjustment of products to provide finished installation complying with the specified tolerance and finishes.

- END OF SECTION -

PART 1 GENERAL

1.01 SUMMARY

- A. Section Includes: Administrative and procedural requirements for Project Record Documents.
- B. Project Record Documents required include:
 - 1. Marked-up copies of Drawings
 - 2. Marked-up copies of Shop Drawings
 - 3. Newly prepared Drawings
 - 4. Marked-up copies of Specifications, Addenda, Change Orders and CCDs
 - 5. Marked-up Product Data submittals
 - 6. Record Samples
 - 7. Field records for variable and concealed conditions
 - 8. Record information on Work that is recorded only schematically
 - 9. Maintenance forms for major equipment
- C. Specific Project Record Documents requirements that expand requirements of this Section are included in the individual Sections of Divisions 2 through 33.
- D. General Project closeout requirements are included in Section 01 70 00 (Contract Closeout).
- E. Maintenance of Documents and Samples:
 - 1. Store Project Record Documents and Samples in the field office apart from Contract Documents used for construction.
 - 2. Do not permit Project Record Documents to be used for construction purposes.
 - 3. Maintain Project Record Documents in good order and in a clean, dry, legible condition.
 - 4. Make Documents and Samples available at all times for inspection by District.
- F. District will provide one full size blueline set of the Drawings and one Project Manual for Contractor's use for recording as-built conditions.

1.02 PROJECT RECORD DRAWINGS

- A. Mark-up Procedure: During the construction period, maintain a set of blueline or blackline prints of Contract Drawings and Shop Drawings for Project Record Documents purposes. Label each document (on first sheet or format page) "PROJECT RECORD" in 2-inch high printed letters. Keep record documents current. Note: A reference by number to a Change Order, CCD, RFI, RFQ, RFP, Field Order or other such document is not acceptable as sufficient record information on any record document. Do not permanently conceal any Work until required information has been recorded.
 - 1. Mark these Drawings to indicate the actual installation where the installation varies appreciably from the installation shown originally. Give particular attention to information on concealed elements that would be difficult to identify or measure and record later. Items required to be marked include but are not limited to:
 - a. Dimensional changes to the Drawings
 - b. Revisions to details shown on the Drawings
 - c. Depths of various elements of foundation in relation to main floor level or survey datum
 - d. Horizontal and vertical location of underground utilities and appurtenances referenced to permanent surface improvements
 - e. Location of internal utilities and appurtenances concealed in construction referenced to visible and accessible features of structure

- f. Locations of underground work, points of connection with existing utilities, changes in direction, valves, manholes, catch basins, capped stub outs, invert elevations, and similar items
 - g. Actual numbering of each electrical circuit
 - h. Field changes of dimension and detail
 - i. Revisions to routing of piping and conduits
 - j. Revisions to electrical circuitry
 - k. Actual equipment locations
 - l. Duct size and routing
 - m. Changes made by Change Order or CCD
 - n. Details not on original Contract Drawings
2. Mark completely and accurately Project Record Drawing prints of Contract Drawings or Shop Drawings, whichever is the most capable of showing actual physical conditions. Where Shop Drawings are marked, show cross-reference on Contract Drawings location.
 3. Mark Project Record Drawing sets with red, erasable colored pencil; use other colors to distinguish between changes for different categories of the Work at the same location.
 4. Mark important additional information that was either shown schematically or omitted from original Drawings.
 5. Note CCD numbers; alternate numbers, Change Order numbers, and similar identification.
 6. Responsibility for Mark-up: Where feasible, the individual or entity who obtained Project Record Drawing data, whether the individual or entity is the installer, Subcontractor, or similar entity, is required to prepare the mark-up on Project Record Drawings.
 - a. Accurately record information in an understandable and legible drawing technique.
 - b. Record data as soon as possible after it has been obtained. In the case of concealed installations, record and check the mark-up prior to concealment.
- B. Preparation of Record Drawings: Immediately prior to inspection for Certification of Substantial Completion, review completed marked-up Project Record Drawings with District. When authorized, prepare a full set of correct transparencies of Contract Drawings and Shop Drawings.
1. Incorporate changes and additional information previously marked on print sets. Erase, redraw, and add details and notations where applicable. Identify and date each Drawing; include the printed designation "PROJECT RECORD DRAWING" in a prominent location on each Drawing.
 2. Refer instances of uncertainty to District for resolution.
 3. Distribution: Whether or not changes and additional information were recorded, organize and bind original marked-up set of prints that were maintained during the construction period into manageable sets. Bind the set with durable paper cover sheets, with appropriate identification, including titles, dates, and other information on cover sheets.
- C. Distribution of Marked-Up Drawings: Submit three full, bound sets and one digital set in AutoCAD 2000 format, the marked-up Project Record Drawings set to District for District's records.
- D. Shop Drawings and Samples: Maintain as record documents; legibly annotate Shop Drawings and Samples to record changes made after review.
- E. In addition to requirements of this Section, comply with supplemental requirements of Divisions 15 and 16.
1. Divisions 15 and 16 of the Specifications require the preparation of large scale, detailed layout drawings of the Work of those Divisions. These layout drawings are not Shop Drawings as defined by General Conditions, but together with Shop Drawings or layout

drawings of all other affected Sections are used to check, coordinate, and integrate the work of the various Sections.

2. Include these layout drawings as part of the Project Record Documents.

1.03 PROJECT RECORD SPECIFICATIONS

- A. During the construction period, maintain one copy of the Project Specifications, including addenda and modifications issued, for Project Record Documents purposes.
- B. Mark the Project Record Specifications to indicate the actual installation where the installation varies substantially from that indicated in Specifications and Modifications issued. Note related Project Record Drawing information, where applicable. Give particular attention to substitutions, selection of product options, Change Order and Construction Change Directive work, and information on concealed installation that would be difficult to identify or measure and record later.
 1. In each Specification Section where products, materials or units of equipment are specified or scheduled, mark the copy with the proprietary name and model number of the product furnished.
 2. Record the name of the manufacturer, catalog number, supplier and installer, and other information necessary to provide a record of selections made and to document coordination with Project Record Product Data submittals and maintenance manuals.
 3. Note related Project Record Product Data, where applicable, for each principal product specified, indicate whether Project Record Product Data has been submitted in maintenance manual instead of submitted as Project Record Product Data.
 4. Upon completion of mark-up, submit Project Record Specifications to District for District's records.

1.04 ADDITIONAL REQUIREMENTS FOR FINAL PROJECT RECORD DOCUMENTS

- A. Prior to Substantial Completion of the Work, District will make available to Contractor originals of the Drawings and Specifications, as Microsoft® Word 2000 for Windows, and AutoCAD 2000 Land Development Desktop for Windows in drawing format (.DWG) files. Note all changes thereon for the final Project Record Documents and provide one set of mylar reproducibles, one set of revised Specifications and one set of disks or CDs to be submitted to District.
- B. After Substantial Completion and before Final Completion, carefully transfer all data shown on the job set of Record Drawings to the corresponding computer files, coordinating the information as required.
- C. Clearly indicate at each affected detail and other drawings a full description of changes made during construction, and the actual location of items as previously specified.
- D. "Cloud" all affected areas.
- E. Stamp each Record Drawing with the following information:
 1. Project Record Document.
 2. Prepared by: Contractor's name, permanent address.
 3. Date prepared.
 4. Contractor's signature.
 5. District Contract Number.

1.05 PROJECT RECORD PRODUCT DATA

- A. During the construction period, maintain one copy of each Project Record Product Data submittal for Project Record Document purposes.
 1. Mark Project Record Product Data to indicate the actual product installation where the installation varies substantially from that indicated in Project Record Product Data

- submitted. Include significant changes in the product delivered to the Site, and changes in manufacturer's instructions and recommendations for installation.
2. Give particular attention to information on concealed products and installations that cannot be readily identified and recorded later.
 3. Note related Change Orders and mark-up of Project Record Drawings, where applicable.
 4. Upon completion of mark-up, submit a complete set of Project Record Product Data to District for District's records.
 5. Where Project Record Product Data is required as part of maintenance manuals, submit marked-up Project Record Product Data as an insert in the manual, instead of submittal as Project Record Product Data.
 6. Contractor is responsible for mark-up and submittal of Project Record Product Data for its own Work.
- B. Material, Equipment, and Finish Data:
1. Provide data for primary materials, equipment and finishes as required under each Specification Section.
 2. Submit three (3) hard copy sets and one (1) digital copy, on compact disc (CD) prior to final inspection, bound in 8-1/2 inches by 11 inches three-ring binders with durable plastic covers; provide typewritten table of contents for each volume.
 3. Arrange by Specification Section number and give names, addresses, and telephone numbers of Subcontractors and suppliers. List:
 - a. Trade names.
 - b. Model or type numbers.
 - c. Assembly diagrams.
 - d. Operating instructions.
 - e. Cleaning instructions.
 - f. Maintenance instructions.
 - g. Recommended spare parts.
 - h. Product data.

1.06 MISCELLANEOUS PROJECT RECORD SUBMITTALS

- A. Refer to other Specification Sections for miscellaneous record keeping requirements and submittals in connection with various construction activities. Immediately prior to Substantial Completion, complete miscellaneous records and place in good order, properly identified and bound or filed, ready for use and reference. Submit to the District for District's records. Categories of requirements resulting in miscellaneous records include, but are not limited to, the following:
1. Field records on excavations and foundations
 2. Field records on underground construction and similar work
 3. Survey showing locations and elevations of underground lines
 4. Invert elevations of drainage piping
 5. Surveys establishing building lines and levels
 6. Authorized measurements utilizing unit prices or allowances
 7. Records of plant treatment
 8. Ambient and substrate condition tests
 9. Certifications received in lieu of labels on bulk products
 10. Batch mixing and bulk delivery records
 11. Testing and qualification of tradespersons
 12. Documented qualification of installation firms
 13. Load and performance testing
 14. Inspections and certifications by governing authorities
 15. Leakage and water-penetration tests

- 16. Fire resistance and flame spread test results
- 17. Final inspection and correction procedures
- 18. Final As-Built Construction Schedule

PART 2 PRODUCTS

NOT APPLICABLE TO THIS SECTION.

PART 3 EXECUTION

3.01 RECORDING

Post changes and modifications to the Contract Documents as they occur. Do not wait until the end of the Project. District may periodically review Project Record Documents to assure compliance with this requirement.

3.02 SUBMITTAL

- A. At completion of Project, deliver Project Record Documents to District.
- B. Accompany submittal with transmittal letter containing:
 - 1. Date
 - 2. Project title and number
 - 3. Contractor's name and address
 - 4. Number and title of each Project Record Document
 - 5. Certification that each document as submitted is complete and accurate, and signature of Contractor or Contractor's authorized representative.

END OF SECTION

PART 1 – GENERAL**1.01 PROVISIONS**

- A. Drawings and general provisions of the Contract, Including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.02 INCLUDED WORK

- A. Perform demolition work as shown on the drawings and herein specified. The work includes:
 - 1. Protecting existing trees to remain.
 - 2. Removing trees and other vegetation.
 - 3. Removing specified and designated site improvements and structures.
 - 4. Removal and salvaging of certain items, for re-use on the project, or turnover to the Owner.

1.03 RELATED WORK

- A. Section 31 21 00: Site Grading

1.04 QUALITY ASSURANCE

- A. Comply with all applicable local, state, and federal requirements regarding materials, methods of work, and disposal of excess and waste materials.
- B. Obtain and pay for all required inspections, permits, and fees. Provide notices required by governmental authorities.

1.05 PROJECT CONDITIONS

- A. Perform demolition work before commencing site construction.
- B. Locate and identify existing underground and overhead services and utilities within contract limit work areas. Provide adequate means of protection of utilities and services not designated for removal.
- C. Provide necessary barricades, coverings, bracing, shoring, signs, lights and protection required to provide public safety and to prevent damage to existing improvements indicated to remain.
- D. Restore to original grades and conditions, areas adjacent to site disturbed or damaged as a result of demolition work.

PART 2 – PRODUCTS**2.01 MATERIALS**

- A. Materials and equipment: As selected by the Contractor, except as indicated.
- B. Tree protection:
 - 1. Polyethylene Safety Fencing: 48 inch high; 1 2" mesh opening; tensile strength, 2000 - 2310 psi; color, orange.
 - 2. Posts: 2x4 Douglas Fir or 1"x1" metal posts.

PART 3 – EXECUTION**3.01 INSPECTION**

- A. Examine the substrate under which demolition work is to be done. Notify the Architect, in writing, of conditions detrimental to the proper and timely completion of the work.
- B. Structures:
 - 1. Prior to starting demolition, make an inspection and report observable defects and structural weaknesses of structures designated for removal, of adjacent structures, and of other improvements to remain.

3.02 STRIPPING AND GRUBBING

- A. Specified in Section 0 23 10 - Site Grading.

3.03 GENERAL

- A. Remove existing improvements as required to accommodate new construction whether or not indicated on the drawings and herein specified.
- B. Remove materials carefully, providing for neat and structurally sound junctions between existing and new work.
- C. Protect existing buildings, structures, facilities, utilities, trees and other plant materials to remain at all times. Repair or replace any damaged improvements at no additional cost to the Owner.

3.04 PROTECTION OF EXISTING TREES

- A. Protect existing trees scheduled to remain against injury or damage, including cutting, breaking, or skinning of roots, trunks or branches; smothering by stockpiled construction materials, excavated materials or vehicular traffic within the dripline.
- B. Protect designated trees with a temporary 4'-0" high safety fence. Provide a minimum 8'-0" square enclosure centered on tree trunk. Increase enclosure size as directed for large trees.
- C. Erect temporary fencing before commencing site preparation work. Maintain fencing during full construction period. Remove temporary fencing when no longer needed or when acceptable to Architect.
- D. Interfering branches of trees scheduled to remain may be removed when acceptable to the Architect.
- E. Promptly repair damage to trees scheduled to remain caused by construction operations, in a manner acceptable to the Owner.
- F. Replace trees scheduled to remain that are damaged beyond repair by construction operations, as determined by the Owner, with trees of similar size and species at the Contractor's expense.

3.05 EXISTING UTILITIES

- A. Arrange for disconnection, disconnect and seal or cap all utilities and services designated to be abandoned and/or removed before start of site work operations. Perform all work in accordance with the requirements of the applicable utility company or agency involved.
- B. Remove deactivated plumbing and electrical conduit where it would interfere with new construction.
- C. Adjust existing catch basins, utility vaults, manholes, valve boxes or any other existing structures to meet new grades.

3.06 CLEARING

- A. Locate and suitably identify trees and improvements indicated to remain.
- B. Remove trees, plants, undergrowth, other vegetation, and debris, except items indicated to remain.
 - 1. Fell trees in a manner to prevent injury to adjacent facilities and to trees scheduled to remain.
 - 2. Remove stumps and roots to a clear depth of 36" below subgrades. Remove stumps and roots to their full depth within 5'-0" of underground structures, utility lines, footings, and paved areas.

3.07 SITE IMPROVEMENT

- A. Remove existing sidewalks, curbs, paving, and other structures including all base material, as required to accommodate new construction.
- B. Saw-cut existing concrete paving and curbs, and asphaltic concrete paving in neat, straight lines to provide uniform, even transition from new to adjacent existing work.

3.08 BACKFILLING

- A. Backfill any below grade voids created by demolition work as specified for backfilling in Section 02310 - Site Grading.

3.09 DISPOSAL OF WASTE MATERIALS

- A. Stockpile, haul from site, and legally dispose of waste materials and debris. Accumulation is not permitted.
- B. Maintain disposal routes clear, clean, and free of debris.

3.10 SALVAGED EQUIPMENT

- A. Remove, salvage and turn over to the City, certain designated site equipment and furnishings.
 - 1. Existing athletic field light poles
 - 2. Certain existing park light fixtures and poles.
 - 3. Certain play equipment
- B. Salvage and store certain equipment for re-installation under this contract.

3.11 CLEANUP

- A. Upon completion of site preparation work, clean areas within contract limits, remove tools, and equipment. Provide site clear, clean, and free of materials and debris and suitable for site work operations.

END OF SECTION

PART 1 - GENERAL**1.01 RELATED DOCUMENTS**

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.02 DESCRIPTION

- A. Furnish and install aluminum letters onto precast concrete wall.

1.03 RELATED WORK

- A. Section 32 70 10 – Site Concrete

1.04 QUALITY ASSURANCE

- A. Extruded aluminum manufacturer shall provide evidence that they regularly and presently manufacture letters similar to those specified in this section as one of their principal products.
- B. Extruded aluminum fabricator to submit for approval (3) photographic examples of past projects using an extruded metal technique to render letters in aluminum.
- C. Precast concrete manufacturer shall provide evidence that they regularly and presently manufacture letters similar to those specified in this section as one of their principal products.
- D. Precast concrete manufacturer to submit for approval (3) photographic examples of past projects using a precast concrete technique to render letters in aluminum.

1.05 SUBMITTALS

- A. Submit manufacturer's product data for the letters.
- B. Submit manufacturer's product data for the medallions.
- C. Submit shop drawings: Include plan layout and details illustrating location, sizes of letters, rails, braces and anchorage.
- D. Sample of extruded aluminum letter typeface and material in a typical full scale layout.
- E. Sample: Precast concrete.

1.06 DELIVERY AND STORAGE

- A. Deliver materials to job in manufacturer's original sealed containers with brand name marked thereon. Protect materials from damage.
- B. Package to prevent damage or deterioration during shipment, handling, storage and installation. Maintain protective covering in place and in good repair until removal is necessary.
- C. Store products in dry condition inside enclosed facilities.

1.07 LETTERING AND CONCRETE REQUIREMENTS

- A. EXTRUDED ALUMINUM LETTERS
 - 1. Type Style: As shown on drawings.
 - 2. Character Height: As shown on drawings.

3. Finish: Painted.
 4. Mounting Location: As shown on drawings.
- B. PRECAST CONCRETE
1. Size: As shown on drawings.
 2. Finish: As shown on drawings.

PART 2 - PRODUCTS**2.01 GENERAL**

- A. Extruded aluminum letters and precast concrete of type, size and design shown on the drawings and as specified.
- B. See details for framing and related components for a complete installation.
- C. Provide graphics items as completed units produced by a single manufacturer, including necessary mounting accessories, fittings, and fastenings.
- D. Do not scale drawings for dimensions. Contractor to verify and be responsible for all dimensions and conditions shown by these drawings. Landscape Architect to be notified of any discrepancy in drawing, in field directions or conditions, and/or of any changes required for all such construction details.
- E. The Contractor, by commencing work of this section, assumes overall responsibility, as part of his warranty of work, to assure that assemblies, components, and parts shown or required within the work of the section, comply with the Contract Documents. The Contractor shall further warrant: That all components, specified or required to satisfactorily complete the installation are compatible with each other and with conditions of installations.

2.02 PRODUCTS

- A. Aluminum Letters
 1. 1/4" thick, sheet, ASTM B169, Aluminum Letters, Finish. Letters to have stainless steel threaded rod with height and adjustability not to protrude.
- B. Precast Concrete Wall:
 1. Precast concrete with integral color
 2. Sandblasted letters onto concrete

2.03 LETTER STANDARDS

- A. Topography:
 1. Letter spacing: See graphic image on drawings.
 2. All text to be provided in size, colors, typefaces and letter spacing shown. Text shall be a true, clean, accurate reproduction of typeface(s) shown. Text shown in drawings are for layout purposes only.

2.04 FABRICATION OF LETTERS

- A. Form work to required shapes and sizes, with true curve lines and angles. Provide necessary rebates, lugs and brackets for assembly of units. Use concealed fasteners.

- B. Position letters on rail with set screws welded to the stainless steel rail. Rail panel to be set per detail on the landscape drawings.

PART 3 - EXECUTION**3.01 INSTALLATION**

- A. Protect products against damage during field handling and installation. Protect adjacent existing and newly placed construction, landscaping and finishes as necessary to prevent damage during installation.
- B. Mount aluminum letters and precast concrete wall in proper alignment, level and plumb according to the plan. When exact position, angle, height or location is in doubt, contact Landscape Architect for clarification.
- C. Contractor shall be responsible for all letters and medallions that are damaged, lost or stolen while materials are on the job site and up until the completion and final acceptance of the job.
- D. Furnish inserts and anchoring devices which must be set in concrete or other material for installation. Provide setting drawings, templates, instructions and directions for installation of anchorage devices which may involve other trades.
- E. Extruded aluminum letters are installed in place using a two-part process. First, architectural grade caulk is applied to the concrete area underneath in concentric rings to form a setting bed. Secondly, the holes in the concrete shall be filled with epoxy adhesive from a caulking gun. Protect the extruded aluminum letters with a poly plastic and mask off the surrounding paving.
- F. Solvents may not be used to clean the aluminum after installation. Do not use power washing equipment. Use only brushes.

END OF SECTION

PART 1 – GENERAL**1.01 RELATED DOCUMENTS**

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.02 SUMMARY

- A. Work Included: All labor, materials and equipment necessary to complete the installation of aluminum flagpole work shown on the Landscape Drawings.
- B. Related Work Specified Elsewhere: Consult all other Sections, determine the extent and character of related work and properly coordinate work specified herein with that specified elsewhere to produce a complete, finished and workmanlike installation.
 - 1. Section 32 16 00 – Site Concrete
 - 2. Flags supplied by Owner

1.03 SUBMITTALS

- A. Shop Drawings: Submit shop drawings in accordance with the provisions of these Specifications. Include all required details and design recommendations for the concrete foundation and aluminum flagpole anchorage.
- B. Structural Calculations: Contractor to submit two copies of signed structural calculations for the structural integrity of the flagpole and associated footing design.
- C. Installation Methods: Accompanying the shop drawings, submit at least three copies of the manufacturer's current recommended methods of installation of the flagpoles and accessory items.

1.04 QUALITY ASSURANCE

- A. Qualifications of Installers: For actual installation of flagpoles, use only personnel who are thoroughly trained and experienced in the skills involved and who are completely familiar with the manufacturer's recommended methods of installation.
- B. Design Criteria: Flagpole, base and anchorage devices shall be designed to resist 100 mph wind velocity minimum, unflagged.

1.05 PRODUCT DELIVERY AND STORAGE

- A. Protection: Use all means necessary to protect the materials of this Section before, during, and after installation and to protect the installed work and materials of all other trades. Damaged products will be rejected.

PART 2 – PRODUCTS**2.01 ALUMINUM FLAGPOLE**

- A. Flagpole to be fabricated and supplied by L.P.H. Bolander, 1355 Evans Avenue, San Francisco, California, 800.434.5611.
- B. Material: Cast of virgin aluminum and shall be one sheave, internal, stationary, non-fouling.
- C. Type: Entasis taper over total length.
- D. Overall Dimensions:
 - 1. Exposed Height: 20 feet - 0 inches.

2. Overall Length: 22 feet - 6 inches.
 3. Base Diameter: 5.8 inches
 4. Top Diameter: 3.0 inches
- E. Finish: Satin Finish.
- F. Color: Silver

2.02 HARDWARE

- A. Concealed Halyard System: as manufactured and supplied by: L. Ph. Bolander and Sons, 1355 Evans Avenue, San Francisco, California 94124 (800) 434.5611
- B. Ball: 6 inch diameter spun seamless Aluminum, silver color, anodized ball.
- C. Truck: cast resin, non-fouling, with one nylon sheave on stainless steel pin.
- D. Halyard: 5/16-inch diameter polyester with galvanized steel core, length as required for proper tie off.
- E. Halyard color: White
- F. Snaps: Bronze 3/4-inch swivel eye
- G. Cam Cleat: no maintenance, self-locking, constructed of all stainless steel and non-corrosive materials; mounted inside pole.
- H. Fasteners: All miscellaneous metal screws and bolts to match hardware as recommended by manufacturer.
- I. Ground sleeve: 8 inches inside diameter, 3 feet - 0 inches length, galvanized.
- J. Flash collar: 10 inches diameter, spun aluminum standard flash collar.

2.03 FIBERGLASS FLAGPOLE ANCHORAGE AND CONCRETE FOUNDATION

- A. Concrete Foundation: Minimum compressive strength of 2,500 psi at 28 days.
- B. Rough Hardware: Hot dip galvanize bolts, nuts and washers; ASTM A123.

PART 3 – EXECUTION**3.01 INSPECTION**

- A. Inspection:
 1. Examine the substrate under which flagpole is to be done. Notify the Architect, in writing, of conditions detrimental to the proper and timely completion of the work. Do not proceed with the work until unsatisfactory conditions have been corrected.
 2. Verify that flagpoles may be installed in strict accordance with the original design, all pertinent codes and regulations, and the approved shop drawings
- B. Bolt holes shall be 1/32-inch to 1/16-inch larger than bolts, and shall be accurately located to permit proper alignment and easy driving of bolts. A standard cut washer, or the equivalent thereof, shall be installed between each bolt head and nut and wood and/or metal fasteners. Bolts shall be taken up snug and shall be retightened at the latest practicable time during the construction work.

END OF SECTION

PART 1 – GENERAL**1.01 SUMMARY**

- A. Section includes:
 - 1. Granite benches
- B. Related Sections:
 - 1. Division 03 Section "Cast-in-Place Concrete" for installation of anchor bolts cast in concrete.

1.02 References

- A. ASTM C 119-04: Terminology Relating to Dimension Stone
- B. ASTM C 170-90 (1999): Test Method for Compressive Strength of Dimension Stone
- C. ASTM C 615-03: Specification for Granite Dimension Stone
- D. ASTM C 880-98: Test Method for Flexural Strength of Dimensional Stone

1.03 DEFINITIONS

- A. Definitions contained in ASTM C 119 apply to this Section.

1.04 SUBMITTALS

- A. Product Data: For each stone type and each manufactured product shown on Drawings or specified.
 - 1. For each stone variety used on Project, include physical property data.
- B. Shop Drawings: Show fabrication and installation details for stone:
 - 1. Include dimensions and profiles of stone units.
- C. Samples: Submit samples for each stone type required, exhibiting the full range of color characteristics expected.
 - 1. Submit a minimum of 2 each, 12 inches x 12 inches in size, in each color and finish specified.
 - 2. In the case of more variegated stones, color photos shall be submitted in addition to the number of samples to show the full range of color and markings to be expected.
 - 3. Mortar Samples: Full range of exposed color and texture.
 - 4. Sealant Samples: For each type and color of joint sealant required.
- D. Preliminary Test Reports: Submit test reports for proposed stones prior to final stone selection. Preliminary test reports shall be indicative of the stone to be proposed for the project.
 - 1. Testing of production stone is required in addition to preliminary test reports.
- E. Certification: Submit a letter of certification from the stone fabricator, stating the material being furnished is the specified material and there are sufficient reserves available to supply the project and furnish replacements if needed.
 - 1. Qualification Data: Submit qualification data indicated under Quality Assurance for the following:
 - a. [Installer]
 - b. [Fabricator]

- F. Material Test Reports: From a qualified independent testing agency, provide reports for each stone type.
- G. Cold-Weather Procedures: Detailed description of methods, materials, and equipment.

1.05 QUALITY ASSURANCE

- A. Source Limitations for Stone: Obtain each stone variety from a single quarry.
- B. Installer Qualifications: Engage experienced installer that has completed stone installation similar in material, design, and extent to that indicated for the project.
- C. Fabricator Qualifications: Engage experienced fabricator that has completed stone fabrication similar in material, design, and extent to that indicated for the project.
- D. Preconstruction Stone Testing: Engage an independent testing agency to perform the following testing for each stone variety:
 - 1. Furnish test specimens that are representative of materials.
 - 2. Physical Property Tests: ASTM standards specified for stone type.
 - 3. Flexural Strength Tests: ASTM C 880
- E. Visual Mockup: Provide full sized mock-up of the approved stone or stones in the approved finishes, erected at a site agreed to by the Architect, Contractor, and the Fabricator. The approved mock-up shall become the standard for the project.
 - 1. Build mockup of [typical exterior stone] [areas as shown on Drawings].
 - 2. Size: [insert size of visual mockup]
 - 3. Color consistency: demonstrate color consistency with mockup; color range shall not exceed range of color established by samples.
 - 4. Included typical components and anchors.
 - 5. Include sealant joints installed as required by Division 07 Section "Joint Sealants."
 - 6. Mockup may become part of the completed Work if approved at time of Substantial Completion.

PART 2 – PRODUCTS

2.01 STONE SOURCE

- A. Varieties and Source: Subject to compliance with requirements, provide stone from the following source:
 - 1. Granite Source: Coldspring
- B. Each color of stone shall come from a single quarry, with sufficient reserves to satisfy the requirements of the project. The granite supplier shall have the capabilities to cut and finish the stone without delaying the project.
- C. Stone Source Examination: Make quarried blocks available for examination by Architect.

2.02 STONE MATERIAL

- A. Granite: ASTM C 615.
- B. Cut stone from one block or contiguous, matched blocks in which natural markings occur.

2.03 MORTAR MATERIALS

- A. Portland Cement: ASTM C 150, Type I or Type II, except Type III may be used for cold-weather construction.
- B. Hydrated Lime: ASTM C 207.
- C. Portland Cement-Lime Mix: ASTM C 150, Type I or Type III, and ASTM C 207.
- D. Aggregate: ASTM C 144.
- E. Mortar Pigments: Natural and synthetic iron oxides. Use only pigments with a record of satisfactory performance in mortar and containing no carbon black.
- F. Water: Potable.
- G. Nonshrink, Nonmetallic Grout: ASTM C 1107; recommended in writing by manufacturer, for exterior applications.

2.04 ANCHORS AND FASTENERS

- A. Anchor Material: Stainless steel, ASTM A 666, Type 304
- B. Dowels and Pins Material: Stainless steel, ASTM A 276, Type 304

2.05 STONE BENCHES

- A. Granite Benches:
 - 1. Stone Variety: [Insert stone variety] by Coldspring.
 - 2. Finish:
 - a. [Polished]
 - b. [Honed]
 - c. [Diamond 8]
 - d. [Thermal]
 - e. [Diamond 10].
 - 3. Thickness: Not less than the following:
 - a. [13/16 inch (+1/8" -1/16")] [20 mm]
 - b. [1-3/16 inches (+1/8" -1/16")] [30 mm]
 - c. [1-9/16 inches (+1/8" -1/16")] [40 mm]
 - d. [1-15/16 inches (+1/8" -1/16")] [50 mm]
- B. Bench Tops:
 - 1. Nominal Thickness: [1-1/2 inches (40 mm)] [2 inches (50 mm)].
 - 2. Edge: [Straight, slightly eased at corners] [As shown on Drawings].
 - 3. Corner Detail: [Square, slightly eased] [As shown on Drawings].
 - 4. Bottom Surface Finish: [Smooth].
- C. Bench Pedestals:
 - 1. Nominal Thickness: [4 inches (100 mm)].
 - 2. Edge: [Straight, slightly eased at corners] [As shown on Drawings].

2.06 STONE FABRICATION

- A. Fabricate stone per requirements, as shown on Drawings, and as follows:
 - 1. Granite Fabrication: Comply with NBGQA's "Specifications for Architectural Granite."
- B. Arrises: Remove the sharp edge from arrises to slightly blunt edge and to reduce chipping of the finished edge.
- C. Fabricate stone to maintain minimum clearance of 1 inch between backs of stone units and surfaces behind stone.
- D. Dress joints straight and at 90 degree angle to face. Shape beds to fit supports.
- E. Anchor Provision: Cut and drill sink provisions and holes in stone for anchors, fasteners, supports, and lifting devices as indicated or needed to set stone in place.
 - 1. Allow room for expansion of the anchoring devices where necessary.
- F. Finish exposed faces and edges of stone, [except sawed reveals], to comply with requirements indicated for finish and to match final samples and mockups.
- G. Joint Width: Cut stone to produce uniform joints [3/8 inch] [as shown on Drawings].
- H. Provide reveals, reglets, openings, and similar features as required to accommodate adjacent work.
- I. Fabricate molded work, including washes and drips, to produce uniform stone shapes, with precisely formed arrises slightly eased, and matching profile at joints between units.
- J. Inspect finished stone units at fabrication plant. Replace defective units.
- K. Stone Fabrication Tolerances:
 - 1. Stone thickness 2 inches or less: Plus or minus 1/16 inch of the nominal thickness shown.
 - 2. Stone thicknesses greater than 2 inches: Plus or minus 1/8 inch of the nominal thickness.
 - 3. Overall face size: Plus or minus 1/16 inch in both height and width
 - 4. Out of square: Plus or minus 1/16 inch difference of diagonals.

2.07 INSCRIPTIONS AND DECORATIVE SURFACES

- A. Carve and cut inscriptions according to Shop Drawings.
- B. Abrasively etch inscriptions according to Shop Drawings.
- C. Laser etch inscriptions according to Shop Drawings.

PART 3 – EXECUTION**3.01 EXAMINATION**

- A. Examine conditions for compliance with requirements for correct and level finished grade, mounting surfaces and other conditions affecting performance.
 - 1. Proceed with installation only after unsatisfactory conditions have been corrected.

3.02 INSTALLATION, GENERAL

- A. Comply with manufacturer's written installation instructions. Complete field assembly of site furnishings where required.
- B. Install site furnishings level, plumb, true, and located at locations shown on Drawings.

3.03 CLEANING

- A. After completing site furnishing installation, inspect components. Remove spots, dirt, and debris. Repair damaged finishes to match original finish or replace component.

END OF SECTION

PART 1 – GENERAL**1.01 RELATED DOCUMENTS**

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.02 DESCRIPTION

- A. General: Furnish all labor, materials, apparatus, tools, equipment, transportation, temporary construction and special or occasional services as required to make a complete working electrical installation, as shown on the drawings or described in these specifications.
- B. Work Included:
 - 1. Installation of lighting fixtures, poles, and lighting controls
 - 2. Portland cement concrete foundations
 - 3. Service meter equipment and panelboards
 - 4. Branch circuit wiring, conductors, conduits, and fittings
 - 5. Grounding and bonding
 - 6. Pull boxes, outlets boxes, wiring devices, covers, and enclosures
 - 7. Demolition and removals
 - 8. Site work, trenching, backfill and compaction
 - 9. Testing
- C. Related Work: Perform the following work, in accordance with appropriate sections of the specifications cited, where and as necessary to furnish a complete, working electrical installation.

1.03 REFERENCES

- A. Specific:
 - 1. The following publications or editions of the documents current at the time a project is on-going shall apply:
 - a. National Electrical Code
 - b. California Building Code
 - c. State of California CALTRANS Standard Specifications
 - 2. Equipment and materials specified under this Division shall conform to the following standards where applicable.
 - a. UL, Underwriters' Laboratories
 - b. ASTM, American Society for Testing Materials
 - c. CBM, Certified Ballast Manufacturers
 - d. ANSI, American National Standards Institute

1.04 DRAWINGS

- A. Layout: General layout shown on the drawings shall be followed except where other work may conflict with the Drawings.
- B. Accuracy:

1. Drawings for the work under this Section are diagrammatic.
2. Contractor shall verify lines, levels and dimensions shown on the Drawings and shall be responsible for the accuracy of the setting out of work and for its strict conformance with existing conditions at the site.

1.05 SUBSTITUTIONS

- A. General: Refer to Division - 1 for substitution requirements.

1.06 SUBMITTALS

- A. General: Refer to Division - 1 for submittal requirements.

1.07 PRODUCT DELIVERY, STORAGE AND HANDLING

- A. Equipment and materials shall be properly stored and adequately protected and carefully handled to prevent damage before and during installation. Equipment and materials shall be handled, stored, and protected in accordance with manufacturer's recommendations and as approved by the School. Electrical conduit shall be stored to provide protection from the weather and accidental damage. Plastic conduit shall be stored on even supports and in locations not subject to direct sun's rays or excessive heat. Cables shall be sealed, stored and handled carefully to avoid damage to the outer covering or insulation and damage from moisture and weather. Damaged or defective items, in the opinion of the School, shall be replaced with new items at no cost to the School.

1.08 PERMITS AND FEES

- A. Provide and pay for all permits, licenses and fees required to carry on and to complete the work.
- B. Obtain and pay for Electrical permit.

PART 2 – PRODUCTS (Not applicable)**PART 3 – EXECUTION****3.01 TESTS**

- A. Tests shall be conducted during the construction period and at completion to determine conformity with applicable Codes and with these Specifications. Tests shall be performed in the presence of the School, and shall include, but are not limited to, the following:
 1. Insulation Resistance: Perform 500-volt D.C. tests for one minute on all feeder conductors on 120/240volt system, including the neutral, feeder conductors; make a record of all readings to be included in the maintenance instructions. Repair or replace circuits showing less than 40 megohms resistance to ground. Make tests using Biddle Insulation Resistance Megger, or equal.
 2. Ground Continuity: Test ground wires for continuity.
 3. Circuits Continuity: Test all branch for continuity. Test all neutrals for improper grounds.
 4. Equipment Operations: Test lighting circuits for correct operation through their control devices.
 5. Lighting Control Circuits: Perform operation tests for all lighting circuits.
 6. Product Failure: Any product which fails during the tests or are ruled unsatisfactory by the School shall be replaced, repaired, or corrected as prescribed by the School at the expense of the Contractor. Tests shall be performed after repairs, replacements or corrections until satisfactory performance is demonstrated.

7. Physical Inspection of Electrical Equipment and Cables: Inspection shall be made of all equipment to insure proper assembly and construction.

3.02 INSTRUCTIONS AND MANUALS

- A. Contractor shall at the time of completion, allot an adequate period for instruction of School's operations and maintenance personnel in the use of the lighting systems.
- B. Contractor making all necessary arrangements with manufacturer's representatives. The equipment manufacturer shall provide product literature and application guides for the School's reference.

3.03 PROJECT RECORD DOCUMENTS (AS-BUILT)

- A. Provide Project Record Drawings and Specifications as required by other Sections of the Specifications and as required herein. Such drawings shall fully represent installed conditions including actual location of outlets, correct conduit and wire sizing as well as routing, revised fixture scheduling listing the manufacturer and products, as actually installed.
- B. All changes to Drawings shall be clearly marked on plans and submitted to School.

3.04 WORKMANSHIP

- A. Preparation, handling and installation shall be in accordance with Manufacturer's written instructions and technical data, for the product specified, and/or approved except as otherwise specified. Coordinate work and cooperate with others in furnishing and placing this work. Work to approved shop drawings for work by others and to field measurements as necessary to properly fit the work.
- B. Conform to the National Electrical Contractors Association Standard of Installation for general installation practice.

3.05 PROTECTION

- A. Keep conduits, junction boxes, outlet boxes, and other openings closed to prevent entry of foreign matter. Cover fixtures, equipment and apparatus and protect against contamination or damage from dirt, paint, water, chemical or mechanical means, before and during construction period. Restore to original condition any fixture, apparatus, or equipment damaged prior to final acceptance, including restoration of damaged shop coats of paints before final acceptance. Protect bright finished surfaces and similar items until in service. No rust or damage will be permitted.

3.06 SPECIAL TOOLS

- A. All special tools for proper operation and maintenance of the equipment provided under this section shall be delivered to the School.

3.07 CUTTING AND PATCHING

- A. Install all required conduits, sleeves, forms and insets before new pavement and surfacing is installed. Trenching, cutting and patching caused by failure to provide or properly located conduits and sleeves, forms and inserts, incorrect location of work or failure to cooperate with other trades, shall be done at expense of trade responsible.
- B. No cutting of finished or structural work may be done without acceptance. When necessary to have finished material or structural work cut, finish necessary drawings to trade whose materials are out to be cut.

3.08 CLEARANCES

- A. Provide working clearances in front, back, and to sides for all electrical equipment as required by National Electrical Code Article 110.

END OF SECTION

PART 1 – GENERAL**1.01 RELATED DOCUMENTS**

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.02 DESCRIPTION

- A. Work specified in this section encompasses products, assemblies and basic installation methods required for electrical project systems specified under this Division.
- B. Work Included:
 - 1. Conduits and fittings
 - 2. Wire and cables
 - 3. Wire connections
 - 4. Pullboxes
 - 5. Outlet boxes
 - 6. Ground rods
 - 7. Duct seal compound
 - 8. Detectible marker tape
- C. Related Work:
 - 1. Section 26 01 00 - General Electrical Requirements

1.03 SUBMITTALS

- A. Submit in conformance with the requirements of Section 16010 the following items:
 - 1. Conductors and cables
 - 2. Raceways
 - 3. Pullboxes
 - 4. Outlet boxes
 - 5. Ground rods and fittings
 - 6. Duct seal
 - 7. Detectible marker tape

PART 2 – PRODUCTS**2.01 CONDUIT AND FITTING**

- A. Rigid Steel Conduit
 - 1. Conduit, rigid steel: full weight, threaded, hot-dip galvanized, inside enameled, conforming to ANSI C80.1
 - 2. Three-piece couplings: electroplated, cast malleable iron: Efcor 165 series, O.Z./Gedney 4-50 series, or equal.
 - 3. Threadless couplings: electroplated, cast malleable iron, with integral conduit stop: Efcor 1760, or equal.

4. Threadless connectors: electroplated, cast malleable iron, on threaded male hub plastic insulated throat rated 90 degrees C minimum: Efcor 1750B series, O.Z./Gedney 31-050 1T series, or equal.
 5. Insulated bushings: threaded polypropylene or thermosetting phenolic rated 150 degrees C minimum.
 6. Insulated grounding bushings: threaded cast malleable iron body with insulated throat and steel, "lay-in" ground lug with compression screw: O.Z./Gedney BLG series, Thomas & Betts 3870 series, or equal.
 7. Insulated metallic bushings: threaded cast malleable iron body with plastic insulated throat rated 105 degrees C.: O.Z./Gedney Type B, Thomas & Betts 1222 series, or equal.
 8. PVC coated conduit as manufactured by Rob-Roy, shall be used were indicated on Drawings, suitable for direct burial without concrete encasement.
- B. Rigid Non-Metallic Polyvinylchloride Conduit:
1. Schedule 40 and 80 High Density Polyethylene, UL listed, per ASTM D 2447, conforming to NEMA TC 3.
 2. All fittings solvent welded.
 3. As manufactured by Carlon, PW Pipe, or equal.
- C. Non-Metallic Polyethylene Plastic Conduit (HDPE)
1. Schedule 40 and 80 High Density Polyethylene, per ASTM D 2447, conforming to NEMA TC 3.
 2. All fittings solvent welded.
 3. As manufactured by Wesflex Pipe Manufacturing, or equal.
- D. Minimum acceptable conduit size: 1-inch unless otherwise indicated on Drawings.

2.02 WIRE AND CABLE

- A. General
1. Acceptable manufacturers: Southwire, Triangle, PWC Inc., or equal.
 2. Conductor material: All wire and cable shall be insulated copper for all wire sizes.
 3. Insulation: Insulation shall be THWN-THHN for wire sizes through size 1/0 AWG. For larger wire sizes, insulation shall may be THWN, XHHW, THW or as required to suit application.
 4. Fixture wire: Type AF.
 5. Minimum conductor size: Power and lighting branch circuits: #12 AWG
 6. Color coding: System conductors shall be identified as to phase connections by means of color impregnated insulation or approved colored marking tapes as follows:

<u>VOLTAGE</u>	<u>A PH.</u>	<u>B PH.</u>	<u>C PH.</u>	<u>NEUTRAL</u>	<u>GRD.</u>
208V/120	Black	Red	Blue	White	Green

2.03 OUTLET BOXES AND COVERS

- A. Standard Outlet Boxes: Galvanized, one-piece, drawn steel, knock-out type box of size and configuration best suited to the application indicated on the Drawings. Minimum box size, 4 inches square by 1-1/2 inch deep.

- B. Cast Outlet Boxes: Cast aluminum or malleable iron, gasketed covers, threaded openings or hubs. Type FS, shallow, or FD, deep, as required to suit application. As manufactured by Crouse-Hinds, Appleton, Killark or equal.

2.04 ELECTRICAL SUPPORTING DEVICES

- A. Concrete Fasteners: Powder-driven concrete pin fasteners, low velocity type. As manufactured by Remington, Ramset, or equal.
- B. Conduit Straps: Hot-dip galvanized, cast malleable iron, one-hole type straps with cast clamp-backs and spacers as required. As manufactured by O.Z./Gedney #14-50G straps and #141G spacers; Efcor #231 straps and #131 spacers, or equal.

2.05 IDENTIFYING DEVICES

- A. Wire & Terminal Markers: Self-adhering, pre-printed vinyl with self-laminating wraparound strips. As manufactured by Brady B191 series; Thomas & Betts WSI series, or equal.

2.06 GROUNDING

- A. Enclosures of equipment, raceways, and fixtures shall be permanently and effectively grounded. Provide code-sized, unless otherwise indicated, copper insulated green equipment ground with all conduit runs. Equipment ground shall originate at switchboard and/or panelboard ground bus and shall be bonded to all switch and receptacle boxes and electrical equipment enclosures, lighting poles ground lugs, and to driven ground rods in handholes.
- B. Driven ground rods shall be copper-clad steel, minimum size 3/4" diameter x 10 feet long at main service, and 5/8" diameter x 8 feet long where installed in all handholes, vaults, etc, or as noted on Drawings. Ground rods shall be provided with suitable rod clamps of phosphor bronze (do not use clamps intended for water pipe connections); Erico, Eritech, Harger or approved equal,

2.07 PULLBOXES

- A. Reinforced concrete boxes shall be as manufactured by Christy, Carson, Jensen, Quazite, or approved equal, and as indicated on Plans.
- B. Pull boxes, hand holes, and splice boxes shall be constructed of reinforced concrete, complete with basic bodies, risers and covers. Provide driven-ground rods in all hand holes and splice boxes with steel lids/covers used for power with bonding wire attached between ground rod and lid/cover, or as indicated on Plans.
- C. Covers shall be reinforced concrete where located in non-traffic areas, except that in grass or pavement cover shall be checker plate steel with hold down bolts. In areas subject to normal vehicle traffic, boxes shall be full-traffic rated H-20, with steel covers.
- D. All covers shall be marked "ELECTRIC", or as otherwise directed by School's Representative.

2.08 DUCT SEAL:

- A. Non-hardening, non-oxidizing and non-corrosive sealing compound as manufactured by Duct-seal, Permagum, or approved equal.

2.09 DETECTIBLE MARKER TAPE:

- A. Detectable, direct burial, 3" wide red color, as manufactured by Mule, 3M, or approved equal.

PART 3 – EXECUTION**3.01 CONDUIT AND RACEWAY APPLICATIONS**

- A. Rigid Steel Conduit: For all exposed conduit exposed to mechanical damage, and Underground, with corrosion resisting tape wrapping.
- B. Liquid-Tight Flexible Metallic Conduit: For connections in damp and wet locations to motors, solenoid valves, and similar devices, shall be made using liquid-tight flexible metallic conduit. Provide separate ground wire independent of conduit, run inside conduit and bonded at both ends to enclosures.
- C. Rigid Non-Metallic Conduits: Schedule 40 & 80 PVC, HDPE, may be used underground only, with 3" sand under and 3" sand over when serving lighting circuits and power secondary circuits.

3.02 CONDUIT INSTALLATION

- A. General
 - 1. Conduit system shall be concealed unless exposed work is clearly indicated on the Drawings.
 - 2. Conduits shall be tightly covered and well protected during construction using metallic bushings and bushing "pennies" to seal open ends.
 - 3. In all empty conduits or ducts, install a 200-pound tensile strength, polyethylene, pulling rope.
 - 4. Conduit systems shall be electrically continuous throughout. Install code size, insulated, copper, green grounding conductor in all conduit runs indicated, or required by code, or as indicated on Drawings.
- B. Layout
 - 1. Locations of all conduit runs shall be coordinated with the paving, drainage and site work in the same areas.
 - 2. Conduits shall not be placed closer than 12 inches from a parallel water line, or 6 inches from such lines crossing perpendicular to the runs.
- C. Supports
 - 1. All raceway systems shall be secured to the building structures using specified fasteners, clamps and hangers spaced according to code requirements.
 - 2. Support single runs of conduit using one-hole pipe straps. Where run horizontally on walls in damp or wet location, install "clamp backs" to space conduit off the surface.
- D. Termination and Joints
 - 1. Raceways shall be joined using specified coupling or transition couplings where dissimilar raceway systems are joined.
 - 2. Conduits shall be securely fastened to cabinets, boxes and gutters using two-locknuts and an insulating bushing or specified insulated connectors. Install grounding bushings or bonding jumpers on all conduits terminating at concentric knockouts.
 - 3. Conduit terminations exposed at weatherproof enclosures and cast outlet boxes shall be made watertight using specified connectors and hubs.

3.03 CABLE AND WIRE INSTALLATION

- A. General

1. Conductors shall not be installed in conduit until all work of any nature that may cause insulation injury is completed. Care shall be taken in pulling conductors that insulation is not damaged. UL approved non-petroleum base and insulating type pulling compound shall be used as needed.
 2. All cables shall be installed and tested in accordance with Manufacturer's requirements and warranty.
- B. Splicing and Terminating
1. All aspects of splicing and terminating shall be in accordance with cable manufacturers published procedures.
 2. Make up all splices in outlet boxes with connectors as specified herein with separate tails of correct color to be made up to splice. Provide at least six (6) inches of tails packed in box after splice is made up.
 3. All wire and cable in panels, terminal cabinets and equipment enclosures shall be bundled and clamped.
 4. All phase conductors in underground pull boxes shall be tagged with a cable marker indicating circuit identification.

END OF SECTION

PART 1 – GENERAL**1.01 RELATED DOCUMENTS**

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.02 DESCRIPTION

- A. Installation and connection of all poles, luminaires, fixtures, lamps, drivers, lighting control devices, related components and accessory wiring as shown on the Plans, or as specified herein.

1.03 REFERENCES

- A. ANSI
- B. ASTM
- C. NFPA 70
- D. UL 1598
- E. CCR TL24

1.04 SUBMITTALS

- A. Submit in conformance with the requirements of Section 17 the following items:
 - 1. Catalog, and photometric data, for all lighting fixtures
 - 2. Poles, anchor bolts and accessories

1.05 COORDINATION

- A. Refer to Landscape Site Plans for exact locations of poles located in paved areas.

PART 2 – PRODUCTS**2.01 MANUFACTURERS**

- A. Luminaires:
 - 1. Reference description and manufacturers on materials schedule.
 - 2. Or approved equivalent.
- B. LED Drivers:
 - 1. Advance/Philips
 - 2. Osram Sylvania
 - 3. LG
 - 4. Or approved equivalent.
- C. Lamps:
 - 1. LED (Light Emitting Diode) Lamps:
 - a. Nichia
 - b. Cree
 - c. Osram Sylvania

- d. GE Lumination
 - e. Or approved equivalent.
- 2. Unless specific manufacturer not shown on this list is indicated in the Luminaire Schedule.
 - 3. Special types as indicated in the Materials Schedule.
 - 4. Or approved equivalent.
- D. Lighting Poles:
- 1. Reference description and manufacturers in Materials Schedule on Drawings.
 - 2. Or approved equivalent.
- E. LED, 4000 K correlated color temperature, producing a minimum of 90% of initial intensity at 100,000 hours of life based on IESTM-21. LEDs to be tested in accordance with IESLM-80 procedures.

2.02 LUMINAIRES

- A. Luminaires: Reference description and manufacturers in Materials Schedule on Drawings.
- B. UL label luminaires installed under canopies, roof or open porches, and similar damp or wet locations, as suitable for damp or wet location.
- C. Suspended luminaires: Provide minimum 24-inch adjustability in aircraft cable length where used.
- D. Finishes:
- 1. Manufacturer's standard finish (unless otherwise indicated) over corrosion resistant primer.
 - 2. Exterior Finishes: As detailed in Materials Schedule or on Drawings. Refer cases of uncertain applicability to Architect for resolution prior to release for fabrication.
- E. Light Transmitting Components:
- 1. Plastic diffusers, molded or extruded of 100 percent virgin acrylic.
 - 2. Prismatic acrylic, extruded, flat diffusers, 0.125-inch overall thickness, unless otherwise noted.
- F. LED Luminaires:
- 1. UL listing of luminaire includes drivers, transformers, enclosures, rated wire, communications devices and accessories needed for a complete and functional system.
 - 2. LM-79: Testing and measurement of absolute photometry, chromaticity (CCT) and luminaire power. Report provided by DOE certified independent testing laboratory. CCT as specified in Materials Schedule.
 - 3. Standards: ANSI C78.377, LM-79 and LM-82 compliant for performance characteristics, photometry, colorimetry, efficacy and thermal characteristics.
 - 4. LM-80 + TM-21: Testing and measurement, and statistical prediction of LED lamp life. Report provided by DOE certified independent testing laboratory.
 - 5. LEDs in one module/luminaire: Supplied from same batch/bin and fall within 3-step MacAdam Ellipse, or as described in Luminaire Schedule, whichever is the more stringent requirement.
 - 6. Provide luminaires with integral LED thermal management system (heat sinking).
 - 7. Luminaires to be equipped with an LED driver that accepts 120V through 277V, 50Hz to 60Hz (universal). Component-to-component wiring within the luminaire will carry no more than 80 percent of rated current and be listed by UL for use at 600VAC at 302 degrees

F/150 degrees C or higher. Plug disconnects to be listed by UL for use at 600VAC, 15A or higher.

8. Provide luminaires with individual LED arrays/modules and drivers that are accessible and replaceable from exposed side of the luminaire.

2.03 LED DRIVERS

A. General:

1. Performance: Meet dimming range called out in Luminaire Schedule, free from perceived flicker or visible stroboscopic flicker, smooth and continuous change in level (no visible steps in transitions), natural square law response to control input, and stable when input voltage conditions fluctuate over what is typically experienced in a commercial environment. Demonstration of this compliance to dimming performance will be necessary for substitutions or prior approval.
2. Ten-year expected life while operating at maximum case temperature and 90 percent non-condensing relative humidity.
3. Minimum efficiency of 85 percent, power factor greater than or equal to 0.90, compliance with reduction of hazardous substances (RoHS). Rated for operating temperature range of area in which driver is installed.
4. Limit inrush current to minimize breaker tripping.
 - a. Base specification: NEMA 410 standard for inrush current for electronic drivers.
 - b. Preferred Specification: Meet or exceed 30 milliamp-squared-seconds at 277VAC for up to 50 watts of load and 75 amps at 240 microseconds at 277VAC for 100 watts of load.
5. Withstand up to a 1,000 volt surge without impairment of performance as defined by ANSI C62.41 Category A.
6. No visible change in light output with a variation of plus/minus 10 percent line voltage input.
7. Total Harmonic Distortion less than 10 percent and meet ANSI C82.11 maximum allowable THD requirements at full output. THD at no point in the dimming curve allows imbalance current to exceed full output THD.
8. Support automatic adaptation, allowing for future luminaire upgrades and enhancements and deliver improved performance:
 - a. Adjustment of forward LED voltage, supporting 3V through 55V.
 - b. Adjustment of LED current from 150mA to 1.4A at the 100 percent control input point in increments of 1mA.
 - c. Adjustment for operating hours to maintain constant lumens (within 5 percent) over the 50,000 hour design life of the system, and deliver up to 20 percent energy savings early in the life cycle.
9. Operate for a (+/- 10 percent) supply voltage of 120V through 277VAC at 60Hz.
10. UL Recognized under the component program and modular for simple field replacement. Drivers that are not UL Recognized or not suited for field replacement will not be Considered.
11. Ability to provide no light output when the analog control signal drops below 0.3 V, or the DALI/DMX digital signal calls for light to be extinguished and consume 0.5 watts or less in this standby. Control dead band between 0.3V and 0.65V included to allow for voltage variation of incoming signal without causing noticeable variation in luminaire to luminaire output.

B. Light Quality:

1. Over the entire range of available drive currents, driver to provide step-free, continuous dimming to black from 100 percent to 0.1 percent and 0 percent relative light output, or 100 percent to 1 percent light output and step to 0 percent where indicated. Driver to respond similarly when raising from 0 percent to 100 percent.
 - a. Driver must be capable of 20 bit dimming resolution for white light LED drivers or 15 bit resolution for RGBW LED drivers.
2. Driver must be capable of configuring a linear or logarithmic dimming curve, allowing fine grained resolution at low light levels.
3. Drivers to track evenly across multiple luminaires at all light levels, and must have an input signal to output light level that allows smooth adjustment over the entire dimming range.
4. Driver and luminaire electronics to deliver illumination that is free from objectionable flicker as measured by flicker index (ANSI/IES RP-16). At all points within the dimming range from 100 percent to 0.1 percent luminaire will have:
 - a. LED dimming driver to provide continuous step-free, flicker free dimming similar to incandescent source.
 - b. Base specification: Based on IEEE PAR1789, minimum output frequency should be greater than 1250 Hz.
 - c. Preferred specification: Flicker index to be equal to incandescent, less than 1 percent at all frequencies below 1000 Hz.

C. Control Input:

1. Provide control protocol to match lighting control system specified for use with luminaire.
2. 4-Wire (0-10V DC Voltage Controlled) Dimming Drivers:
 - a. Meet IEC 60929 Annex E for General White Lighting LED drivers.
 - b. Connect to devices compatible with 0 to 10V Analog Control Protocol, Class 2, capable of sinking 0.6 ma per driver at a low end of 0.3V. Limit the number of drivers on each 0-10V control output based on voltage drop and control capacity.
 - c. Meet ESTA E1.3 for RGBW LED drivers.

2.04 LAMPS

- A. Provide lamps for luminaires.
- B. Provide lamp catalogued for specified luminaire type.
- C. Incandescent Lamps: Not allowed unless noted in Luminaire Schedule.
- D. LED (Light Emitting Diode):
 1. LED manufacturer will include, but not be limited to, light source, luminaire, power supply and control interface with added components as needed for complete and functioning system.
 - a. Comply with ANSI chromaticity standard for classifications of color temperature. See Luminaire Schedule for specified LED lamp color and color temperature. UL or ETL listed and labeled.
 - b. Luminaire testing per IESNA LM-79 and LM-80 procedures.
 - c. Lamp life for white LEDs: 50,000 plus hours with lamp failure occurring when LED produces 70 percent of initial rated lumens.

- d. Lamp life for color LEDs: 30,000 plus hours with lamp failure occurring when LED produces 50 percent of its initial rated lumens.
- e. LED Drivers: Reverse polarity protection, open circuit protection, require no minimum load. Minimum 80 percent efficiency. Class A noise rating.
- f. Dimming: LED system capable of full and continuous dimming.
- g. Correlated Color Temperature (CCT): See Luminaire Schedule for selection of color temperature for each luminaire. Ranges given below reflect maximum allowable tolerances for color temperature range for each nominal CCT.
 - 1) Nominal CCT:
 - a) 2700 K (2725 ± 145)
 - b) 3000 K (3045 ± 175)
 - c) 3500 K (3465 ± 245)
 - d) 4000 K (3985 ± 275)
 - h. Color Rendering Index (CRI) to be greater than or equal to 80.
- 2. Special types as indicated in Luminaire Schedule.

2.05 LIGHTING POLES

- A. Provide exterior light poles, with concrete bases or direct buried, which are structurally supportive of pole under design loading.
- B. Provide exterior poles clean and scratch free with base bolt covers to match pole and luminaire finish.
- C. Provide poles and pole bases rated for a minimum of 100 MPH, unless otherwise noted. Wind EPA loading for quantity and type of luminaire it supports with a 1.3 gust factor.
- D. Provide poles with gasketed handholes, stainless steel tamper resistant hardware, anchor bolts and ground lugs.
- E. Description:
 - 1. Material: Aluminum
 - 2. Shape: Round
 - 3. Finish: Powder coated
 - 4. Base: Embedded

2.06 OPTICAL SYSTEMS

- A. Micro-lens optical and reflector system to produce IESNA modified type 5 distribution, and to be fully sealed to maintain an IP66 rating.
- B. Luminaire to produce 0% total lumens above 90o (CalGreen BUG U=0).

2.07 ELECTRICAL

- A. Rated life of electrical components to be L70 105,000 – 130,000 hours. Power supply wired with quick-disconnect terminals. Power supply to have power factor of .90 and <20% Total harmonic distortion (TDH). Surge protection per IEEE/ANSI C62.41 Category C High, 20kV/10kA and ANSI C136.2-2015, 20kV/10kA.

PART 3 – EXECUTION**3.01 INSTALLATION**

- A. Contractor shall be responsible for handling and mounting of fixtures. Fixtures shall be secured to poles.
- B. Install each fixture in a manner recommended by the fixture manufacturer and approved by the school.
- C. Poles shall be installed plumb, anchor bolt nuts torqued to required limits. Repair any scratches or marring of paint finishes.
- D. All fixtures and poles shall be cleaned of any dust or dirt.

END OF SECTION

PART 1 – GENERAL**1.01 RELATED DOCUMENTS**

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.02 DESCRIPTION

- A. Work Included
 1. Furnishing, installing, and connecting of conduits, conductors, fittings and accessories.
 2. Trenching, directional boring, excavation, and backfilling for all underground conduits and pull boxes.
 3. Concrete work for conduit encasement.
 4. Pavement, surfacing, and landscaping repairs.

1.03 RELATED SECTIONS

- A. Section 26 01 00 - General Electrical Requirements
- B. Technical Requirements

1.04 SEPARATION FROM OTHER SERVICES

- A. Separate conduit runs not less than one foot horizontally and one six inches vertically from gas, water, sewer and drainage lines.

1.05 STANDARD PRACTICES

- A. Installation of ducts and conduits shall be in accordance with latest edition of the NEC and State of California G.O. 128

PART 2 – PRODUCTS (Refer to Section 26 10 00)**PART 3 – EXECUTION****3.01 EXCAVATION**

- A. Excavations shall be open vertical construction of width to provide free working space around the work and to provide space for backfill and tamping.
- B. Provide safety shoring, bracing or bulk-heading to support excavations and maintain warning signs and barricades. Provide suitable temporary steel covers over excavations crossing roadways or walks.
- C. Excavate all trenches so that minimum coverage above conduits not encased in concrete to finish grade is not less than 24", unless otherwise specified or shown on Drawings, or included in the technical requirements section
- D. For non-metallic conduits not encased in concrete, excavate trench 3" below the required grade. Place 3" bed of sand properly compacted and graded to provide uniform bearing surface for conduits or ducts, unless otherwise specified or shown on Drawings, or included in the technical requirements section.
- E. Keep excavations free of water.

3.02 BACKFILLING

- A. Cover non-metallic conduits and ducts not encased in concrete with a minimum 3" layer of sand or select fill. Compact the sand and select fill backfill per specifications.
- B. Except where sand or select fill is required as specified above and except under paved areas, walks or roads, use backfill of suitable excavated material with a 2" maximum rocks or clods. If excavated material is unsuitable or inadequate for the backfill as specified, furnish and import additional suitable materials to complete the work.
- C. Compact the fill by adding backfill material in 8" maximum layers and tamping by hand or machine. Do not machine-tamp first backfill layer over non-metallic conduits or ducts not concrete encased.
- D. Remove shoring as backfill is placed. Remove from property surplus material remaining after backfilling, or place as directed by School's Representative.
- E. Place detectable 3" wide WARNING-ELECTRIC marker strips the continuous length of trench, down 12" from finish grade. Strips shall be installed over all conduits.
- F. Replace existing road, walkway, pavement, or similar surfaces, to match existing work, and as indicated on Drawings.
- G. Bring to grade any subsidence occurring during the Guarantee Period by adding surfacing materials of the like kind.

3.03 SPLICEBOXES, PULLBOXES AND HANDHOLES

- A. Place conduit entries using knockout panels provided. Pour concrete around conduits to anchor them in place.
- B. Provide End Bells at all PVC conduits entering boxes and handholes.
- C. Install boxes and handholes flush with grade or pavement. In vehicular pavement use boxes with covers that are H-20 traffic-rated with checker plate steel covers with locking bolts. In landscape areas use reinforced concrete covers. All covers shall be marked "Electric", or markings as directed by School.
- D. Handholes and pull boxes shall consist of base section and cover, set on a minimum 6" bedding of pea-gravel from river washer stone.

3.04 RACEWAYS

- A. Install conduit runs straight and true between vaults and spliceboxes. Minimize use of bends. For alignment curves, use not more than 5 degrees segments for each standard straight length. Begin to fan out ducts from standard separation to splice box, handhole or vault entrance at least 30' from entrance, using gradual alignment changes at coupling of each straight section.
- B. Make bend radius to centerline of all conduits not less than 10 times nominal diameter of conduit. Rod all underground raceways with approved flexible mandrels and brushes to remove all obstructions and to prove that raceways are clear and usable.
- C. Furnish and install MULETAPE pull lines in all empty raceways. Pull line shall be continuous from/pullbox to pullbox, or vault, with 36" of slack left at each termination.

3.05 HORIZONTAL DIRECTIONAL DRILLING

- A. Contractor shall have the option of using either open-cut trenching or horizontal directional drilling for the installation of underground conduits. Surface conditions over the site contain extensive rock and boulders exceeding 6" in width.
- B. Horizontal directional drilling shall include the use of mechanical and hydraulic deviation equipment to allow for changing the direction of the boring course at any point during the

operation. The equipment shall include instruments capable of monitoring the exact location of the drilling head assembly. The equipment shall be capable of both creating and directing the bore-hole along a predetermined path to the specified target location.

- C. Horizontal directional drilling shall be done with fluid-assisted mechanical cutting. Drilling fluids shall be as recommended by the equipment manufacturer. Contractor shall be responsible for regulating pressure and flow rates so that compaction of the surround sub-grade materials around the bore is not altered.
- D. Uncontrolled jetting (using fluid force to erode the soil) is prohibited. Any area where sub-grade and/or aggregate base compaction has been damaged by boring shall be repaired at the Contractor's expense, and to the satisfaction of School. Repair work shall include removal and replacement of surface paving at the Contractor's expense, if required for proper sub-grade and/or aggregate base compaction.
- E. Mobile horizontal directional drilling system shall be capable of being started at the existing finish grade at an inclined angle to achieve required depth. The equipment shall have capacity to drill a 2" to 3" diameter pilot hole up to 200'. The drill head assembly shall utilize small diameter fluid jets to fracture along with mechanical cutters to bore and excavate soil as the head advances. The pilot hole is to be enlarged with reamers as required and the line pulled into the hole with fluid mixtures in accordance with the equipment manufacturer's directions.

END OF SECTION

PART 1 – GENERAL**1.01 RELATED DOCUMENTS**

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.02 SECTION INCLUDES

- A. Salvaging and stockpiling topsoil

1.03 RELATED SECTIONS

- A. Section 01 56 39 – Temporary Tree and Plant Protection
- B. Section 31 10 00 – Demolition Clearing and Grubbing
- C. Section 31 22 00 – Earthwork
- D. Section 32 91 13 – Soil Preparation

1.04 DEFINITIONS

- A. Subsoil: Soil beneath the level of subgrade; soil beneath the topsoil layers of a naturally occurring soil profile, typified by less than 1 percent organic matter and few soil organisms.
- B. Surface Soil: Soil that is present at the top layer of the existing soil profile. In undisturbed areas, surface soil is typically called "topsoil," but in disturbed areas such as urban environments, the surface soil can be subsoil.
- C. Topsoil: Top layer of the soil profile consisting of existing native surface topsoil or existing in place surface soil; the zone where plant roots grow. Its appearance is generally friable, pervious, and black or a darker shade of brown, gray, or red than underlying subsoil; reasonably free of subsoil, clay lumps, gravel, and other objects larger than 2 inches in diameter; and free of weeds, roots, toxic materials, or other non-soil materials.
- D. Tree-Protection Zone: Area surrounding individual trees or groups of trees to be protected during construction.

1.05 INFORMATIONAL SUBMITTALS

- A. Existing Conditions: Documentation of existing trees and plantings, adjoining construction, and site improvements that establishes preconstruction conditions that might be misconstrued as damage caused by site clearing.
 - 1. Use sufficiently detailed photographs or video recordings.
 - 2. Include plans and notations to indicate specific wounds and damage conditions of each tree or other plant designated to remain.
- B. Topsoil stripping and stockpiling program.
- C. Rock stockpiling program.

1.06 QUALITY ASSURANCE

- A. Topsoil Stripping and Stockpiling Program: Prepare a written program to systematically demonstrate the ability of personnel to properly follow procedures and handle materials and equipment during the Work. Include dimensioned diagrams for placement and protection of stockpiles.

- B. Rock Stockpiling Program: Prepare a written program to systematically demonstrate the ability of personnel to properly follow procedures and handle materials and equipment during the Work. Include dimensioned diagrams for placement and protection of stockpiles.

PART 2 – PRODUCTS

2.01 MATERIALS

- A. Satisfactory Soil Material: Requirements for satisfactory soil material are specified in Section 32 91 10 Topsoil. Obtain approved borrow soil material off-site when satisfactory soil material is not available on-site.

PART 3 – EXECUTION

3.01 PREPARATION

- A. Protect and maintain benchmarks and survey control points from disturbance during construction.
- B. Verify that trees, shrubs, and other vegetation to remain or to be relocated have been flagged and that protection zones have been identified and enclosed according to requirements in Section 01 56 39 Temporary Tree and Plant Protection.
- C. Protect existing site improvements to remain from damage during construction.
- D. Restore damaged improvements to their original condition, as acceptable to Owner.

3.02 TOPSOIL STRIPPING

- A. Remove shrubs, sod, and grass before stripping topsoil.
- B. Use of chemicals and pesticides shall not be allowed.
- C. Topsoil within the limits of the project shall be salvaged prior to beginning excavating, fill or hauling, operations.
- D. Strip topsoil to 2-3" depth in a manner to prevent intermingling with underlying subsoil or other waste materials. Remove subsoil and non-soil materials from topsoil, including clay lumps, gravel, and other objects larger than 2 inches in diameter; trash, debris, weeds, roots, and other waste materials.
- E. Stockpile topsoil away from edge of excavations without intermixing with subsoil or other materials. Grade and shape stockpiles to drain surface water. Cover stockpiles to prevent windblown dust and erosion by water.
 - 1. Limit height of topsoil stockpiles to 72 inches.
 - 2. Do not stockpile topsoil within tree protection zones.
 - 3. Dispose of surplus topsoil. Surplus topsoil is that which exceeds quantity indicated to be stockpiled or reused.
 - 4. Stockpile surplus topsoil to allow for respreading deeper topsoil.
- F. Salvaged topsoil exceeding the quantity required under the contract shall be disposed of at contractor's expense.

3.03 DISPOSAL OF SURPLUS AND WASTE MATERIALS

- A. Remove surplus soil material, unsuitable topsoil, obstructions, demolished materials, and waste materials including trash and debris, and legally dispose of them off Owner's property.
- B. Burning tree, shrub, and other vegetation waste is permitted according to burning requirements and permitting of authorities having jurisdiction. Control such burning to produce the least smoke

or air pollutants and minimum annoyance to surrounding properties. Burning of other waste and debris is prohibited.

- C. Separate recyclable materials produced during site clearing from other nonrecyclable materials. Store or stockpile without intermixing with other materials and transport them to recycling facilities. Do not interfere with other Project work.

END OF SECTION

PART 1 – GENERAL**1.01 RELATED DOCUMENTS**

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

1.02 SUMMARY

- A. Site grading and filling to indicated elevations, profiles and contours.
- B. Excavating and backfilling structure footings and foundations.
- C. Subgrade preparation for structure slabs, curbs, walks and paving.
- D. Importing of fill material required to establish indicated finished grades, and/or removal from the site, of any excess soils.

1.03 RELATED WORK

- A. Section 02 41 13 – Selective Site Demolition
- B. Section 31 14 13 – Topsoil Stripping and Stockpiling

1.04 REFERENCES AND STANDARDS

- A. Standard Specifications: Where referred to in these Specifications, "State Specifications" shall mean the California CalTrans Specifications, latest edition.
- B. Percent Compaction: As referred to in these Specifications, percent compaction or relative compaction is required in-place dry density of the material determined by the Engineer in accordance with the ASTM Test Method D1557-78.
- C. American Society for Testing and Materials, (ASTM).
- D. Geotechnical Investigation: (fill in report name & date)

1.05 QUALITY ASSURANCE

- A. Requirements of Regulatory Agencies:
 - 1. Comply with State of California Business and Transportation Agency, California Department of Transportation (CDT, Caltrans) "Standard Specifications" (Caltrans Standard Specification).
 - 2. Comply with State of California Code of Regulations (CCR).
 - 3. Comply with State of California Construction Safety Orders, Latest Edition (CAL/OSHA).
 - 4. City of Livermore Department of Public Works, Standards and Specifications and Drawings, latest edition.
 - 5. BCDC, ACOE, Fish and Wildlife, if applicable.
- B. Soil Testing:
 - 1. District will engage a geotechnical testing agency, to include testing soil materials proposed for use in the work and for quality control testing during excavation and fill operations.
 - 2. Test results will be distributed in compliance with Section 014523 – TESTING AND INSPECTION SERVICES.
- C. Codes and Standards:

1. Perform excavation work in compliance with applicable requirements of authorities having jurisdiction.
 2. Statewide General Permit to Discharge Storm Water associated with construction activity.
 3. The project Storm Water Pollution Prevention and Monitoring Plan.
- D. Comply with the latest editions of the following Standards and Regulations:
1. American Society for Testing and Materials (ASTM):
 - a. Concrete aggregates.
 - b. C125: Standard Terminology Relating to Concrete and Concrete Aggregates.
 - c. C136: Sieve Analysis of Fine and Coarse Aggregates.
 - d. C566: Total Evaporable Moisture Content of Aggregate by Drying.
 - e. D421: Dry Preparation of Soil Samples for Particle-Size Analysis and Determination of Soil Constants.
 - f. D422: Particle Size Analysis of Soil.
 - g. D854: Specific Gravity of Soils.
 - h. D1556: Density of Soil by the Sand Cone Method.
 - i. D1557: Laboratory Compaction Characteristics of Soil Using Modified Effort.
 - j. D2216: Determination of Water (Moisture) Content of Soil, Rock, and Soil-Aggregate Mixtures.
 - k. D2487: Classification of Soils for Engineering Purposes.
 - l. D2922: Density of Soil and Soil-Aggregate in Place by Nuclear Methods (Shallow Depth).
 - m. D2937: Density of Soil in Place by Drive Cylinder Method.
 - n. D3017: Water Content of Soil and Rock in Place by Nuclear Methods (Shallow Depth).
 - o. D4318: Liquid Limit, Plastic Limit, and Plasticity Index of Soils.
 2. California Code of Regulations, Title 24, Part 2 – Basic Building Regulations, Chapter 24 – Excavations, Foundations, and Retaining Walls.
 3. California Department of Transportation (Caltrans) Standard Specifications:
 - a. Section 10: Watering.
 - b. Section 18: Dust Palliatives.
 - c. Section 19: Earthwork.
 4. CAL/OSHA, Title 8.
 5. City of Livermore Standard Plans and Specifications.
 6. Other authorities having jurisdiction.
- E. Geotechnical Engineering Services:
1. Geotechnical Engineer shall be provided by the District or Contractor, as the District's Representative to observe grading observations during preparation offsite, excavation, and compaction of fill materials.
 2. Make visits to site to familiarize him generally with progress and quality of work.

3. Make field observations and tests to enable him to form opinions regarding adequacy of site preparation, acceptability of fill materials and extent to which earthwork construction and relative compaction comply with specifications requirements.
 4. Examine conditions exposed in foundation excavations.
- F. Site Information:
1. Geotechnical Investigation Reports are available for examination by Contractor.
 2. Additional soil borings and other exploratory operations may be made by Contractor at no cost to the District. Submit proposed boring locations for review prior to performing the work.
- G. Contractor Qualifications:
1. Have successfully installed structural soil mixes similar to the quality specified for a period of not less than 5 years.
- H. The Owner will provide and pay for testing during Site Grading operations as follows:
- I. The Owner will pay for the first round of compaction and/or other required testing in any specific area.
- J. Re-testing of failed compaction and/or other testing shall be paid for by the Contractor.
- K. Tolerances:
1. Grading under this Section shall be to a tolerance as follows:
 - a. Areas 4:1 and Flatter: Plus or minus one-tenth of a foot (0.1'); however, the average grade over any one 50 foot square or 50 lineal feet of paving shall not vary more than 0.05' from the average grade shown on the Drawings.
 - b. Slopes Steeper than 4:1 plus or minus 0.5'.
- L. Layout of the Work: A licensed surveyor or registered civil engineer shall lay out and establish all lines, levels, grades and positions of all parts of the work.

1.06 SUBMITTALS

- A. Submit samples of each type of fill material to the testing laboratory, in air-tight containers as directed by the testing laboratory.
- B. Storm Water Pollution Prevention / Erosion Control Plans/Water Pollution Control Plans.
- C. Permit/Notice of Intent (N.O.I.) for discharge of storm run-off from the construction site.

1.07 PROJECT CONDITIONS

- A. Environmental Requirements:
1. Comply with the project SWPPP.
 2. When unfavorable weather conditions necessitate interrupting filling and grading operations, prepare areas by compaction of surface and grading to avoid collection of water.
 3. Provide adequate temporary drainage to prevent erosion.
 4. After interruption, reestablish compaction specified in last layer before resuming work.
 5. Protect existing storm drainage system from silt and debris resulting from construction activities. If contamination occurs, remove contamination at no cost to the District.
 6. Protect existing streams, ditches and storm drain inlets from water-borne soil by means of straw bale dikes, filter fiber dams, or other methods.

- B. Protection of Persons and Property: Barricade open excavations occurring as part of this work and post with warning lights. Operate warning lights during hours from dusk to dawn each day and as otherwise required. Provide signs redirecting vehicular and pedestrian traffic.
- C. Protect structures, utilities, sidewalks, pavements, and other facilities from damage caused by settlement, lateral movement, undermining, washout, and other hazards created by grading operations.
- D. Use all means necessary to control dust on or near the work. Thoroughly moisten all surfaces as required to prevent dust from becoming a nuisance to the public, neighbors, and concurrent performance of other work on the site.
- E. Tree and Vegetation Protection: Protect all trees, shrubs, lawns and groundcovers indicated on the Drawings to remain.
- F. Promptly repair damage to adjacent facilities caused by earthwork operations. Cost of repair at Contractor's expense.
- G. Should uncharted or incorrectly charted piping or other utilities be encountered during excavation, consult the Architect immediately for directions as to procedure. Cooperate with Owner and utility companies in keeping respective services and facilities in operation. Repair damaged utilities to satisfaction of utility owner.
- H. Locate, protect, and maintain bench marks, monuments, control points and project engineering reference points. Re-establish disturbed or destroyed items at Contractor's expense.

PART 2 – PRODUCTS

2.01 GENERAL

- A. Approval Required: All fill material shall be subject to approval of the Geotechnical Engineer.
- B. Notification: For approval of imported fill material, notify the Geotechnical Engineer at least 5 (five) working days in advance of intention to import material, designate the proposed borrow area, and permit the Engineer to sample as necessary from the borrow area for the purpose of making acceptance tests to prove the quality of the material.

2.02 BACKFILL AND FILL MATERIALS

- A. General: Provide acceptable soil materials for backfill and fill as follows:
 - 1. Material for use as fill shall be any non-expansive soil which, in the opinion of the Geotechnical Engineer, is suitable for use in constructing fills and which contains no rocks 6 inches or larger in greatest dimension with not more than 15 percent larger than 2.5 inches, and which contains at least 40 percent material smaller than 1/4 inch in diameter.
 - 2. Non-expansive soils are defined as those soils which have a liquid limit less than 30 percent, a plasticity index less than 12 percent, and which swell less than 3 percent when compacted as hereinafter specified for compacted fill.
 - 3. On-site material meeting requirements specified may be used as fill.
 - 4. Provide imported fill material as required to complete the work. Obtain rights and pay all cost for imported materials.
 - 5. No material of a perishable, spongy, or otherwise improper nature shall be used in the fills.

PART 3 – INSTALLATION**3.01 INSPECTION**

- A. Examine the substrate under which the earthwork is to be done. Notify the Architect, in writing, of conditions detrimental to the proper and timely completion of the work. Do not proceed with the work until unsatisfactory conditions have been corrected.

3.02 PREPARATION

- A. Establish extent of grading and excavation by area and elevation. Designate and identify datum elevation and project engineering reference points. Set required lines, levels, and elevations.
- B. Do not cover or enclose work of this Section before obtaining required inspections, tests, approvals, and location recording.

3.03 EXISTING UTILITIES

- A. Before starting grading and excavation, establish the location and extent of underground utilities in the work area by all means necessary including conductive, and electromagnetic field induction, and radio frequency toning. Exercise care to protect existing utilities during earthwork operations. Perform excavation work near utilities by hand and provide necessary shoring, sheeting, and supports as the work progresses.
- B. Maintain, protect, relocate, or extend as required, existing utility lines to remain which pass through the work area. Pay costs for this work, except as covered by the applicable utility companies.
- C. Protect active utility services uncovered by excavation.
- D. Remove abandoned utility service lines from areas of excavation. Cap, plug, or seal abandoned lines and identify termination points at grade level with markers.
- E. Accurately locate and record abandoned and active utility lines rerouted or extended on project record documents.

3.04 LINES AND LEVELS

- A. Finished grades shown on Plans are given in feet and decimals of feet and are to be the top of all graded or paved surfaces. Slope uniformly between given spot elevations unless otherwise indicated.
- B. Transition between changes in vertical gradient of walks and paving shall be smooth and gradual with no abrupt or sharp changes.
- C. Horizontal curves and radii shall be laid out tangent to adjacent straight lines or adjacent compound curves. Curves shall be smooth and flowing.
- D. Horizontal layout shall not vary more than 1 inch from dimensions indicated on the Drawings. Make minor field adjustments in the layout as necessary to make radii tangent and curves smooth and flowing as indicated on the Drawings.

3.05 STRIPPING AND GRUBBING

- A. Strip to remove topsoil containing vegetation, roots, and debris within construction limits and within all areas to be planted, except under drip line of existing trees to remain.
- B. Estimated depth of stripping in lawn areas is 2"-3".
- C. Remove stripped material from site.

3.06 SITE GRADING

- A. Perform grading within contract limits, including adjacent transition areas, to new elevations, levels, profiles, and contours indicated. Provide subgrade surfaces parallel to finished surface grades. Provide uniform levels and slopes between new elevations and existing grades.
- B. Grade surfaces to assure areas drain away from structures and to prevent ponding and pockets of surface drainage. Provide subgrade surfaces free from irregular surface changes and as follows:
 - 1. Rough Grading: Plus or minus 0.10 ft. subgrade tolerance. Finish required will be that ordinarily obtained from either blade-grader or scraper operations.
 - 2. Provide subgrade surface free of exposed boulders or stones exceeding 4" in greatest dimension in paved areas; 2" in lawn and planting areas.
 - 3. Lawn and Planting Areas: Establish finished grade 3/4" below adjacent surfaces in lawn areas and 1-1/2" in groundcover and shrub areas except as otherwise indicated on the Drawings.
 - 4. Paved Areas: Shape surface of subgrade areas to line, grade and cross-section indicated. Provide compacted subgrade suitable to receive paving base materials. Subgrade tolerance plus 0, minus 1/2".
- C. Grading at existing trees to remain:
 - 1. Review each existing tree condition with the Landscape Architect and obtain written approval of the grading approach to be taken.
 - 2. Perform grading, within drip line of existing trees to remain, by hand methods to elevations indicated.
 - 3. Cut roots cleanly to depth 3" below proposed finish grade. Coat cut roots 1-inch in diameter and larger with tree seal.

3.07 EXCAVATING

- A. Excavate for structures to elevations and dimensions shown. Extend excavation a sufficient distance from foundations to permit placing and removal of formwork, installation of materials, services, and inspection. Hand trim foundation excavations to final grade just before concrete is placed. Remove loose, soft materials, and all organic matter. Footings shall bear on approved undisturbed bearing soil.
- B. Obtain inspection and testing of foundation excavations by Geotechnical Engineer before concrete is placed.
- C. Excavate for curbs, walks, and paving to cross-sections, elevations, and grades indicated. Allow for base material.
- D. Earth excavation shall include the satisfactory removal and disposal of all materials encountered, regardless of the nature of the materials, the condition of the materials at the time they are excavated, or the manner in which they were excavated.
- E. Overexcavate and remove unsatisfactory soil materials extending below required elevations to depth as directed by the Geotechnical Engineer.
- F. Unauthorized excavation consists of removal of materials without specific direction of Geotechnical Engineer.
 - 1. Under footings, foundation bases, or retaining walls, fill unauthorized excavation by extending the indicated bottom elevation of the footing or base to the excavation bottom, without altering required top elevation. Lean concrete fill may be used to bring elevations to proper position, only when acceptable to the Architect and Geotechnical Engineer.

2. Elsewhere, backfill and compact unauthorized excavations as specified for authorized excavations of same classification, unless otherwise directed by Geotechnical Engineer.
- G. Shore, sheet, or brace excavations as required to maintain them secure. Remove shoring and bracing as backfilling progresses, when banks are safe against caving.
- H. Do not excavate footings or slabs to the full depth when freezing temperature may be expected, unless footings or slabs are placed immediately after the excavation has been completed. Protect excavation bottoms from freezing when the placing of concrete is delayed.

3.08 SITE DRAINAGE AND UTILITIES EXCAVATING AND BACKFILLING

- A. Performed under Site Drainage, Section 336000.

3.09 DRAINAGE

- A. Provide necessary pumps and drainage lines and maintain excavations, including footings and pits, free from water, ice and snow during excavating and subsequent work operations.
- B. Provide drainage of the working area at all times.

3.10 MOISTURE CONDITIONING AND SURFACE RECOMPACTION IN FILL AREAS

- A. Prior to placing any fill, scarify exposed competent foundation bearing soils to a depth of 6" and re-compact as herein specified for compacted fill.
- B. Cut out soft areas of exposed soils not readily capable of in situ compaction. Backfill with select fill or approved on-site soils and compact to density equal to requirements for subsequent backfill material.
- C. Obtain the Geotechnical Engineer's approval of subgrade prior to filling.

3.11 FILLING, BACKFILLING AND COMPACTING

- A. Obtain the Geotechnical Engineer's approval of all fill material.
- B. Spread approved fill material uniformly in layers not greater than 8" of loose fill thickness over entire fill area.
 1. Lift thickness requirements may be modified by Geotechnical Engineer to suit equipment and materials or other conditions when required to assure satisfactory compaction.
 2. Moisture-condition fill material by aerating or watering and thoroughly mix material to obtain moisture content permitting proper compaction.
 3. Place and compact each layer of fill to indicated density before placing additional fill material. Repeat filling until proposed grade, profile, or contour is attained.
 4. Suspend fill operations when satisfactory results cannot be obtained because of environmental or other unsatisfactory site conditions. Do not use muddy or frozen fill materials. Do not place fill material on muddy or frozen subgrade surface.
 5. Maintain surface conditions that permit adequate drainage of rainwater and prevent ponding of surface water in pockets. When fill placement is interrupted by rain, remove wet surface materials or permit to dry before placing additional fill material.
- C. Place backfill materials in uniform layers not greater than 8" loose thickness over entire backfill area.
 1. Place and compact each layer of backfill to the specified density before placing additional backfill.

2. Use hand tampers or vibrating compactors at foundation walls, retaining walls and similar locations. Do not use large rolling equipment adjacent to foundation walls and retaining walls.
 3. Do not backfill against foundation walls or retaining walls until walls for bearing surfaces have reached design strength or are properly braced, and backfilling operations approved. Provide clean backfill materials, except where granular materials are indicated. Compact in maximum 8" layers.
- D. Fill all areas of settlement to proper grade before subsequent construction operations are performed.
- E. Compaction:
1. Provide compaction control for all fill and backfill.
 2. Compact each layer of approved fill or backfill material at foundations, slabs-on-grade, retaining walls, and paved areas to 95%. Extend compaction at least 5'-0" at both sides of foundations and retaining walls and at least 1'-0" beyond slabs-on-grade and paving.
 3. Compact top 6" of subgrade and each layer of fill material at lawns and unpaved areas to 85%.
 4. Water settling, puddling, and jetting of fill and backfill materials as a compaction method are not acceptable.
 5. Maintain moisture content of materials, during compaction operations within required moisture range to obtain indicated compaction density.
 6. Provide adequate equipment to achieve consistent and uniform compaction of fill and backfill materials.

3.12 PREPARATION OF SUBGRADE FOR PAVING

- A. Grade and compact areas to be paved as hereinbefore specified and required to accommodate pavement construction including base material.
- B. Where subgrade for paving is at existing grade and no excavating or filling has been done, prepare the subgrade as herein specified for Moisture Conditioning and Surface Recomaction in Fill Areas.

3.13 FIELD QUALITY CONTROL

- A. Quality-Control Testing During Construction: Testing service must inspect and approve subgrades and fill layers before further construction work is performed thereon.
- B. When, during progress of work, field tests indicate that installed, compacted materials do not meet specified requirements, provide additional compaction until specified density is achieved, or remove and replace defective materials with new materials as directed by the Geotechnical Engineer. Cost of additional labor, materials, and testing to attain specified density at Contractor's expense.

3.14 PROTECTION:

- A. Protect newly graded areas from traffic and erosion. In unpaved areas without landscaping, cover with straw erosion control blanket. Follow manufacturer's recommendations for installation. Provide and place straw wattles or biodegradable fiber logs across the slope at the midpoint and along the downhill edge of site. No soil is to be left uncovered at the completion of construction. Keep free of trash and debris.
- B. Repair and re-establish grades in settled, eroded, and rutted areas to specified tolerances.

- C. Where completed compacted areas are disturbed by subsequent construction operation or adverse weather, scarify surface, reshape, compact to required density and provide other corrective work, including retesting, prior to further construction.

3.15 DISPOSAL AND WASTE MATERIALS

- A. Stockpile, haul from site, and legally dispose of, at Contractor's expense, all waste materials, including excess soil from grading operations, excess excavated materials, rock, trash, and debris.
- B. Maintain disposal route clear, clean, and free of debris.

3.16 CLEANUP

- A. Upon completion of earthwork operations, clean areas within contract limits, remove tools and equipment. Provide site clear, clean, free of debris, and suitable for site work operations.

END OF SECTION

PART 1 – GENERAL**1.01 SUMMARY:**

- A. This section describes general requirements, products, and methods of execution relating to on-site earthwork. Any work within the public right-of-way shall be constructed to the standards of the City of Livermore and State of California Department of Transportation. Work includes, but is not limited to, the following:
 - 1. Grading.
 - 2. Material.
 - 3. Excavation.
 - 4. Filling and backfilling.
 - 5. Soil Sterilant.
 - 6. Termiticide.
- B. Provide labor, material and equipment and services necessary to complete the excavations, re-compaction and finish grading as specified and indicated on Drawings.
 - 1. Obtain permit from local authorities.
 - 2. Provide surveying for grading operations.
 - 3. Provide shoring design.
 - 4. Provide dewatering operations.
 - 5. Provide site grading, cut, fill and finish.
 - 6. Provide excavation and backfill for filling construction, including trenches within building lines.
 - 7. Preparation for subgrade for building slabs, walks, pavements, and landscaping.
 - 8. Provide distribution of stockpiled topsoil.
 - 9. Provide sub-base course for walks and pavements.
 - 10. Provide engineered fills for building slabs and foundations.
 - 11. Provide sand and gravel for capillary break/moisture barrier under building slabs.
 - 12. Provide sub-surface drainage backfill for walls and trenches.
- C. The work includes removal and legal disposal off the site of debris, rubbish and other materials resulting from clearing and grubbing operations.
- D. Work specified in Related Sections:
 - 1. Section 31 10 00 – SITE PREPARATION AND DEMOLITION.
 - 2. Section 31 23 33 – TRENCHING, BACKFILLING, AND COMPACTING.
 - 3. Section 34 47 27 – BIORETENTION

1.02 DEFINITIONS:

- A. Select Fill:
 - 1. Soil or soil-rock material approved by District's Representative used by the Contractor in order to raise grades or to backfill excavations.

2. The District's Testing Agency will make sufficient tests and/or observations for the purpose of issuing a written statement that material meets or exceeds the specification requirements.
- B. On-site Material: Soil or earth material obtained from required on-site excavation.
- C. Excavation: Consists of the removal of material encountered to subgrade elevations and the re-use or disposal of materials removed.
- D. Subgrade: The uppermost surface of an excavation or the top surface of a fill or backfill immediately below sub-base, drainage fill, rock base course, or topsoil materials.
- E. Import Material: Soil material obtained off-site when sufficient approved soil material is not available from excavations.
- F. Base Course: The layer placed between the sub-base and surface pavement in a paving system.
- G. Relative Compaction: In-place dry density of soil expressed as percentage of maximum dry density of same materials, as determined by laboratory test procedure American Society for Testing and Materials (ASTM) D1557.
- H. Overexcavation: Removal of material below required subgrade elevations.

1.03 SUBMITTALS:

- A. Comply with provisions of Section 01 33 00 – SUBMITTAL PROCEDURES.
- B. Product Data: Manufacturer's literature and data, including, where applicable, capacity, labels, or other markings on equipment made to the specified standards for materials, for the following:
 1. Imported materials.
 2. Class II aggregate base (Caltrans Section 26).
 3. Soil Sterilant.
 4. Termiticide.
 5. Cement Treatment.
 6. Geotextiles.
 7. Subdrainage Pipe.
- C. Test Reports: Submit the following reports for import material directly to Architect from the Contractor's testing services:
 1. Test reports on borrow material.
 2. Density test reports.
 3. One optimum moisture-maximum density curve for each type of soil encountered.
 4. Not used.
 5. Not used.
 6. Soil percolation rate test for soils to be used in storm water treatment zones.
- D. Shoring Design: Where shoring is required by State Law or Contractor shall provide necessary design, provide proposed excavation shoring method for review prior to commencement of excavation requiring shoring. Include the following information:
 1. Basic design assumptions.
 2. Design Calculations.
 3. Describe materials or shoring system to be used.

4. Indicate whether or not any components will remain after filling or backfilling.
 5. The shop drawings for the proposed shoring system.
 6. Coordinate with the Construction Documents and identify any proposed modifications or deviations.
 7. Certification of the above by a registered professional civil or structural engineer licensed by the State of California.
 8. Submittal will be reviewed for general conformance with project plans, but no review of calculations will be provided.
- E. Dewatering Plan: Based upon site surface and subsurface conditions, including available geotechnical and hydrological data, provide a system to perform the following:
1. Lower the ground water level below bottom of excavation.
 2. Relieve the hydrostatic pressure below the subgrade to prevent uplift.
 3. Prevent surface drainage from accumulating within work area.
 4. Legally discharge and dispose of excess water.
 5. Submit description of basic components of proposed dewatering system and its planned method of operation.
- F. Samples:
1. 20-lb. samples sealed in air-tight containers, of each proposed fill and backfill soil material from on-site or borrow sources. Provide to Geotechnical Engineer as requested.
 2. 20-lb samples sealed in air tight containers of specialty soils for submission to a plant and soil testing facility for analysis. Include perc test and sieve analysis.
- G. Pad Certification
1. Submit a pad certification stamped by a California Licensed Land Surveyor.
- H. Storm Water Pollution Prevention / Erosion Control Plans/Water Pollution Control Plans
- I. Permit/Notice of Intent (N.O.I.), for discharge of storm run-off from the construction site.
- J. Haul Routes.

1.04 ASSURANCE:

- A. Requirements of Regulatory Agencies:
1. Comply with State of California Business and Transportation Agency, California Department of Transportation (CDT, Caltrans) "Standard Specifications" (Caltrans Standard Specification).
 2. Comply with State of California Code of Regulations (CCR).
 3. Comply with State of California Construction Safety Orders, Latest Edition (CAL/OSHA).
 4. City of Livermore Department of Public Works, Standards and Specifications and Drawings, latest edition.
 5. BCDC, ACOE, Fish and Wildlife, if applicable.
- B. Soil Testing:

1. District will engage a geotechnical testing agency, to include testing soil materials proposed for use in the work and for quality control testing during excavation and fill operations.
 2. Test results will be distributed in compliance with Section 014523 – TESTING AND INSPECTION SERVICES.
- C. Codes and Standards:
1. Perform excavation work in compliance with applicable requirements of authorities having jurisdiction.
 2. Statewide General Permit to Discharge Storm Water associated with construction activity.
 3. The project Storm Water Pollution Prevention and Monitoring Plan.
- D. Comply with the latest editions of the following Standards and Regulations:
1. American Society for Testing and Materials (ASTM):
 - a. Concrete Aggregates.
 - b. C125: Standard Terminology Relating to Concrete and Concrete Aggregates.
 - c. C136: Sieve Analysis of Fine and Coarse Aggregates.
 - d. C566: Total Evaporable Moisture Content of Aggregate by Drying.
 - e. D421: Dry Preparation of Soil Samples for Particle-Size Analysis and Determination of Soil Constants.
 - f. D422: Particle Size Analysis of Soil.
 - g. D854: Specific Gravity of Soils.
 - h. D1556: Density of Soil by the Sand Cone Method.
 - i. D1557: Laboratory Compaction Characteristics of Soil Using Modified Effort
 - j. D2216: Determination of Water (Moisture) Content of Soil, Rock, and Soil-Aggregate Mixtures.
 - k. D2487: Classification of Soils for Engineering Purposes.
 - l. D2922: Density of Soil and Soil-Aggregate in Place by Nuclear Methods (Shallow Depth)
 - m. D2937: Density of Soil in Place by Drive Cylinder Method.
 - n. D3017: Water Content of Soil and Rock in Place by Nuclear Methods (Shallow Depth).
 - o. D4318: Liquid Limit, Plastic Limit, and Plasticity Index of Soils.
 2. California Code of Regulations, Title 24, Part 2 - Basic Building Regulations, Chapter 24 - Excavations, Foundations, and Retaining Walls.
 3. California Department of Transportation (Caltrans) Standard Specifications:
 - a. Section 10: Watering.
 - b. Section 18: Dust Palliatives.
 - c. Section 19: Earthwork.
 4. CAL/OSHA, Title 8.
 5. City of Livermore Standard Plans and Specifications
 6. Other authorities having jurisdiction

E. Geotechnical Engineering Services:

1. Geotechnical Engineer shall be provided by the District or Contractor, as the District's Representative to observe grading observations during preparation offsite, excavation, and compaction of fill materials.
2. Make visits to site to familiarize him generally with progress and quality of work.
3. Make field observations and tests to enable him to form opinions regarding adequacy of site preparation, acceptability of fill materials and extent to which earthwork construction and relative compaction comply with specifications requirements.
4. Examine conditions exposed in foundation excavations.

F. Site Information:

1. Geotechnical Investigation Reports are available for examination by Contractor.
2. Additional soil borings and other exploratory operations may be made by Contractor at no cost to the District. Submit proposed boring locations for review prior to performing the work.

G. Contractor Qualifications:

1. Have successfully installed structural soil mixes similar to the quality specified for a period of not less than 5 years.

1.05 DELIVERY, STORAGE, AND HANDLING:

- A. Protect materials of this section before, during and after installation; objects designated to be retained; and the installed work of other trades.
- B. In the event of damage to any of these items, immediately make repairs or replacements necessary to the acceptance of the District's Representative and at no additional cost to the District.
- C. Comply with provisions of Section 01 50 00 – TEMPORARY FACILITIES AND CONTROLS where necessary to control dust and noise on and near the work caused by operations during performance of the Work.

1.06 PROJECT CONDITIONS:

- A. Site Information: Review the geotechnical report identified in Section 02 30 00 – SUBSURFACE INVESTIGATION.
 1. The character of the material to be excavated or used for subgrade is not necessarily as indicated.
 2. Ground water elevations indicated are those existing at the time subsurface investigations were made and do not necessarily represent ground water elevation at the time of construction.
- B. Environmental Requirements:
 1. Comply with the project SWPPP.
 2. When unfavorable weather conditions necessitate interrupting filling and grading operations, prepare areas by compaction of surface and grading to avoid collection of water.
 3. Provide adequate temporary drainage to prevent erosion.
 4. After interruption, reestablish compaction specified in last layer before resuming work.

5. Protect existing storm drainage system from silt and debris resulting from construction activities. If contamination occurs, remove contamination at no cost to the District.
 6. Protect existing streams, ditches and storm drain inlets from water-borne soil by means of straw bale dikes, filter fiber dams, or other methods.
- C. Protections of open excavations.
1. Barricade open excavations and post with warning lights.
 2. Comply with requirements of Section 01 50 00 –TEMPORARY FACILITIES AND CONTROLS.
 3. Operate warning lights as recommended by authorities having jurisdiction.
 4. Protect structures, utilities, sidewalks, pavements, and other facilities immediately adjacent to excavations, from damages caused by settlement, lateral movement, undermining, washout and other hazards.
- D. Protection of Subgrade
1. Protection of Subgrade: Do not allow equipment to pump or rut subgrade, stripped areas, footing excavations, or other areas prepared for project.
 2. At Contractor's option, and with the Geotechnical Engineer's approval, a working pad of granular material may be laid to protect footing and floor subgrade soils from disruption by traffic during wet conditions.
- E. Transport of soils.
1. Transport all excess soils materials by legally approved methods to disposal areas.
 2. Coordinate with the District's Representative.
 3. Sufficient topsoil and fill material shall be retained from the site to complete project requirements.
 4. Any additional topsoil and fill requirements shall be the responsibility of the Contractor.
- F. Blasting and use of explosives will not be permitted.
- G. Dust Control Requirements: At all times during earthwork operations and until final completion and acceptance of the earthwork, the Contractor shall prevent the formation of an airborne dust and dirt nuisance from interfering with the surrounding normal operations. The Contractor shall effectively stabilize the site of work in such a manner that it will confine dust particles to the immediate surface of the work and to obtain a minimum of 40 percent emissions reduction by applying a dust palliative except in areas of active cut and fill. The dust palliative shall be non-petroleum based. Water alone is not considered to be a dust palliative. The dust palliative shall be applied at the rate and method in conformance with Section 18, "Dust Palliatives," of the Caltrans Standard Specifications and as recommended and/or specified by the manufacturer. Contractor shall assume liability for all claims related to dust and dirt nuisances.
- H. All areas to receive Structural Soil shall be inspected by the District's Representative prior to beginning this work.

1.07 EXISTING UTILITIES

- A. The District will contact local utility agencies prior to construction and arrange for the shut-off of all utilities serving the buildings to be demolished. Coordinate work required to abandon active lines with the Program Manager and the District.
- B. Locate existing underground utilities in the areas of work. If utilities are to remain in place, provide adequate means of protection during excavation operations.

- C. Should uncharted or incorrectly charted piping or other utilities be encountered during excavation, consult the District's Representative immediately for directions.
 - 1. Cooperate with the District and public and private utility companies in keeping their respective services and facilities in operation.
 - 2. Repair damaged utilities to the satisfaction of the District's Representative.
- D. Do not interrupt existing utilities serving facilities occupied and used by the District or others, except when permitted in writing by the District and then only after acceptable temporary utility services have been provided.

1.08 SEQUENCING AND SCHEDULING:

- A. The schedule of operations shall be reviewed by the District's Representative prior to commencement of any work.
- B. Coordinate operations with other construction activities, such as relocation of existing utilities.

PART 2 – PRODUCTS**2.01 MATERIALS:**

- A. General:
 - 1. Fill material will be subject to approval of the Geotechnical Engineer.
 - 2. The Geotechnical Engineer's report on acceptability shall be final and binding.
 - 3. During grading operations, soil types other than those analyzed in the geotechnical report for the project, may be encountered.
 - 4. Consult the Geotechnical Engineer to determine the suitability of these soils.
 - 5. Organic content 3 percent by dry weight or less.
- B. Select Fill Material: Soil excavated from site (native) or imported conforming to requirements for fill material contained in geotechnical report for this project.
- C. Native Fill Requirements:
 - 1. Approved native materials shall have a particle size not exceeding 3 inches as determined by ASTM D422, at least 90 percent relative compaction and contain less than 3 percent organic content by weight.
- D. Imported Fill Requirements: Imported fill, where required, shall be non expansive granular soil, free of organic matter and deleterious substances. Imported fill material shall be close-graded with 35 percent or more passing No. 4 sieve and either: Expansion Index of 50 or less, Plasticity Index of 12 or less, or less than 10 percent, by dry weight, passing No. 200 sieve.
 - 1. Be thoroughly compactable without excessive voids.
 - 2. Meet the following plasticity requirements:
 - a. Maximum Plasticity Index of 12, as determined by ASTM D4318.
- E. Imported Fill for Planting Areas: Imported fill for use in planting areas shall be sandy loam weed free soil. Submit analysis from certified Soil and Plant Lab. Coordinate with Landscape Architect.
- F. Topsoil: Friable clay loam surface soil found in a depth of not less than 10 inches. Satisfactory topsoil is reasonably free of subsoil, clay lumps, stones and other objects over 2 inches in diameter, and without weeds, roots and other objectionable material.
 - 1. Use topsoil for top 2 feet of fill against exterior walls, except at paving and sidewalks.

2. Topsoil may also be used beyond the area within 5 feet of building, except under paving and sidewalks.
 3. Confirm suitability of stockpiled materials.
- G. Sand: Clean, well-graded fine to coarse sand with not more than 2 percent passing the #200 sieve based on wet sieve analysis. Provide at locations indicated in the construction documents. Where coarse sand is required, provide sand no finer than No.40 sieve.
- H. Bioretention Soil Mixture
1. Follow Appendix L of the NPDES.
- I. Drain Rock:
1. Washed, uniformly graded mineral aggregate ASTM D448 with percentage composition of dry weight conforming to following limits:
 - a. Passing 1-inch Sieve: 100 percent.
 - b. Passing 3/4-inch Sieve: 90-100 percent.
 - c. Passing No. 4 Sieve: 0-10 percent.
 2. Base at Slab-on-Grade: As specified in the geotechnical report for this project.
 3. Absorption of water to saturated-surface dry condition shall not exceed 3 percent of oven-dry weight of a sample.
- J. Backfill material for use behind retaining walls shall be a granular material consisting of sand, broken rock, or a mixture of sand and gravel containing no size larger than 2 ½ inches and not more than 15 percent passing the No. 200 sieve.
- K. Trench Backfill:
1. Trench Backfill above pipe zone material and in top 3 feet of building pad and top 1 foot below flatwork to be as per select fill and exclude rock/lumps retained on 4-inch sieve or 2-inch sieve in top 12 inches
 2. Trench backfill in all over locations to be or per general fill excluding rock/lumps retained on 4-inch sieve or 2-inch sieve in top 12 inches.
- L. Pipe/Conduit Bedding Material: 90 to 100 percent (by mass) should pass No. 4 sieve, and 5 percent or less should pass No. 200 sieve.
- M. Pea Gravel: 3/8 inch to ½ inch washed, uncrushed gravel. Use at drainage pipe and at other locations indicated.
- N. Filter Fabric: Provide filter fabrics that meet or exceed the listed minimum physical properties determined according to ASTM D4759 and the referenced standard test method in parentheses.
1. Grab Tensile Strength (ASTM D4632): 120 lb.
 2. Apparent Opening Size (ASTM D4751): #70 U.S. Standard sieve.
 3. Permeability (ASTM D4491): 135 gallons per minute per square foot.
- O. Drainage Pipe:
1. Perforated corrugated plastic drainage tubing meeting ASTM F667, with continuous integral nylon filter screen.
 2. Acceptable Manufacturers and Products: Advanced Drainage Systems "DrainGuard," Hancor "Agri-Flow."
 3. Provide couplings, elbows and other fittings as recommended by pipe manufacturer.
- P. Water: Clean and free from deleterious amounts of acids, alkalis, salts and organic matter.

2.02 SOIL STERILANT:

- A. Soil Sterilant shall be Treflan E.C. or approved equivalent.

2.03 TERMITICIDE:

- A. Termiticide shall be Permethrin, Denon, or approved equivalent.

PART 3 – EXECUTION**3.01 GENERAL:**

- A. Prior to commencement of earthwork, become thoroughly familiar with site conditions.
- B. If event discrepancies are found, immediately notify the District's Representative in writing, indicating the nature and extent of differing conditions.
- C. Requirements:
 - 1. Grades and elevations are to be established with reference to benchmarks referenced on Drawings.
 - 2. Maintain engineering markers such as monuments, benchmarks and location stakes. If disturbed or destroyed, replace.
- D. No earthwork shall be performed without physical presence or acceptance of the Geotechnical Engineer.
- E. The Geotechnical Engineer's acceptance is required by these specifications; notify the District's Representative at least 48 hours prior to commencing any phase of earthwork.
 - 1. No phase of work shall proceed until prior phase has been accepted by the Geotechnical Engineer.
 - 2. Work shall not be covered up or continued until acceptance of the Geotechnical Engineer shall give written notice of conformance with the specifications upon completion of grading.
- F. Compacting:
 - 1. Compact by power tamping, rolling or combinations thereof as accepted by the Geotechnical Engineer.
 - 2. Where impractical to use rollers in close proximity to walls, stairs, etc., compact by mechanical tamping.
 - 3. Scarify and re-compact any layer not attaining compaction until required density is obtained.
 - 4. Compaction by flooding, ponding or jetting will not be permitted, unless specifically accepted by the Geotechnical Engineer.
- G. Hazardous Materials
 - 1. If any materials are encountered that may be hazardous (as defined in Section 25117 of the California Health and Safety Code), inform the District's Representative verbally within 24 hours and in writing within 2 business days. Upon discovery, material is to remain undisturbed until investigation by State's representative is complete. The removal and disposal of hazardous materials, if discovered, is not part of the scope of work of this Division for this project.

3.02 SITE PREPARATION:

- A. Protect structures, utilities, sidewalks, pavements, and other facilities which are to remain from damage caused by settlement, lateral movement, undermining, washout, and other hazards

created by earthwork operations. Set up tree protection measures prior to commencing grading or demolition operations.

B. Clearing and Grubbing:

1. Remove from area of designated project earthwork all improvements and obstructions, including designated concrete curbs or slabs, asphaltic concrete, all tree and shrub roots, any abandoned buried utility, any irrigation lines, and other matter determined by the Geotechnical Engineer to be deleterious.
 - a. In all new planting areas, remove existing base material.
 - b. Use only hand methods for grubbing inside the drip line of trees indicated to be left standing.
 - c. Vegetation should be removed to such a depth that organic material is generally not present.
2. Remove from the site all trees and shrubs, unless otherwise indicated on the drawings as existing trees to be left standing.
3. Active utilities with the project limit should be rerouted or protected from damage by construction activities.
4. Rubble and excavated materials that do not meet the criteria of fill should be disposed of in an appropriate landfill.
5. Excavations resulting from the removal of buried utilities, tree stumps, or obstructions should be backfilled with compacted fill in accordance with the recommendations of the geotechnical report.
6. Existing Trees to remain:
 - a. Verify the locations of existing trees to be preserved.
 - b. Replace existing trees to remain that are damaged during construction at no additional cost to the District.
 - c. Carefully make clean cuts at roots and branches of trees indicated to be left standing, where such roots and branches obstruct new construction. Paint cuts over ½ inch in size with tree pruning compound.

C. Topsoil:

1. Strip topsoil to whatever depths encountered in manner to prevent intermingling with the underlying subsoil or other objectionable material.
2. Remove heavy growths of grass from areas before stripping. Where trees are indicated to be left standing, stop topsoil stripping a sufficient distance to prevent damage to the main root system.
3. Stockpile topsoil in storage piles to freely drain surface water.
4. Cover storage piles if required to prevent windblown dust.

3.03 EXISTING UTILITIES:

- A. Protect existing utilities that are to remain in operation as specified.
- B. Demolish and completely remove from the site existing underground utilities indicated to be removed. See Section 311000 – SITE PREPARATION AND DEMOLITION.
- C. Movement of construction machinery and equipment over existing pipes and utilities during construction shall be at contractor's risk.

- D. Excavation made with power-driven equipment is not permitted within 2 feet of any known utility or subsurface structure.
 - 1. Use hand or light equipment for excavating immediately adjacent to or for excavations exposing a utility or buried structure.
 - 2. Start hand or light equipment excavation on each side of the indicated obstruction and continue until the obstruction is uncovered or until clearance for the new grade is assured.
 - 3. Support uncovered lines or other existing work affected by excavation until approval for backfill is obtained.
 - 4. Report damage of utility line or subsurface structures immediately to the District's Representative.

3.04 PREPARATION OF SUBGRADE:

- A. Subgrade Preparation in areas constructed atop of expansive soils
 - 1. Under proposed buildings:
 - a. Over-excavate and replace the upper 3 feet of building pad subgrade with material conforming with Select fill requirements under section 2.1 of this specification.
 - b. Alternatively, the Contractor has an option to chemical treat the onsite soil with a combination of quicklime and cement stabilization
 - c. Chemically treated soil must conform to ASTM C977 Standards and achieve ASTM D1557 compaction standards
 - d. Contractor must submit a copy of their chemical proposed process to the geotechnical engineer for approval of the chemical treatment application.
 - 2. Under Pavement and Flatwork:
 - a. Over-excavate and replace the upper 1 foot of pavement subgrade with imported select fill conforming with requirements detailed under section 2.1.B of this specification.
 - b. Alternatively, the Contractor has an option to replace material with chemically treated onsite soil.
 - c. Chemically treated soil must conform to ASTM C977 Standards and achieve ASTM D1557 compaction standards
 - d. Contractor must submit a copy of their chemical proposed process to the geotechnical engineer for approval of the chemical treatment application.
- B. Subgrade Preparation in areas constructed atop of non-expansive soils and landscape areas
 - 1. Exposed subgrade should have the top 8 inches scarified, moisture conditioned and compacted to 90 percent of the reference density as evaluated by ASTM D1557

3.05 DEWATERING:

- A. Do not allow water from surface drainage or underground sources to accumulate in excavations, unfinished fills, or other low areas.
- B. Provide and maintain ample means and devices to remove water promptly and dispose properly of water entering excavations or other parts of the work to prevent softening of exposed surfaces.
- C. Dewater by methods which will ensure dry excavation and preservation of finish lines and grades of excavation bottoms.
- D. Prior to excavating below ground water level, place dewatering system in operation.

1. Lower the ground water level a minimum of 1 foot below the bottom of the excavation.
 2. Relieve the hydrostatic pressure in pervious zones below the subgrade elevation to prevent uplift.
 3. Use screens and gravel packs as necessary to prevent removal of fines from the soil.
- E. Operate the dewatering system continuously, 24 hours a day, 7 days a week until construction work below existing ground water level is completed.
1. Measure and record the performance of the dewatering system.
 2. After placement of initial slabs and backfill, the ground water level may be allowed to rise.
 3. At no time allow ground water to rise higher than 1 foot below the prevailing level of excavation or backfill.
 4. Have a back-up pump and system available for immediate use.
- F. Dispose of water away from the work in suitable manner without damage to adjacent property or menace to public health.
- G. Do not drain water into work being built or under construction without prior acceptance of the District's Representative.
- H. Protect existing storm drainage system from silt and debris resulting from construction activities. If contamination occurs, remove contamination at no cost to the District.

3.06 SITE EXCAVATION:

- A. General
1. All supports, shoring, and sheet piling required for the sides of excavations or for protection of adjacent existing improvements shall be provided and maintained by the Contractor. The adequacy of such systems shall be the complete responsibility of the Contractor.
 2. Earth and rock, regardless of character and subsurface conditions, shall be excavated to depths shown on drawings and to the neat dimensions of the footings wherever practicable, to permit pouring of footings and grade beams without use of side forms, except at slab perimeters.
 3. Large rocks, pieces of concrete or other obstructions, if encountered during the excavation/scarifying operations, shall be removed and disposed of by the Contractor off the site in a legal manner.
 4. Where footing excavation is too deep, backfill shall be concrete. Where footings are over dug laterally, side forms shall be employed for backfill with rock fill or concrete backfill shall be used (Contractor's option).
 5. Where forming is required, only that excavation necessary to permit placing and removal of forms shall be done.
 6. Bottoms of all footings and foundations trenches shall be subject to testing by the Geotechnical Engineer. Corrective measures as directed by the State's representative shall be executed promptly.
- B. Excavate subgrade as required to allow for finish grades shown on drawings, as required for structural fill or otherwise required for proper completion of the work.
- C. Remove and replace subgrade materials designated by Geotechnical Engineer as unsuitable.

3.07 FILL AND COMPACTING:

- A. General Requirements:
1. Backfill excavations as promptly as work permits.

2. Do not place engineered fill or backfill until rubbish and deleterious materials have been removed and areas have been approved by the District's Representative.
 3. Place acceptable soil material in layers to required subgrade elevations, for each area classification listed below.
 4. In excavations, use satisfactory excavated or borrow material.
 5. Under grassed areas, use satisfactory excavated or borrow material.
- B. After subgrade compaction has been approved by the Geotechnical Engineer, spread the engineered fill materials in lifts not exceeding 8 inches and uniformly mixed during the spreading operation.
1. Bring non-expansive fill materials to or slightly above the optimum moisture content and compacted to at least 90 percent of the maximum laboratory dry density, per ASTM D1557.
 2. Bring non-expansive aggregate fill materials to or slightly above the optimum moisture content and compacted to at least 95 percent of the maximum laboratory dry density, per ASTM D1557.
 3. Do not compact the top 12 inches of soil in the planting areas.
 4. Fill sections greater than 5 feet in depth shall be compacted to at least 95 percent.
- C. Repeat compaction procedure until proper grade is attained.
- D. Rocks generated during site earthwork may be used in fill when conforming to material specifications.

3.08 MOISTURE CONTROL:

- A. Do not place, spread or roll fill material during unfavorable weather conditions or when fill material is excessively wet.
- B. Do not resume operations until moisture content and fill density are satisfactory to the Geotechnical Engineer.
- C. Provide berms or channels to prevent surface water from flooding excavations. Promptly remove water collecting in depressions.
- D. Where soil has been softened or eroded by flooding or by placement during unfavorable weather, remove damaged areas and re-compact as described for fill and compaction.
- E. 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.
 1. Prevent free water appearing on surface during or subsequent to compaction operation.
 2. Remove and replace, or scarify and air dry, soil material too wet to permit compaction to specified density.
 3. Soil material 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.

3.09 GRADING:

- A. General: Uniformly grade areas of work including adjacent transition areas. Smooth finished surface within specified tolerances, compact with uniform levels or slopes between points where elevations are shown, or between such points and existing grades.
 1. All areas covered by the project, including excavated and filled areas and adjacent transition areas, shall be uniformly graded so that finished surfaces are at the elevations

established by the plans. Planter areas to receive future topsoil shall be graded below finished grade to allow for such material.

2. Finished surfaces and surfaces to receive paving and aggregate base shall be smooth, compacted, and free from irregular surface drainage.
3. Ditches, gutters, and swales shall be finished to permit proper surface drainage.
4. All surface areas, except paved and sloped embankments exceeding 8:1, shall be hydroseeded in accordance with specifications in Landscaping Sections.

B. Grading Tolerances:

1. Excavations shall not exceed 0.10-foot variation from dimensions and elevations shown or noted, unless otherwise approved by the District’s Representative.
2. Fill and backfill shall be placed with tolerance of plus or minus 0.10 foot if placed in layers.
3. Grading shall be done within plus or minus 0.10 foot typically; areas under slabs, walks or pavements shall be graded within tolerance of 0 to 0.10 foot.
4. Lawn or Unpaved Areas: Finish areas to receive topsoil to within not more than 0.10 foot above or below required subgrade elevations.
5. Walks: Shape surface of areas under walks to line, grade and cross-section, with finish surface not more than 0.10 foot above or below required subgrade elevation.
6. Pavements: Shape surface of areas under pavement to line, grade and cross-section, with finish surface not more than ½ inch above or below required subgrade elevation.

C. Compaction: After grading, compact subgrade surfaces to the depth and percentage of maximum density for each area classification.

3.10 SOIL STERILIZATION:

- A. General: Soil sterilant shall be applied to prepared subgrade or after installation of rock or aggregate base as recommended by the manufacturer. Sterilant shall be applied uniformly at the rate recommended by the manufacturer to all areas beneath asphalt concrete pavement, brick pavement, concrete pavement, or on-grade concrete slabs including sidewalks, curbs, and gutters and areas between the inner and outer security fences. In addition to ground areas treated, sterilant shall be applied below expansion or control joints, and at all areas where pipe, ducts, or other features penetrate slabs.

3.11 BIORETENTION SOIL MIXTURE

- A. General: Soil material installed in bio-retention and bio-swales shall be tested in-site to verify the field conditions meet performance requirements.
- B. Installation: Place soil material in lifts not exceeding 8-inches. Compact to between 83 and 87 percent relative compaction.
- C. Testing: Demonstrate in-site percolation by the following method. One test shall be performed for each treatment measure.
 1. Drive a 1 foot diameter pipe 2.5 feet long into the treatment soil until the end is 6 inches above the under drainage (typically 12-inches down).
 2. Wet treatment zone then fill pipe with water to 12 inches above ground elevation.
 3. Pipe should empty 12 inches of water within the following time periods:

<u>Soil Type</u>	<u>Min</u>	<u>Max</u>
Dewatering	1hr 12min	6hrs

Treatment 1hr 12min 2hrs 24min

4. If the in-situ test fails the soil within the treatment measures shall be removed and re-instated.

3.12 DISPOSAL OF EXCESS AND WASTE MATERIALS:

- A. Removal of Excess Excavated Material: Excess material shall be removed by the Contractor off the site in a legal manner.

3.13 FIELD QUALITY CONTROL:

- A. Testing Agency Services: Allow testing agency to inspect and test each subgrade and each fill or backfill layer. Do not proceed until test results for previously completed work verify compliance with requirements.
 1. Perform field in-place density tests according to ASTM D1556 (sand cone method), ASTM D2167 (Rubber Balloon Method), or ASTM D2937 (Drive Cylinder Method), as applicable.
 - a. Field in-place density tests may also be performed by the nuclear method according to ASTM D6938, provided that calibration curves are periodically checked and adjusted to correlate to tests performed using ASTM D1556. With each density calibration check, check the calibration curves furnished with the moisture gauges according to ASTM D6938
 - b. When field in-place density tests are performed using nuclear methods, make calibration checks of both density and moisture gauges at beginning of work on each different type of material encountered, and at intervals as directed by the Architect.
 2. Footing Subgrade: At footing subgrades, use a hand probe and consult with the Geotechnical Engineer.
 3. Paved and Building Slab Areas; At subgrade and at each compacted fill and backfill layer, perform at least one field in-place density test for every 2,000 square feet or less of paved area or building slab, but in no case fewer than three tests.
 4. Foundation Wall Backfill: In each compacted backfill layer, perform at least one field in-place density test for each 100 feet or less of wall length, but no fewer than two tests along a wall face.
 5. Trench Backfill: In each compacted initial and final backfill layer, perform at least one field in-place density test for each 150 feet or less of trench, but not fewer than two tests.
- B. Number and location of test shall be at option of the Geotechnical Engineer.
- C. When testing agency reports that subgrades, fills, or backfills are below specified density, scarify and moisten or aerate, or remove and replace soil to the depth required, re-compact and retest until required density is obtained.
- D. After grading is completed and the testing agency has completed observation of the work, permit no further excavation or filling, except as approved by the District's Representative.

3.14 PROTECTION:

1. Protect newly graded areas from traffic and erosion. In unpaved areas without landscaping, cover with straw erosion control blanket. Follow manufacturer's recommendations for installation. Provide and place straw wattles or biodegradable fiber logs across the slope at the midpoint and along the downhill edge of site. No soil is to be left uncovered at the completion of construction. Keep free of trash and debris.
2. Repair and re-establish grades in settled, eroded, and rutted areas to specified tolerances.

3. Where completed compacted areas are disturbed by subsequent construction operation or adverse weather, scarify surface, reshape, compact to required density and provide other corrective work, including retesting, prior to further construction.

3.15 CLEAN-UP:

- A. Comply with requirements of Section 017400 – CLEANING.

3.16 TERMITICIDE:

- A. Termiticide shall be applied to soils as recommended by the manufacturer. Termiticide shall be applied uniformly at the rate recommended by the manufacturer to all areas beneath and around wood frame structures.

END OF SECTION

PART 1 – GENERAL**1.01 SUMMARY**

- A. The contractor shall provide all materials, equipment and labor necessary to furnish and place ready-mix cast-in-place concrete, and shall form, mix, place, consolidate, finish, cure, repair and per- form all appurtenant work necessary to produce finished concrete complete in place as shown on the Drawings and as specified herein.
- B. This Section includes the following as indicated on the Landscape drawings:
 - 1. Final subgrade preparation and paving base.
 - 2. Concrete walks, pedestrian paving, steps, ramps, seat walls, landscape retaining walls, mowing edges, bands, and curbing.
 - 3. Colored concrete finished walks and paving.
- C. Related Sections:
 - 1. Section 31 20 00 – Earth Moving

1.02 REFERENCES AND STANDARDS

- A. Federal Specifications and Standards:
 - 1. PS 1 U.S. Product Standard for Concrete Forms, Class I.
 - 2. PS 20 U.S. Product Standard for American Softwood Lumber.
 - 3. UU-B-790A Building Paper, Vegetable Fiber (Kraft, Waterproofed, Water (Int. Amd.) Repellant and Fire Resistant).
- B. State of California (Caltrans) Standards:
- C. Americans with Disabilities Act and ADA
 - 1. Accessibilities Guidelines (ADAAG) Appendix A of 28 CFR Part 35, Title II.
- D. Commercial Standards:
 - 1. ACI 301 Specifications for Structural Concrete for Buildings.
 - 2. ACI 304 Recommended Practice for Measuring, Mixing and Placing Concrete.
 - 3. ACI 305 Recommended Practice for Hot Weather Concreting.
 - 4. ACI 306 Recommended Practice for Cold Weather Concreting.
 - 5. ACI 308 Recommended Practice for Curing Concrete.
 - 6. ACI 315 Details and Detailing of Concrete Reinforcement.
 - 7. ACI 318 Building Code Requirements for Structural Concrete and Commentary.
 - 8. ACI 347 Recommended Practice for Concrete Formwork.
 - 9. ASTM A 185 Specification for Steel Welded Wire Fabric, Plain, for Concrete Reinforcement.
 - 10. ASTM A 615 Specification for Deformed and Plain Billet-Steel Bars for Concrete Reinforcement.
 - 11. ASTM C 31 Practice for Making and Curing Concrete Test Specimens in the Field.
ASTM C 33 Specification for Concrete Aggregates.
 - 12. ASTM C 39 Test Method for Compressive Strength of Cylindrical Concrete Specimens.

13. ASTM C 94 Specification for Ready-Mixed Concrete.
14. ASTM C 143 Test Method for Slump of Hydraulic Cement Concrete.
15. ASTM C 150 Specification for Portland Cement.
16. ASTM C 309 Specification for Liquid Membrane-Forming Compounds for Curing Concrete.
17. ASTM C 494 Specification for Chemical Admixtures for Concrete.
18. ASTM C 1077 Standard Practice for Laboratories Testing Concrete and Concrete Aggregates for Use in Construction and Criteria for Laboratory Evaluation.
19. ASTM D 1751 Specification for Preformed Expansion Joint Fillers for Concrete Paving and Structural Construction (Non-extruding and Resilient Bituminous Types).
20. AWS D1.4 Structural Welding Code - Reinforcing Steel.
21. CRSI MSP-1 Concrete Reinforcing Steel Institute Manual of Standard Practice.
22. CBC California Building Code.

1.03 QUALITY ASSURANCE

- A. All site concrete work shall comply with these specifications and all applicable sections of the above-named References and Standards.
- B. Design Criteria:
 1. Concrete: ACI 301, Chapter 3.
 2. The contractor shall set and maintain concrete forms and perform finishing operations so as to ensure that the completed work is within the tolerances shown on the Drawing and as specified herein. Surface defects and irregularities are defined as finishes and are to be distinguished from tolerances. Permissible deviations for cast-in-place concrete structures shall not exceed + 1/4-inch.
- C. Record of Work: Maintain field records of time, date of placing, curing, and removal of forms of concrete in each portion of work. Such record shall be available to the Architect for examination at any time.
- D. Sample Panels: Before installing concrete work, provide sample panels, of all specified finishes, minimum 3 feet x 3 feet, using specified materials. Show color, texture, pattern, edging, and joint treatments. Correct and rebuild sample panels until Architect's acceptance of the work. Retain panels during construction as a standard for completed concrete paving work.
- E. Do not change source or brands of cement and aggregate materials during the course of the work.
- F. Concrete finisher shall have a minimum 3 years' experience finishing high-volume fly ash concrete.
- G. Slip Resistance: Concrete walk surfaces shall have a minimum wet and dry coefficient friction of 0.65 when tested in accordance with ASTM C1028.

1.04 SUBMITTALS

- A. Certificate of Compliance: Certificates of Compliance shall be provided for all products and materials proposed to be used under this Section.
- B. Mix Designs: Submit concrete mix designs for each required concrete type. Obtain the Architect's written approval before placing concrete.
- C. Reinforcement Shop Drawings: Indicate bar sizes, spacing, locations and quantities of reinforcing steel and wire fabric, bending and cutting schedules and supporting and spacing devices.

- D. Product data:
 - 1. Submit complete materials list of items proposed for the work. Identify materials source.
 - a. Submit documentation of recycled content for products with specified recycled content.
 - 2. Submit admixture, curing compound, retarder, and accessory item product data.
 - 3. Submit material certificates for aggregates, reinforcing, joint fillers and sealants.
 - a. Submit documentation of recycled content for products with specified recycled content.
- E. Submit concrete delivery tickets. Show the following:
 - 1. Batch number.
 - 2. Mix by class or sack content with maximum size aggregate.
 - 3. Admixtures.
 - 4. Air content.
 - 5. Slump.
 - 6. Time of loading.
- F. Submit concrete test reports.
- G. Submit minimum 8" x 8" colored concrete samples utilizing cement and aggregate proposed for the work.
- H. Sealants: Submit samples and test data demonstrating that the proposed sealants will adhere to the surfaces to which they will be applied.

1.05 DELIVERY, STORAGE, AND HANDLING

- A. Reinforcing: Unload and store on timber skids and keep free of mud.
- B. Concrete
 - 1. Hauling Time: Discharge all concrete transmitted in a truck mixer, agitator or other transportation device within 1 1/2 hours, or 300 revolutions of the drum after mixing water has been added, whichever is greater.
- C. Store decorative exposed aggregates in segregated area to prevent mixing with foreign materials.
- D. Deliver curing materials, admixtures, and retarders in manufacturer's standard unopened containers with labels legible and intact. Store and protect from freezing and damage.

1.06 PROJECT CONDITIONS

- A. Work notification: Notify Architect at least 24 hours prior to installation of concrete.
- B. Establish and maintain required lines and grade elevations. Refer to notes on the grading plans and Section covering site grading and/or earth moving
- C. Environmental Requirements
 - 1. Cold Weather Placement: When depositing concrete when the mean daily temperatures are below 40 degrees F., comply with recommendations in ACI 306. Maintain concrete temperature at a minimum of 55 degrees F. for sections having a minimum dimension of less than 12 inches, or 50 degrees F. for sections having a minimum dimension of 12 inches or greater, for not less than 72 hours after depositing. The specified non-chloride accelerator or high early strength Type III cement may be used when approved by the

Architect. Do not place concrete on days when the temperature at 9:00 a.m. is below 30 degrees F.

2. Hot Weather Placement: When depositing concrete in hot weather, follow the recommendations in ACI 305. The temperature of concrete at time of placement shall not exceed 90 degrees F. Protect to prevent rapid drying.
- D. Do not install concrete work over wet, saturated, muddy, or frozen subgrade.
- E. Protect adjacent work.
- F. Provide temporary barricades and warning lights as required for protection of project work and public safety.

1.07 GEOTECHNICAL ENGINEER

- A. The Engineer will inspect subgrade and aggregate base prior to installation of concrete work.

1.08 LAYOUT OF THE WORK

- A. A licensed surveyor or registered civil engineer shall lay out and establish all lines, levels, grades and positions of all parts of the work.

PART 2 – PRODUCTS

2.01 FORM AND FALSEWORK MATERIALS

- A. Except as otherwise expressly accepted by the DISTRICT, all lumber brought on the job site for use as forms, shoring, or bracing shall be new material.
- B. Materials for concrete forms, formwork and falsework shall conform to the following requirements:
 1. Lumber shall be Douglas Fir or Southern Pine, construction grade or better, in conformance with U.S. Product Standard PS 20.
 2. Plywood for concrete formwork shall be new, waterproof, synthetic resin bonded, exterior type Douglas Fir or Southern Pine plywood manufactured especially for concrete formwork and shall conform to the requirements of PS 1 for Concrete Forms, Class I, and shall be edge sealed.
 3. Form materials shall be metal, wood, plywood, or other approved material that will not adversely affect the concrete and will facilitate placement of concrete to the shape, form, line and grade shown. Metal forms shall be an approved type that will accomplish such results.
- C. Form-Release Agent: Commercially formulated form-release agent that will not bond with, stain, or adversely affect concrete surfaces, will not impair subsequent treatments of concrete surfaces, and is free of oils, waxes, and other materials harmful to concrete.

2.02 FORM TIES

- A. Form ties shall be provided with a plastic cone or other suitable means for forming a conical hole to insure that the form tie may be broken off back of the face of the concrete. The maximum diameter of removable cones for rod ties, or of other removable form-tie fasteners having a circular cross-section, shall not exceed 1-1/2 inches; and all such fasteners shall be such as to leave holes of regular shape for reaming. Form Ties shall be Burke Penta-Tie System, Richmond Snap-Tys, or equal.

2.03 REINFORCEMENT STEEL

- A. General: All reinforcement steel for all cast-in-place reinforced concrete construction shall conform to the following requirements:

1. Bar reinforcement shall conform to ASTM A 615 for Grade 60 Billet Steel Reinforcement with supplementary requirement S-1, or as otherwise shown.
 2. Welded wire fabric reinforcement shall conform to ASTM A 185 and the details shown.
- B. Accessories:
1. Accessories shall include all necessary chairs, slab bolsters, concrete blocks, tie wires, dips, supports, spacers, and other devices to position reinforcement during concrete placement. Wire bar supports shall be CRSI Class 1 for maximum protection with a 1/8-inch minimum thickness of plastic coating which extends at least 1/2 inch from the concrete surface. Plastic shall be gray in color.
 2. Concrete blocks (dobies), used to support and position reinforcement steel, shall have the same or higher compressive strength as specified for the concrete in which it is located. Wire ties shall be embedded in concrete block bar supports.

2.04 MATERIALS

- A. Portland cement: ASTM C150-12, Type II/V low alkali, natural color; ACI 301 2.1.
- B. Pozzolans: Coal Fly Ash: ASTM C618; Class C or Class F.
- C. Aggregate:
1. Provide ASTM C33 normal weight aggregates, size between 3/4" and 1" and with minimum size #4, clean, uncoated crushed stone or gravel coarse aggregate free of materials which cause staining or rust spots; fine aggregate shall be clean natural sand; ACI 301 2.4, of which at least 12% passes a 50-mesh screen.
 2. Recycled crushed concrete aggregate, ASTM C33 shall be used subject to approval by the Structural Engineer; minimum 25% desired.
- D. Water: Clean, fresh, and potable.
- E. Admixtures:
1. Air-entraining admixture: ASTM C260; ACI 2.2; add as required in ACI 301 3.4.1.
 2. Water-reducing admixture: ASTM C494/A; ACI 301 2.2; Euclid, Master Builders Pozzoloth, WR Grace or equivalent.
 3. Integral concrete colorant: Light-fast, lime proof, finely divided mineral oxide terrazzo matrix coloring. Davis Colors; Solomon Co., L. M. Scofield Company, or equal.
 4. The concrete shall not contain calcium chloride or admixtures containing more than 0.05% chloride ions or thiocyanates.
- F. Waterproofing admixture for water feature concrete: XYPEX Admix C-1000/C-2000.

2.05 MIXES

- A. Provide ASTM C94 ready-mixed concrete. Batch mixing at site is not acceptable; ACI 301 3.8.
1. Strength:
 - a. Paving: 2,900 psi minimum at 28 days; ACI 301 3.2, ASTM C31.
 - b. All other concrete 2,500 psi minimum at 28 days; ACI 301.3.2.
 2. Slump range: 2" to 4" maximum; ACI 301 3.5. (3" slump for integral color concrete paving)
 3. Durability: ACI 301 3.4.
 4. Integral concrete colorant: refer to Schedule of Landscape Construction Finishes on the drawings.

5. When using Top-Cast, a 6 sack mix (564 lbs/256 kg cement) should always be used to achieve correct etch.
- B. Maximize cement content of mix:
 1. Use 30-35% Fly Ash content of cementitious material.
- C. Provide an approved water-reducing admixture in all concrete. Maximum amount of water shall not exceed 45% by weight of [cement + pozzolans].
- D. Provide an air-entraining admixture in all concrete. Air content 5% to 7%.
- E. Indicate water added to mix at job site on each delivery ticket. Show quantity of water added. Site water tempered mixes exceeding specified slump range will be rejected as not complying with specification requirements.
- F. Mixes for Washed Exposed Aggregate Concrete paving and curbs shall be Gap-Graded to maximize coarse aggregate content to attain a dense, uniform aggregate exposure.
- G. Water feature structure and paving: add waterproofing admixture in accordance with manufacturer's printed instructions for the use intended.

2.06 ACCESSORIES

- A. Aggregate Base Course: Untreated base courses shall be installed under paving where indicated in the Drawings. Material shall be 3/4 inch maximum size broken stone or crushed gravel conforming to the requirements of Class 2 aggregate base of Section 26 of the State Specifications.
- B. Joint Filler: ASTM D1752 Type I, premolded non-extruding neoprene sponge rubber, thickness indicated; with removable polystyrene or PVC strip mechanically attached to the top edge.
- C. Expansion Joint Dowels: No. 4 smooth steel dowels; cover one end with capped cardboard dowel sleeve.
- D. Curing Compound: ASTM C309, Type 1-D, Class A non-yellowing, non-staining liquid membrane-forming type containing a fugitive dye. Chlorinated rubber compounds not acceptable for exterior use.
- E. Joint Sealants: Two-component polysulfide or polyurethane elastomeric type complying with FS TT-S-00227, self-leveling, designed for foot traffic.
- F. Epoxy-Bonding Adhesive: ASTM C 881, two-component epoxy resin, capable of humid curing and bonding to damp surfaces, of class and grade to suit requirements, and as follows:
 1. Type II, non-load bearing, for bonding freshly mixed concrete to hardened concrete.
- G. Cleavage Membrane/Vapor Barrier: 10 mil; black, polyvinyl chloride sheet; fungus resistant.
- H. Step Nosings:
 1. Embedded Abrasive Strips: Balco, 800-767-0082, AB-3 Block Strip, color: black, or equal.
- I. Prefabricated Drainage Composite: Three dimensional waffle pattern, high impact polymeric sheet with geotextile backing sheet. Compressive strength 15,000psi; Miradrain 6000 or equal.
- J. Top-Cast surface retarder: www.DaytonSuperior.com

PART 3 – EXECUTION

3.01 INSPECTION

- A. Examine the substrate under which the concrete work is to be installed. Notify the Architect, in writing, of conditions detrimental to the proper and timely completion of the work. Do not proceed with the work until unsatisfactory conditions have been corrected.

- B. All foundation bearing surfaces shall be inspected and approved by the Geotechnical Engineer prior to start of formwork.
- C. All formwork and reinforcing shall be reviewed and approved by the Architect prior to placement of concrete.

3.02 LINES AND LEVELS

- A. Finished grades shown on Plans are given in feet and decimals of feet and are to be the top of all graded or paved surfaces. Slope uniformly between given spot elevations unless otherwise indicated.
- B. Surfaces shall be true to within 1/8 inch when tested in any direction with a 10 foot straightedge. There shall be no pools of water standing on the pavement after a rain.
- C. Transition between changes in vertical gradient of walks and paving shall be smooth and gradual with no abrupt or sharp changes.
- D. Horizontal curves and radii shall be laid out tangent to adjacent straight lines or adjacent compound curves. Curves shall be smooth and flowing.
- E. Horizontal layout shall not vary more than 1 inch from dimensions indicated on the Drawings. Make minor field adjustments in the layout as necessary to make radii tangent and curves smooth and flowing as indicated on the Drawings.

3.03 PREPARATION

- A. Preparation of Subgrade: specified in Section 31 2100 - Site Grading.
- B. Aggregate Base
 - 1. Install under paving where indicated on the Drawings.
 - 2. Do not install until subgrade has been approved by the Geotechnical Engineer.
 - 3. Spread the aggregate base on the prepared subgrade to such a depth that when thoroughly compacted it will conform to the grades and dimensions shown on the Drawings. Spread and compact in accordance with Section 26-1 of the State Specifications. The finished surface shall be smooth, hard, and true to line and grade.
- C. Remove loose material and debris from base surface before placing concrete.

3.04 FORMWORK AND REINFORCING

- A. General: Conform with ACI 301, Chapter 4.
- B. Install, align, and level forms. Stake and brace forms in place. Maintain following grade and alignment tolerances:
 - 1. Top of form: Maximum 1/8" in 10'-0".
 - 2. Vertical face: Maximum 1/4" in 10'-0".
- C. Construct formwork carefully so that straight lines are perfectly tangent to radii, curves are smooth and flowing, and transitions between changes in vertical gradient of curbs, walls, walks and paving are smooth and gradual with no abrupt or sharp changes.
- D. Coat form surfaces in contact with concrete with form release agent. Clean forms after each use and coat with form release agent as necessary to assure separation from concrete without damage.
- E. Chamfer Strips: Where chamfered edges are indicated on the drawings, install wood chamfer strips in the forms; tooling of chamfers will not be allowed.
 - 1. Locate, place, and support reinforcement as indicated on the Drawings.

- F. Paving:
 - a. Provide a single layer of welded wire fabric in all concrete slabs-on-grade, paving and walks unless otherwise indicated.
 - b. Where indicated on the Drawings, provide reinforcing bars in concrete paving.
- 2. Provide reinforcing bars in walls, curbs, steps, and other locations indicated, adequately supported and secured to prevent displacement.
- G. Install, set, and build-in work furnished under other specification sections. Provide adequate notification for installation of necessary items.
- H. Install pipe sleeves for irrigation system furnished under Section 32 8400. Stake location of irrigation sleeves.

3.05 INSTALLATION

- A. Concrete Placement: (ACI 301 5.5.3)
 - 1. Comply with ACI 304 "Recommended Practice for Measuring, Mixing, Transporting, and Placing Concrete", and as specified.
 - 2. Protect concrete from physical damage or reduced strength due to weather extremes during mixing, placing, and curing. In cold weather comply with ACI 306, "Recommended Practice for Cold Weather Concreting". In hot weather comply with ACI 305, "Recommended Practice for Hot Weather Concreting."
 - 3. Moisten base to provide a uniform dampened condition at the time concrete is placed. Verify manholes or other structures are at required finish elevation and alignment before placing concrete.
 - 4. Place and spread concrete to the full depth of the forms. Use only square-end shovels or concrete rakes for hand-spreading and consolidating concrete. Exercise care during spreading and consolidating operations to prevent segregation of aggregate and dislocation of reinforcement.
 - 5. Free fall shall not exceed eight (8) feet in walls and columns, or five (5) feet in other elements.
 - 6. Place concrete in a continuous operation between expansion joints. Provide construction joints when sections cannot be placed continuously.
 - 7. Place concrete in one course, monolithic construction, for the full width and depth of concrete work. Provide minimum 4-inch-thick walks and paving, except as otherwise indicated.
 - 8. Strike-off and bull-float concrete after consolidating. Level ridges and fill voids. Check surface with a 10'-0" straightedge. Fill depressions and refloat repaired areas. Darby the concrete surface to provide a smooth level surface ready for finishing.
 - 9. Do not clean concrete trucks and equipment on site; use a previously designated approved site that meets environmental regulation.

3.06 JOINTS

- A. Construction Joints: locate and install where indicated, or if not indicated, so as to not impair the strength and appearance of the structure.
 - 1. Provide keyways at least 1-1/2 inch deep in joints in walls and between walls and footings.
 - 2. Use preformed metal construction joints in paving and slabs.

- B. Control Joints in retaining walls and seat walls: install vertical V-joints formed with 3/4" beveled wood chamfer strips spaced at 10 feet on center minimum, and at changes in direction, or as noted on drawings. Align joints with adjacent paving joints and markings.
- C. Expansion Joints:
1. Scope: install expansion joints in the following locations, whether shown on the drawings or not:
 - a. Concrete paving: minimum 20' O.C. and at all intersections.
 - b. At vertical surfaces: install joints without dowels at all building walls and other vertical structures.
 2. Hold joint filler straight, true to line and at proper level by stapling to 2X wood form; pour adjacent slabs separately.
 3. Neatly tool edges of joint flush with removable strip.
 4. Carefully remove the removable strip when concrete is sufficiently set.
 5. Avoid sprawling tooled joint edges; any damaged edges shall be repaired to the satisfaction of the Architect.
- D. Score Marks:
1. Tool or saw-cut score marks as indicated on the drawings.
 2. Tool straight lines with neatly formed radius edges; conform with details shown on the Drawings.
 3. Saw-cut straight lines continuous to vertical surfaces

3.07 FINISHES

- A. Perform concrete finishing using mechanical or hand methods as required. Finishes shall match approved samples.
- B. Integral Color Concrete:
1. Do not use magnesium floats or tools.
 2. Do not use visquine for curing.
 3. Do not allow excessive surface water.
- C. Upon completion of floating, and after bleed water has disappeared and concrete can sustain foot pressure with nominal indentation, cut concrete away from forms. Work edges with an edging tool. Round edges to 1/4" radius.
- D. Steps: To Receive Broom Finish:
1. Neatly tool nosings as detailed on the Drawings.
 2. Steel trowel to a smooth, hard finish.
 3. Using a stiff broom, strike clean, crisp broom mark lengthwise along treads and risers.
 4. Finish shall be uniform throughout in color and texture.
 5. Finish of riser faces shall match finish of treads.
- E. Paving to Receive Broom Finish:
1. Screed and float paving to a smooth, even grade in accordance with the Drawings using overhead screeds where necessary to establish flow lines or grade breaks.
 2. Steel trowel to a smooth, hard finish.

3. Using a stiff broom, strike clean, crisp broom marks across paving at right angles to the length of the ramp.
 4. Finish shall be uniform throughout in color and texture.
- F. Paving to Receive Top-Cast Finish:
1. Screed and float paving to a smooth, even grade in accordance with the Drawings using overhead screeds where necessary to establish flow lines or grade breaks.
 2. Bull float a second time.
 3. Moisture is needed in the top surface to react with the Top-Cast product. Use the 05 Top Cast product to achieve a sandblast finish. Apply the Top-Cast with a Hudson type sprayer with an adjustable nozzle or a fan type nozzle with a (.3 or .5 GPM). Apply Top-Cast with a sprayer at a rate of approximately 200-300 sf. ft. gal (4.9-7.4 sq. m/L)
 4. The Top-Cast will dry on the surface in about 1-2 hours after application depending on ambient temperature and humidity.
 5. Generally, wash the slab 12 to 16 hours later, this is totally dependent upon the mix design and ambient temperatures as well as job site conditions and the washing procedure used.
 6. Use a power washer with about 1500 PSI and a 25-degree fan nozzle. Wash about 6-10 inches away.
 7. Finish shall be uniform throughout in color and texture.
- G. Curbing, Headers, Bands and Dividers:
1. Neatly tool edges as detailed on the Drawings.
 2. Bring exposed surfaces to a hard, smooth steel trowel finish and then finish with a fine hair broom to produce a uniform crisp, light broom finish parallel to the length of headers and dividers.
 3. Finish of curb faces shall match finish of tops.
- H. Walls, Seatwalls and Curbwalls:
1. Bring exposed surfaces to a hard, smooth steel trowel finish.
 2. Finish shall be uniform in texture and color.

3.08 SEALANTS

- A. Work under this Section includes furnishing and installation of all sealants, backing rods, primers and associated work and materials in expansion joints in concrete work.
- B. Prime joints and install per manufacturers printed instructions.
- C. Hold sealant flush with paving surface.
- D. Sealant shall be smooth with no voids or irregularities.

3.09 ABRASIVE STEP NOSING

- A. Form an appropriately sized channel in the stairs where the abrasive bar system is to be installed.
 1. Size the channel 1/16 inch wider than the abrasive bar on each side.
 2. This can be achieved by casting the channel into poured concrete stairs, or by cutting, grinding or routing the channel into existing concrete.
- B. Install with a nominal 1/16" (2mm) exposed above the stair tread surface.
- C. Ensure that the channel is level, properly configured, and of the correct width and depth for the bar to be installed.

- D. Use compressed air or a brush to remove dust, dirt and debris from the channel prior to installation of the abrasive bars.

3.10 REPAIR OF SURFACE DEFECTS (ACI 301 9.1)

- A. Patching of tie holes is required.

3.11 CURING (ACI 301 12.1)

- A. Maintain concrete temperature as uniformly as possible, and protect from rapid atmospheric temperature changes.
- B. Apply curing compound in accordance with manufacturer's printed instructions.

3.12 FIELD QUALITY CONTROL (ACI 301, Chapter 16)

- A. Provide field quality control testing and inspection during concrete operations.
- B. Contractor shall provide adequate notice, cooperate with, provide access to the work, obtain samples, and assist test agency and their representatives in execution of their function.
- C. Testing:
 - 1. Provide slump test on first load of concrete delivered each day and whenever requested due to changes in consistency or appearance of concrete.
 - 2. Strength testing:
 - a. Provide 1 set of 3 test specimens for each 50-cu. yd. placed in any one day. Secure samples in accordance with ASTM C172 and mold specimens in accordance with ASTM C31.
 - b. Test 1 specimen at 7 days and 2 specimens at 28 days in accordance with ASTM C39.
 - c. Furnish copies of field records and test reports as follows:
 - 2 copies to Architect
 - 1 copy to Contractor
 - 1 copy to Ready Mix Supplier
 - 3. Record the exact location of the concrete in the work represented by each set of cylinders and show on test reports.
 - 4. Provide an insulated moist box for protection of the test cylinders until shipped to the laboratory.

3.13 MISCELLANEOUS CONCRETE REQUIREMENTS

- A. All other concrete work indicated on the drawings and/or required to complete all the work, shall be provided and installed, even though not specifically mentioned herein.

3.14 PROTECTION

- A. Protect concrete work from damage due to construction and vehicular traffic until final acceptance. Exclude construction and vehicular traffic from concrete pavements for at least 14 days.

3.15 CLEANING

- A. Perform cleaning during installation of the work and upon completion of the work.

- B. Remove all bituminous materials, form release agents, curing compounds or other materials employed in the work which would prevent proper application of sealants, liquid water proofing or other specified treatments.
- C. Remove from site all excess materials, debris, and equipment. Repair damage resulting from concrete operations.
- D. Repair any damage done to adjacent work to the satisfaction of the Owner.

END OF SECTION

PART 1 – GENERAL

1.01 SUMMARY

- A. Aggregate base
- B. Concrete unit paving as indicated and detailed on the Landscape Drawings.

1.02 RELATED WORK

- A. Section 32 13 13 – Pedestrian Concrete Improvements

1.03 REFERENCES AND STANDARDS

- A. Standard Specifications: Where referred to in these Specifications, "State Specifications" shall mean the California CalTrans Specifications, latest edition.
- B. Percent Compaction: As referred to in these Specifications, percent compaction or relative compaction is required in-place dry density of material expressed as a percentage of the maximum dry density of the same material determined in accordance with the ASTM Test Method D-1557-09. Optimum moisture content is the moisture content corresponding to the maximum dry density determined by the ASTM Test Method D-1557-09.
- C. American Society for Testing and Materials, (ASTM).
 - 1. ASTM C33 Concrete Aggregates
 - 2. ASTM C39 Concrete Compressive Strength
 - 3. ASTM C144 Aggregate for Masonry Mortar
 - 4. ASTM C150 Portland Cement
 - 5. ASTM C642 Water Absorption, Density, Voids in Hardened Conc
 - 6. ASTM C666 Rapid Freeze/Thaw Resistance of Conc
 - 7. ASTM C979 Pigments for Integrally Colored Concrete
 - 8. ASTM C1028 Coefficient of Friction
- D. Concrete tile Manufacturer’s Association (CTMA) Handbook for Concrete Tiles.

1.04 QUALITY ASSURANCE

- A. Concrete unit paving shall comply with these specifications and all applicable sections of the above-named references and standards.
- B. Installation: Performed only by skilled workmen with satisfactory record of performance on completed projects of comparable size and quality.
- C. Sample Panel: Before starting unit paving, provide a sample panel using materials for each type, patterns, and joints indicated for project work. Build panels at the site of full thickness and approximately 4 feet x 4 feet. Provide for the range of color, texture, and workmanship, proposed for the work. Correct and rebuild sample panel until Resident Engineer's acceptance of the work. Retain panel during construction as a standard for completed paving work.
 - 1. The approved sample panel may be a portion of the work and remain in place. Location as directed by the Resident Engineer.
 - 2. Provide a sample panel for each type of concrete unit paving required.
- D. Do not change source of pavers during the course of the work.

1.05 SUBMITTALS

- A. Submit manufacturer's product data and installation instructions for paver type.
- B. Submit a minimum of 5 full size samples of each color paver unit required. Include the full range of style, size, exposed finish, color, and texture proposed for the work.
- C. Submit manufacturer's certification that paver units comply with the specified material and physical requirements.

1.06 DELIVERY, STORAGE, AND HANDLING

- A. Protect paving units from damage, chipping, and soiling during delivery and storage. Store off the ground on pallets or wood platforms.
- B. Store loose granular materials in a well-drained area on a solid surface to prevent mixing with foreign materials.
- C. Additional Material: Provide an additional 10% of all the listed paving items and associated accessories for the owner.

1.07 PROJECT CONDITIONS

- A. Review installation procedures and coordinate paving work with other work affected by the interlocking concrete unit paving work.
- B. Cold Weather:
 - 1. Do not use frozen materials or materials mixed or coated with ice or frost.
 - 2. Do not build on frozen work or wet, saturated or muddy subgrade. Remove and replace paving damaged by frost or freezing.
- C. Protect partially completed paving against weather damage when work is not in progress.
- D. Provide temporary barricades and warning lights as required for protection of project work and public safety.
- E. Protect adjacent work from damage, soiling, or staining during paving operations.

1.08 GEOTECHNICAL ENGINEER

- A. Review the Geotechnical recommendations for subgrade preparation beneath paving.
- B. The Engineer will inspect subgrade prior to installation of paving.

PART 2 – PRODUCTS**2.01 ACCEPTABLE MANUFACTURERS**

- A. Manufacturers: As indicated on the Drawings.

2.02 MATERIALS

- A. General: Precast paver unit materials and fabrication shall consist of Portland cement, aggregate and color admixtures. Refer to drawings for sizes and colors.
 - 1. Portland Cement: ASTM C150, Type 111, high early strength.
 - 2. Aggregate: ASTM C33.
 - 3. Portland Cement Mortar: Meets or exceeds ANSI A118.4 requirements when mixed with water or a latex admixture and is designed for installation of large format tile.
 - 4. Grout: Meets or exceeds ASNI A118.7 when mixed with water or a latex admixture.

5. Plastic "T" spacers: 1/16" x 1" x 4".
 6. Compressive Strength: Minimum 5,000 psi at time of delivery.
 7. Water absorption: Maximum 5%.
- B. Bedding and leveling material: ASTM C33 or AASHTO M43, #10 graded clean coarse concrete sand. Depth as indicated.
- C. Concrete subslab and aggregate: Refer to Section 32 13 13 Pedestrian Concrete Improvements for subslab mix and aggregate base requirements.
- D. Joint fill: ASTM C-144 sand; sealed with sand joints stabilizer or polymeric sand.
- E. Pre-emergence Herbicide: Registered for the use intended.

PART 3 – EXECUTION

3.01 INSPECTION

- A. Examine the substrate under which paving is to be installed. Notify the Resident Engineer, in writing, of conditions detrimental to the proper and timely completion of the work. Do not proceed with the work until unsatisfactory conditions have been corrected.

3.02 PREPARATION

- A. Do not use paving units with chips, cracks, voids, discolorations, or other visible defects.
- B. Cut paving units with block splitter or motor-driven saw equipment designed to cut masonry with clean, sharp unchipped edges. Cut units as required to provide pattern shown and to fit adjoining work neatly. Use full units without cutting wherever possible. Where cutting is required, use the largest size units possible. Avoid the use of small pieces of pavers or large joint spaces.
- C. Set pavers in patterns as indicated on the Drawings.

3.03 INSTALLATION: BASE MATERIALS

- A. Subgrade: specified in Section – Clearing and Grubbing
- B. Install Narrow Modular Pavers in a mortar bed in accordance with the specifications defined in the CTMA Handbook for Concrete Tiles, available at www.concretetile.hypermart.net. Maintain straight pattern lines. Use of plastic "T" spaces to maintain consistent joints is required. Place spacers flush with bottom edge of pavers.
- C. 100% paver bonding coverage is recommended, with a minimum acceptable coverage of 95% for exterior applications. Backbuttering is mandatory to obtain a minimum of 95% coverage.
- D. Clean any mortar off the face of the pavers immediately. Never leave a 'cement haze' n the concrete paver's surface.
- E. Provide for expansion and control joints as indicated on the drawings. Follow expansion and control joint materials manufacturer's instructions.
- F. Typical joints between mortar-set pavers at the top of paving surface shall be roughly 1/4" wide.
- G. Narrow Modular Paves are concrete and the cementitious material in grout will permanently bond to the pavers. Clean any grout off the face of the pavers immediately.
- H. Fill joints completely with polymeric joint sand designed for use over an impervious based, such as a concrete slab. Follow polymeric joint sand manufacturer recommendations for installation of joint sand. Do not allow polymeric sand residue to stain/discolor the surface of the paver.
- I. Aggregate Base
1. Install under paving where indicated on the Drawings.

2. Do not install until subgrade has been approved by the Geotechnical Engineer.
 3. Spread the aggregate base on the prepared subgrade to such a depth that when thoroughly compacted it will conform to the grades and dimensions shown on the Drawings. Spread in accordance with Section 26-1 of the State Specifications. Compact in accordance with the Geotechnical Report. If no geotechnical report is available, the aggregate base shall be compacted to 95% compaction per ASTM D1557. The finished surface shall be smooth, hard, and true to line and grade.
- J. Bedding and leveling course:
1. Obtain Resident Engineer's inspection and acceptance of finished base course before placing bedding and leveling course materials.
 2. Spread bedding and leveling course materials evenly over the entire area to be paved, screed to a minimum level that will provide a maximum 1" thickness when the paving stones have been placed and vibrated.
 3. Protect screeded and leveled bedding and leveling courses from damage until covered with paver units. Do not precompact bedding and leveling course.

3.04 WEED CONTROL

- A. Apply pre-emergence herbicide over aggregate base prior to installing paving in accordance with the herbicide manufacturer's printed instructions.

3.05 CLEANING

- A. Clean exposed surfaces of precast concrete paving units. Use Cleaners appropriate for precast concrete finishes and colors. Acid based cleaners will permanently alter finish and color.

3.06 SEALING:

- A. Follow sealer manufacturer's instructions for application and maintenance of the sealer. If precast paving units are factory-sealed, test for compatibility before applying additional sealer.

3.07 PROTECTION:

- A. Restrict traffic from interlocking concrete unit paving surfaces during setting of units and until completion of installation.
- B. Protect paving units from damage until final acceptance.

END OF SECTION

PART 1 – GENERAL**1.01 RELATED DOCUMENTS**

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.02 SUMMARY

- A. This Section includes the following:
 - 1. Aggregate Base
 - 2. Decomposed Granite Paving

1.03 RELATED WORK

- A. Section 31 20 00 Earth Moving

1.04 REFERENCES AND STANDARDS

- A. Standard Specifications: Where referred to in these Specifications, "State Specifications" shall mean the California CalTrans Specifications, latest edition.
- B. Percent Compaction: As referred to in these Specifications, percent compaction or relative compaction is required in- place dry density of material expressed as a percentage of the maximum dry density of the same material determined in accordance with the ASTM Test Method D-1557-78 (C). Optimum moisture content is the moisture content corresponding to the maximum dry density determined by the ASTM Test Method D-1557-78 (C).
- C. American Society for Testing and Materials, (ASTM).

1.05 QUALITY ASSURANCE

- A. Decomposed Granite paving shall comply with these specifications and all applicable sections of the above-named references and standards.
- B. Installation: Performed only by skilled workmen with satisfactory record of performance on completed projects of comparable size and quality.
- C. Do not change source of Decomposed Granite during the course of the work.

1.06 SUBMITTALS

- A. Submit manufacturer's product data and specifications.
- B. Submit the following material samples for the Architect's written approval prior to delivery of materials to site, or preparation of sample panel. Provide suppliers sieve analysis with each sample.
 - 1. Aggregate Base Course: one-half cubic foot.
 - 2. Surface Course: one-half cubic foot.
- C. Submit material certificates for base materials.
- D. Submit material certificates for organic binder.

1.07 DELIVERY, STORAGE, AND HANDLING

- A. Store loose granular materials in a well-drained area on a solid surface to prevent mixing with foreign materials.

1.08 PROJECT CONDITIONS

- A. Review installation procedures and coordinate paving work with other work affected by crushed gravel paving work.
- B. Protect partially completed paving against weather damage when work is not in progress.
- C. Provide temporary barricades and warning lights as required for protection of project work and public safety.
- D. Protect adjacent work from damage, soiling, or staining during paving operations.

1.09 GEOTECHNICAL ENGINEER

- A. The Engineer will inspect subgrade and aggregate base prior to installation of paving.

1.10 LAYOUT OF THE WORK

- A. A licensed surveyor or registered civil engineer shall lay out and establish all lines, levels, grades and positions of all parts of the work.

PART 2 – PRODUCTS

2.01 DECOMPOSED GRANITE

- A. Aggregate Base: 3/4 inch maximum size broken stone or crushed gravel conforming to requirement for Class 2 Permeable Aggregate Base, Section 26-1 of the State Specifications.

Sieve Size	Percent Passing
50-mm (2")	----
37.5-mm (1 1/2")	----
25 mm- (1")	100
19-mm (3/4")	90-100
4.75-mm (No.4)	35-60
600-m (No.30)	10-30
75-mm (No.200)	2-9

- B. Base Course: 3/4" Class 2 granite aggregate base material per State Specifications.
- C. Surface Course: decomposed granite; color: Gold/tan. Maximum dry density: 130 pcf, optimum moisture: 8.8%.

Sieve Size	Percent Passing
3/8"	100
#4	85-100
#8	65-80
#30	40-60
#200	15-30

2.02 ACCESSORIES

- A. Soil Sterilizer: Granular weed growth inhibiting type herbicide, labeled for use under pavement surfaces. Material shall not damage trees and plants adjacent to pavement surfaces.

PART 3 – EXECUTION

3.01 INSPECTION

- A. Examine the substrate under which paving is to be installed. Notify the Architect, in writing, of conditions detrimental to the proper and timely completion of the work. Do not proceed with the work until unsatisfactory conditions have been corrected.

3.02 LINES AND LEVELS:

- A. Finished grades shown on Plans are given in feet and decimals of feet and are to be the top of all graded or paved surfaces. Slope uniformly between given spot elevations unless otherwise indicated.
- B. Surfaces shall be true to within 1/8 inch when tested in any direction with a 10-foot straightedge. There shall be no pools of water standing on the pavement after a rain.
- C. Transition between changes in vertical gradient of walks and paving shall be smooth and gradual with no abrupt or sharp changes.
- D. Horizontal curves and radii shall be laid out tangent to adjacent straight lines or adjacent compound curves. Curves shall be smooth and flowing.
- E. Horizontal layout shall not vary more than 1 inch from dimensions indicated on the Drawings. Make minor field adjustments in the layout as necessary to make radii tangent and curves smooth and flowing as indicated on the Drawings.

3.03 PREPARATION OF SUBGRADE

- A. Preparation of subgrade: specified in Section 31 20 00 – Earth Moving.

3.04 INSTALLATION

- A. Placement and Compaction
 - 1. General: Uniformly spread approved material and compact to grades and lines shown. Compaction shall be made by power rollers to 95%. Each lift shall be compacted separately immediately after placement. Prior to installation, thoroughly presoak surface on which stabilized decomposed granite surfacing is to be placed.
 - 2. Aggregate Base Rock: Place over prepared subgrade and compact to depth shown. Finish to a tolerance of +1".
 - 3. Surface Course: Install in 2" maximum lift thickness and soak with sufficient water to settle. Install the additional lifts and soak with sufficient water to settle and compact to correct depth and compaction.
 - 4. Grade and smooth to required elevation.
 - 5. Compact: After +/- 4 hours, compact final lift with a three-five ton double or single static drum roller.
 - 6. Minimum Compacted Thickness: Install to depth shown on Drawings.
 - 7. Surface shall follow overall contours of landscape. Flat areas shall be crowned for drainage. Slope one percent minimum to drain away from structures.
 - 8. Finish surface of walks shall be uniform in appearance as to texture and color, and shall have a firm stable consistency, resistant to erosion.

3.05 PROTECTION

- A. Restrict traffic from paving surfaces during and until completion of installation.

3.06 CLEANING

- A. Perform cleaning during installation of work and upon completion of the work. Remove from site all excess materials, debris, and equipment. Repair damage resulting from crushed stone paving operations.

END OF SECTION

PART 1 – GENERAL**1.01 DESCRIPTION**

- A. The work in this section consists of furnishing, layout and installing an irrigation system complete, including certification of irrigation system installation as required by the State of California Model Water Ordinance.
- B. Related work specified elsewhere includes:
 - 1. Section 31 20 00, EARTHWORK
 - 2. Section 32 93 00, PLANTING

1.02 CALIFORNIA MODEL WATER EFFICIENT LANDSCAPE ORDINANCE REQUIREMENTS

- A. Contractor shall be familiar with and follow the State of California Model Water Ordinance, California Code of Regulations, Title 23 Waters, Division 2, Department of Water Resources, Chapter 2.7. Also, the Contractor is responsible to follow all local water ordinances.
- B. Pursuant to the requirements of the California Model Water Efficient Landscape Ordinance, the Contractor shall submit a Certification of Installation to the Local Jurisdiction/water purveyor as described in the construction documents and these specifications. Certification shall at a minimum include the following documents:
https://planning.smcgov.org/sites/planning.smcgov.org/files/documents/files/Performance_MWE_LOSubmittalChecklist.pdf

PART 1. Project Information Sheet

PART 2. Certification of Installation according to the landscape documentation package

PART 3. Irrigation Scheduling and Controller Programming

PART 4. Schedule of Landscape and Irrigation

PART 5. Landscape Irrigation Audit Report

PART 6. Soil Management/Analysis Report with verifying implementation, see Planting Specification for analysis requirements.

1.03 QUALITY ASSURANCE

- A. Manufacturer's Specifications: Follow manufacturer's current printed specifications and drawings in all cases where the manufacturers of articles used in the Contract furnish directions covering points not specified or shown in the drawings.
- B. Ordinances and Regulations: All local, municipal and state laws, codes and regulations governing or relating to all portions of this work are hereby incorporated into and made a part of these Specifications. Anything contained in these Specifications shall not be construed to conflict with any of the above codes, regulations or requirements of the same. However, when these Specifications and Drawings call for or describe materials, workmanship or construction of a better quality, higher standard, or larger size than is required by the above codes and regulations, the provisions of these Specifications and Drawings shall take precedence. Furnish without extra charge additional materials and labor required to comply with above rules and regulations.
- C. References, Codes and Standards:
 - 1. State of California Model Water Efficient Landscape Ordinance
 - 2. California Environmental Quality Act (CEQA)

3. Water Use Classification of Landscape Species (WUCOLS).
 4. American Society of Irrigation Consultants (ASIC) Design Guidelines.
 5. California Landscape Standards, California Landscape Contractors Association, (CLCA) Sacramento, California.
 6. CAL-OSHA, title 8, Subchapter 4-Construction Safety Orders and Subchapter 7-General Industry Safety Orders.
 7. California Electric Code.
 8. California Plumbing Code (UPC) published by the Association of Western Plumbing Officials.
 9. NFPA 24, Section 10.4, Depth of Cover.
 10. Underwriters Laboratories (UL): Electrical wiring, controls, motors and devices, UL listed and so labeled.
 11. American Society of Testing Materials (ASTM).
- D. Furnish without extra charge any additional material and labor when required by the compliance with all above mentioned codes and regulations, though the work be not mentioned in these specifications or shown on the drawings.
- E. Reclaimed Water: If reclaimed water is to be utilized, contractor to provide all pipe, equipment, signage and other warnings for reclaimed as required by local agency regulations.
- F. Experience: Assign a full-time employee to the job as supervisor for the duration of the Contract who is a certified landscape technician, and has an irrigation certification through CLCA or minimum of four (4) years experience in landscape irrigation installation.
- G. Labor Force: Provide a landscape installation and maintenance force thoroughly familiar with, and trained in, the work to be accomplished to perform the task in a competent, efficient manner acceptable to the Owner's Representative.
- H. Explanation of Drawings:
1. Due to the scale of the Drawings, it is not possible to indicate all piping offsets, fittings, sleeves, etc., which may be required. Carefully investigate the conditions affected by all of the work and plan accordingly, and furnish all required fittings. Install system in such a manner to avoid conflicts with planting, utilities and architectural features.
 2. Do not install the irrigation system as shown on the Drawings when it is obvious in the field that obstructions, grade differences or discrepancies in arc dimensions exist that might not have been considered in engineering. Bring such obstruction or differences to the attention of the Owner's Representative. In the event this notification is not given, the Contractor shall assume full responsibility for any revision necessary.
 3. Notify and coordinate irrigation work with applicable contractors for location and installation of piping and sleeves through or under walls, pavement and structures.
- I. Coordinate plant locations with emitter locations.
1. Adjust plant locations in relation to the emitters as required to ensure that the plant roots receive the proper amount of water in order for it to thrive.
 2. Coordinate planting and irrigation and provide hand watering of emitter irrigated and drip irrigated areas as required to maintain moist root zones until end of plant establishment period.
- J. Coordinate with owner to properly train and familiarize the Owner's Representative for the proper operation and maintenance of the irrigation system to ensure plants thrive, see I.S.C. as a reference.

1.04 SUBMITTALS, in accordance with Section 01 33 00.**A. Materials & Equipment Submittal:**

1. Submit all materials and equipment in a single submittal package.
2. Submit required copies of the cut sheets and a complete list of materials proposed for installation, along with any proposed substitutions clearly identified and obtain the Owner Representative's written approval thereof before proceeding. List all materials by manufacturer's name and model number.
3. Submit to Local Water Purveyor a copy to the Owner Certification of Installation as required by the State of California Model Water Ordinance.
4. Use only accepted materials and items of equipment.

B. Substitutions:

1. If the Contractor desires to substitute a product, the contractor shall list each item and note it as a "substitution" and provide the following information:
 - a. Descriptive information describing its similarities to the specified product.
2. If the product is approved and, in the opinion of the Owner's Representative, the substituted product does not perform as well as the specified product, the Contractor shall replace it with the specified product at no additional cost to the Owner.

C. Operations and Maintenance Manuals:

1. Prior to the final acceptance of the irrigation system, furnish three (3) individually bound Operation and Maintenance Manuals to the Owner's Representative for use by the Owner. The manuals shall contain complete enlarged drawings, diagrams and spare parts lists of all equipment installed showing manufacturer's name and address. In addition, each manual shall contain the following:
 - a. Index sheet indicating the Contractor's name, address and phone number.
 - b. Copy of the Landscape Irrigation Audit
 - c. Copy of the 12-month irrigation schedule and estimate of annual water consumption
 - d. Copies of equipment warranties and certificates.
 - e. List of equipment with names, addresses and telephone numbers of all local manufacturer representatives.
 - f. Complete operating and maintenance instructions in sufficient detail to permit operating personnel to understand, operate and maintain all equipment.
 - g. Parts list of all equipment such as controllers, valves, solenoids and heads.

D. Record Drawings:

1. Dimension the location of the following items from two (2) permanent points of reference such as building corners, sidewalks, road intersections, etc.:
 - a. Connection to existing water lines/meter.
 - b. Connection to electrical power.
 - c. Gate valves.
 - d. Routing of sprinkler pressure lines (a dimension at least every 100 feet and as required to identify all changes in direction and location).
 - e. Remote control valves.
 - f. Routing of control valves.

- g. Quick coupling valves.
 - h. All sleeve locations.
 - i. Routing of all control wiring.
 - j. Include all invert elevations below 12".
2. Deliver a reproducible record drawing to the Architect within seven (7) working days before the date of final review. Delivery of the record drawings shall not relieve the Contractor of the responsibility of furnishing required information in the future.
- E. Controller Plan:
- 1. Provide one Irrigation Diagram plan in each controller housing. The plan shall show the area controlled by each valve in different colors and for orientation, any major permanent structure such as buildings and roads.
 - 2. Charts to be waterproof and hermetically sealed between two pieces of transparent 10 mil thick plastic and installed in each controller on the door as accepted by the Owner's Representative no later than the time of the coverage test of the irrigation system.
- F. Maintenance Material - supply the following tools to the Owner:
- 1. Three (3) sets of specialized tools required for removing, disassembling and adjusting each type of sprinkler, valve or other equipment supplied on this project.
 - 2. Two (2) keys for each type of equipment enclosure.
 - 3. Two (2) keys for each type of automatic controller.
 - 4. Two (2) keys for each type of valve (including square type key for valves larger than 2")
 - 5. Two (2) quick-coupler keys and matching hose swivels for each type of quick-coupling valve installed.
 - 6. All lock keys shall be keyed alike.
- G. Sustainable Design: Information necessary to establish and document compliance with the USGBC LEED Silver Certification for this Project.
- 1. A completed LEED Reporting Form (LRF) with a separate line item completed for each LEED Focus Materials (LFM).
 - 2. Product cut sheets for each LFM confirming that the submitted products are the products installed as part of the Work.
 - 3. Validation: Provide validation for the LFMs.
 - a. Recycled Content.
 - b. Regional Materials.
 - 4. Materials Resources Certificates:
 - a. Certify source and origin for salvaged and recycled products.
 - b. Certify source for regional materials and distance from Project site.
 - 5. Product Cost Data: Submit cost of products to verify compliance with Project sustainable design requirements. Exclude cost of labor and equipment to install products.

1.05 PRODUCT DELIVERY, STORAGE AND HANDLING

- A. Furnish and deliver materials in manufacturer's packaging, bearing original legible labeling.
- B. The Contractor is cautioned to exercise care in handling, loading, unloading, and storing PVC pipe and fittings. All PVC pipe shall be transported in a vehicle which allows the length of the pipe

to lie flat so as not to subject it to undue bending or concentrated external load at any point. Any section of pipe that has been dented, cracked, or otherwise damaged shall be discarded and, if installed, shall be replaced with new piping.

1.06 SEQUENCING AND SCHEDULING

- A. Acceptance: Do not install main line trenching prior to acceptance by Owner's Representative of rough grades completed under another Section.
- B. Coordination: Coordinate with the work of other sections to insure the following sequence of events:
 - 1. Sleeves and Conduits: Installation of all sleeves and conduits to be located under paving and through walls prior to placement of those materials.
 - 2. Bubbler Heads: Install after placement of tree, but prior to backfill with planter soil mix.
 - 3. Coordinate work schedule with Owner's Representative to avoid disruption of landscape maintenance of existing landscaping.
 - 4. Install piping prior to soil preparation (planting soil amendment installation).

1.07 WARRANTY, per Section 01 7800.

- A. In addition to manufacturer's guarantees and warranties, work shall be warranted for one (1) year from date of final acceptance against defects in material, equipment and workmanship. Warranty shall also cover repair of damage to any part of the premises resulting from leaks or other defects in materials, equipment and workmanship to the satisfaction of the Owner's Representative.
- B. Include a copy of the warranty form in the Operation and Maintenance Manual.

1.08 CONSTRUCTION WASTE MANAGEMENT

- A. General: Comply with General Contractor's Demolition and Waste Management Plan.
- B. To the greatest extent possible, separate reusable and recyclable products from contaminated waste and debris in accordance with the General contractor's Waste Management Plan. Place recyclable and reusable products in designated containers and protect from moisture and contamination.

PART 2 – PRODUCTS

2.01 PIPE

- A. Pressure Main Line Pipe and Fittings: All PVC fittings shall bear the manufacturer's trademark name, material designation, size, applicable I.P.S. schedule and NSF seal of approval.
- B. All main line pipes 11" and larger shall be gasket/bell and shall be class 235 unless shown otherwise on the Drawings.
- C. Where reclaimed water is to be utilized, all main line pipe 4"+ shall be gasket/bell welded and manufactured from purple-colored PVC material and shall be printed on two sides with the wording "CAUTION-RECLAIMED WATER" every 24 inches along pipe.
 - 1. PVC Pressure Rated Pipe: ASTM D2241 NSF approved Type I, Grade I, solvent welded PVC with an appropriate standard dimension ratio (S.D.R.).
 - 2. PVC Scheduled Pipe: ASTM D1785 NSF approved, Type I,
 - 3. Grade I, solvent welded PVC.
 - 4. PVC Solvent-weld Fittings: ASTM D2466 Schedule 80, 1-2, II-I NSF approved.

5. Solvent Cement and Primer for PVC solvent-weld pipe and fittings: Type and installation methods prescribed by the manufacturer.
 6. Connections between Main Lines and RCVs: Schedule 80 PVC (threaded both ends) nipples and fittings unless required otherwise by local jurisdiction.
 7. Valves 3" and larger shall be flanged only.
 8. Copper pipe shall be Type K or Red Brass where threaded joints are required and Type L otherwise.
- D. All lateral line pipe <4" shall be solvent welded and shall be schedule 40 unless shown otherwise on the Drawings.
- E. All lateral line pipe shall be solvent welded Schedule 40 manufactured from purple-colored PVC material and shall be printed on two sides with the wording "CAUTION-RECLAIMED WATER" every 24 inches along pipe.

2.02 CONDUITS & SLEEVES

- A. Sleeving shall be Schedule 40 PVC pipe sleeves and a minimum of two times the aggregate diameter of all pipes contained within the sleeve. Provide vertical sweep for all electrical conduit on each side of hardscape and terminate ends at 12" minimum depth and 12" from hardscape surface.

2.03 BACKFLOW PREVENTION DEVICE

- A. As required by Code and as shown on Drawings. Verify with Owner's Representative if Anti-freeze Jacket is required and provide as required.
- B. Riser assemblies from main line burial depth to backflow preventers shall be Schedule 40 brass pipe.
- C. All metallic pipe and fittings installed below grade shall be painted with two coats of Koppers #50 Bitumastic, or approved equal. Pipes may be wrapped with an approved asphaltic tape in lieu of the liquid-applied coating.

2.04 BACKFLOW PREVENTION DEVICE ENCLOSURE

- A. "Smooth Touch" enclosure without sharp edges, 100% stainless steel by Strong Box, available from V.I.T., Escondido, CA (800) 729-1314 or equal. Coordinate size of enclosure with plumbing for minimum clearance and size. Enclosure to include concrete footing with hasp and staple to receive padlock. Padlock N.I.C.

2.05 CENTRAL CONTROL SYSTEMS

- A. Work includes a complete and efficient sprinkler irrigation control system intended to control an expansive irrigation system including, but not limited to: central irrigation software and hardware, satellite field controllers, flow meters, master valves, and wiring.
- B. Hardware and Computer Package, Laguna Software (minimum requirements):
1. Computer & Monitor
 2. Ethernet drop or other internet connection
 3. Uninterruptible power supply
 4. Controller manufacturer's software
- C. Satellite Irrigation Controllers:
1. Capable of operating with manufacturer's Central Control System software.

2.06 CONTROLLERS:

- A. Wall-mounted or pedestal-mounted irrigation controller, most current DX controller series and with the following minimum requirements as shown on drawings.
- B. Shall be weather – based and be compatible with rain shut off sensor.
- C. Shall be user-friendly. The controller must have a minimum 20-character readout display describing actions or options, or a full visible panel of buttons, dials, or switches that control all different functions separately.
- D. Shall have the ability to start a programmed sequence of valves a minimum of 5 times a day per program.
- E. Shall have ability to easily and quickly change watering schedules due to change in weather.
- F. Provide portable hand-held remote device compatible with controller and capable of operating all control valves.
- G. Provide rain shut off device as manufactured by Control System manufacturer capable of shutting off all control valves. Locate in a location exposed to rain and hardwire to controller.

2.07 CONTROLLER GROUND

- A. Provide each pedestal controller with its own ground rod. Separate the ground rods by a minimum of eight feet. The ground rod shall be an eight foot long by 5/8" diameter U.L. approved copper clad rod or as recommended by controller manufacturer. Install no more than 6" of the ground rod above finish grade. Connect #8 gauge wire with a U.L. approved ground rod clamp to rod and back to ground screw at base of controller with appropriate connector. Make this wire as short as possible, avoiding any kinks or bending. Install within pedestal housing base unless otherwise noted.
- B. Provide each irrigation controller with its own independent low voltage common ground wire.

2.08 CONTROLLER ENCLOSURES

- A. Use one of the following (unless noted otherwise on the Drawings). Verify correct equipment to fit the specified equipment:
 - 1. Stainless steel, NEMA Type 3 rated, with back panel, padlocking hasp and padlock Rain Bird, Le Meur, "Strong Box" or approved equal. See drawing for pedestal construction.
 - 2. Rain Bird, "Non-Central" Controller Assemblies
 - a. LXMM – ESP – LXM Cabinet, Powder Coated Steel
 - b. LXMPED – ESP-LXM Pedestal, Powder Coated Steel
 - 3. from Rain Bird Services Corporations "Package Systems" for "Central Control" projects. Available from Rain Bird Services Corporation (RBSC) (888) 444-5756.
 - 4. Le Meur, (714) 822-5100.
 - 5. "Strong Box" available from John Deere, (800) 347-4272.

2.09 MASTER CONTROL VALVE

- A. Master control valve shall be a 24 VAC, industrial type, solenoid control valve, Griswold 2000 series or equal. Valve shall be equipped with spring loaded packless diaphragm, cast iron body and bronze trim. The valve type to be normally open or normally closed as required by controller manufacturer and shall be equipped with four-prong (cross) flow control. Valve shall be slow closing without chatter settings or adjustment. Valve shall have a mechanical self- purging internal control system with tapered, serrated, scrubbing rod through diaphragm for positive, variable port opening and cleaning. No solenoid port screens. Valve solenoid shall be corrosion-

proof, molded in epoxy to form one integral unit with no connection shunts and shall be 24 VAC, 3 watt maximum.

2.10 FLOW SENSORS

- A. Compatible with controller and as recommended by controller manufacturer and as shown on drawings.

2.11 ISOLATION VALVE:

- A. Valves 3 inches and smaller: 125 lb. WSP bronze gate valve with screw-in bonnet, non-rising stem and solid wedge disc, NIBCO T-113 K, or approved equal. Valves shall be line size.
- B. Valves larger than 4": shall have square nut stem and o-ring connections for key operation.

2.12 QUICK COUPLER VALVES:

- A. Quick coupler valves shall be as listed on the Drawings with 10" diameter brass box and one-piece lid similar to isolation valve box described below.
- B. Where reclaimed water is to be utilized, quick coupler valves shall be equipped with purple covers. Box shall have purple color lid (unless noted otherwise), with marked "Irrigation-Reclaimed Water" and with bilingual non-potable warning and symbol.

2.13 BOX FOR ISOLATION & VALVE & QUICK COUPLER VALVES

- A. 10" diameter plastic, Ametek, Brooks, Christy, Rain Bird with bolt down lid marked "irrigation," or accepted equal. Avoid locating valve in paved areas. Provide H/20 Loading concrete box with bolt-down concrete lid if valve is located in paved area. Obtain location approval by Owner's Representative.
- B. Where reclaimed water is to be utilized, isolation valves shall be equipped with purple covers. Box shall have purple color lid (unless noted otherwise), with marked "Irrigation- Reclaimed Water" and with bilingual non-potable warning and symbol.

2.14 REMOTE CONTROL VALVE:

- A. Remote control valves shall be those normally manufactured for irrigation systems and shall have a slow, consistent speed of closure through entire closing operation, including last portion. To ensure this, the effective diaphragm working area/valve seating opening ratio must be a minimum 3 to 1.
- B. Shall be mechanically self-cleaning to help prevent diaphragm or solenoid port plugging. To ensure this, the flush rod should be tapered to vary the size of the port opening as the diaphragm raises and lowers, thus allowing trapped material to escape. Rod is to be finished with a serrated surface to help scrub trapped material out. Screens not acceptable.
- C. Shall have removable valve seat so valve can be repaired without removal from irrigation line.
- D. Shall have ability to operate manually without the use of wrenches or special keys.
- E. Shall have pressure regulating type with basket filter for drip systems.
- F. Shall have one-piece solenoid that attaches directly to valve without shunts or clips that can be lost.
- G. Shall have cross top handle to adjust maximum travel of diaphragm to allow "tuning" of valve and closure.
- H. Where reclaimed water is to be utilized, remote control valve to contain non potable purple cap.

2.15 BOX FOR REMOTE CONTROL VALVE

- A. Rectangular valve box - Ametek, Carson, Christy, Rain Bird or accepted equal with non-hinged bolt down. Do not saw cut body. Use smallest box size that will fit irrigation components. Valve box lids are to indicate the controller letter and station number of valve as accepted by Owner's Representative. Also refer herein to required polyurethane tag at valve solenoid control wire under Control Wires. Locate the identification in center of the lid. Provide separate box for each valve. Provide H/20 Loading concrete boxes with bolt-down concrete lids for all valves that occur in paved areas.
- B. Valve box should be purple for non potable water colored lid marked "irrigation" and with bilingual non-potable warning and symbol "Irrigation-Reclaimed Water" text for recycled water. Box body shall have knock outs.

2.16 CONTROL WIRES

- A. Connections between automatic controllers and the solenoid-operated electric control valves shall be made with direct burial copper wire 14- AWG-UF 600 volt (minimum size). Pilot wires shall be a color other than white, and shall be a different color for each automatic controller with wires sharing a common trench. Common wires shall be white in color, with a different color stripe for each controller with wiring sharing the same common trench. No stripe is required if multiple controller wiring is not present.
- B. Size of wire shall conform to the remote control valve manufacturer's specification for control wire sizes, but in no case shall the control wire be smaller than #14. Runs over 2,000 lineal feet shall be #12- AWG-UF 600 volt copper wire.
- C. All wire splices are to be made within a valve box, with a copper crimp-type connector, and a "3-M" #DBY splice kit or Rain Bird "DBTWC25".
- D. Use continuous control wiring between controllers and remote control valves (no splices).
- E. Provide polyurethane tag at valve solenoid control wire that shows the controller number and station number. Also refer to valve box lid identification.
- F. Provide three spare control wire in each valve bank for future, unless utilizing a two wire system.

2.17 SPRAY HEADS

- A. Pop-up as shown on drawings and with the following minimum requirements:.
- B. Shall have approximately 30 psi water pressure coming out of nozzle to prevent "fogging" or misting. Shall have pressure-compensating devices.
- C. Shall have ability to prevent low head drainage. Use heads with integral check valves.
- D. Rain Bird 1800 Spray Body with SAM -PRS Series or Hunter PRO-SPRAY series.
- E. Shall not have spray blocked by turf or shrubbery; use minimum 6" pop-ups in turf areas.
- F. Where reclaimed water is to be utilized, spray to contain purple non potable cover/cap

2.18 ROTOR HEADS

- A. As shown on drawings and with the following minimum requirements:
- B. Heads shall have exact matched precipitation rates. Radius and precipitation rates must be the same.
- C. Where reclaimed water is to be utilized, Rotor to contain purple non potable cover/cap

2.19 SWING JOINTS

- A. For sprinklers and bubblers use Dura, Lasco, Rain Bird or equal pre-assembled swing joints with O-rings.
- B. Quick Coupling Valve: Dura 1-inch 1-A2-1-11-18 pre-assembled swing joint with O-rings and Dura quick lock to receive stabilizing rod.

2.20 SHRUB & TREE BUBBLERS

- A. Rainbird Toro or Equal, connect bubbler to swing joint with flexible tubing by Salco or equal.

2.21 DRIP EMMITTER IRRIGATION

- A. Drip Manifold:
 - 1. Pressure Regulator: Preset at 30 psi outlet pressure, $\frac{3}{4}$ " female threaded inlet and outlet, by RainBird, Torro or equal.
 - 2. Emitters: Xeri-Bug (XB Series) by RainBird, Toro EZ Drip Series, or equal.
 - 3. Flexible PVC: ASTM D2287 algae-resistant flexible PVC as recommended by manufacturer of Drip Emitters.
 - 4. Drip tubing: Conform to A. S. A. E. standards for minimum inside diameter and wall thickness, Minimum 2% carbon black, Salco $\frac{3}{4}$ " AR Drip PVC flexible drip hose, or equal.
 - 5. $\frac{3}{4}$ " Y-filter, 200 mesh.
 - 6. Toro DL 2000 Air/Vacuum Relief Valves and In-line Spring Check Valves.
 - 7. $\frac{3}{4}$ " manual Sch. 80 PVC ball valve with extra 3' of hose coiled in valve box.
 - 8. Drip system in accordance with "RainBird Xerigation Low-Volume Landscape Irrigation Design Manual" and as shown on the drawings as required for a complete working system.
 - 9. Where reclaimed water is to be utilized, drip tubing, flush cap and diffuser cap to be non-potable purple color, or striped.

2.22 IN-LINE DRIP IRRIGATION

- A. As specified herein and as shown on the drawings and in accordance with manufacturer's recommendations. Provide all miscellaneous valves, filters fittings etc. required for a complete, operable system including the following:
 - 1. Rain Bird XFD/XFS/XFCV with "Copper Shield" technology or equal. Drip system in accordance with manufacturers recommendations and as shown on the drawings as required for a complete working system.
 - 2. Toro DL 2000 Techline, in-line Treflon impregnated emitter with Netafim Automatic Flush.
 - 3. Pop-up operation indicator, Rainbird OPERIND or equal.
 - 4. Air/vacuum relief valves
 - 5. Flush valves
- B. Drip Valve Assembly: Size valve box large enough and deep enough to contain assembly and allow convenient access and easy removal of filter screen.
- C. Pressure regulator: Size regulator in accordance with flow rate. Do not over size. Use factory pre-set regulator at 30 PSI.
- D. Where reclaimed water is to be utilized, subsurface dripline tubing flush cap, and diffuser cap to be non-potable purple color.

2.23 Y-STRAINER/BASKET FILTER (FOR DRIP SYSTEMS)

- A. "Y"-Strainer and/or Basket Filter upstream of remote control valves, Brass, 100 mesh.

2.24 RCV IDENTIFICATION TAGS:

- A. Plastic or brass tags with valve number, approximately 2" by 2" with number imprinted, as accepted by Owner's Representative.

2.25 MISCELLANEOUS INSTALLATION MATERIALS

- A. Solvent Cement and Primers for Solvent-weld Joints: Make and type approved by manufacturer(s) of pipe and fittings. Maintain cement proper consistency throughout use.
- B. Pipe and Joint Compound: Permatex or equal: Do not use on sprinkler inlet port.

2.26 MISCELLANEOUS EQUIPMENT/ACCESSORIES

- A. Concrete for equipment pads (and thrust blocks if Bell-Type Pipe with O-Rings is required): Poured-in-place Class A concrete per Section 90 of the Caltrans Standard Specifications.
- B. Key(s) for Irrigation Equipment from Manufacturer.
- C. Other equipment as shown on Drawings and required for a fully functional irrigation system.

PART 3 – EXECUTION**3.01 EXAMINATION**

- A. Sleeves and Conduits: Verify that all installed sleeving and conduits are undisturbed and are free of defects or errors introduced by the work of other sections.
- B. Water Meter/Water Pressure: Test and verify that existing water pressure is the minimum pressure at maximum system g.p.m. to operate the irrigation system as indicated on the drawings.
- C. Stub-outs: Verify that all stub-outs to be provided under another contract are correctly sized, located and installed as noted on Drawings.
- D. Notification: Submit written notification to Owner's Representative within ten (10) working days of above inspections describing all acceptable and non-acceptable site conditions.

3.02 CONNECTIONS TO SERVICES

- A. Provide and coordinate connection to water meter and/or water supply.
- B. Provide and coordinate connection of irrigation controller to electrical power source.

3.03 PROTECTION OF EXISTING STRUCTURES AND UTILITIES

- A. The irrigation drawings may not show all and below grade structures and utilities that are known to the Owner's Representative. Review all drawings to locate known above and below grade structures and utilities. Locate known existing installations before proceeding with construction operations that may cause damage to such installations. Existing installations shall be kept in service where possible and damage to them shall be repaired with no adjustment of Contract Sum. Verify with Owner's Representative if As Built drawings are available.
- B. If other structures or utilities are encountered, request Owner's Representative to provide direction on how to proceed with the Work. If a structure or utility is damaged, take appropriate action to ensure the safety of persons and property.

- C. Verify location of existing irrigation systems to be removed and/or replaced. Maintain any existing systems as required by the Drawings and Specifications, including temporary retention of systems necessary to maintain existing on site and adjacent planting.

3.04 INSTALLATION

- A. Install irrigation system components in accordance with this Section, with the Drawings, with the manufacturer's recommendations, and with established industry standards. The Contractor shall do nothing that may jeopardize any manufacturer warranty.
- B. Automatic Controller:
 - 1. General: Install with lock box cutoff switch per local code and manufacturer's current printed specifications. Provide each controller with its own independent low voltage common ground wire.
 - 2. Connection to Valves: Connect remote control valves to controller in clockwise sequence to correspond with station setting beginning with Stations 1, 2, 3, etc.
 - 3. Labeling: Affix controller letter (i.e., "A") on inside of controller cabinet door with minimum of one-inch (1") high permanent letter.
 - 4. Irrigation Diagram: Affix a non-fading, waterproof copy of irrigation diagram to cabinet door below controller name.
- C. Control Wiring:
 - 1. General: Install control wires in common trenches with sprinkler mains and laterals wherever possible. Lay to the bottom side of pipe line. Provide looped slack at valves. Snake wires in trench to allow for contraction of wires. Tie wires in bundles at 10 ft. intervals.
 - 2. Extra Length: Provide 30 inches (30") extra control wire at each remote control valve splice to facilitate the removal of the remote control bonnet to finish grade without cutting wires.
 - 3. Size: Minimum size of wire is to be determined strictly by the manufacturer's current printed specifications for remote control valves, but not smaller than #14.
 - 4. Detection Wire: Install a bare #12 copper wire or greater on top of the PVC supply line for the purpose of possible future mine detection search. Install the control wires on the bottom of the PVC supply line with electrical tape every ten feet (10').
 - 5. Splicing: Crimp control wire splices at remote control valves. Seal with specified splicing materials. In-line splices will be allowed only on runs exceeding 2500 feet and only in junction boxes.
- D. Rain Shutoff Switch:
 - 1. Install switch in area not affected by irrigation overhead coverage or rain shadow. Provide wires in rigid conduit as accepted by Owner's Representative.
- E. Excavating and Trenching:
 - 1. Prior to trenching, layout main and lateral line locations within Drip Line of trees and review locations with Owner's Representative. Relocate any lines that may interfere with existing root systems to avoid or reduce damage to root systems as accepted by Owner's Representative.
 - 2. Dig trenches wide enough to allow a minimum of three inches (3") between parallel pipe lines. Provide a minimum cover from finish grade as follows:
 - 3. Mechanical Trenching is not allowed within dripline of existing trees to be protected except as approved by Owner's Representative.
- F. Conduits and Sleeves:

1. Coordination: Provide conduits and sleeves and coordinate installation with other trades.
 2. Extent: Install conduits and sleeves where control wires and pipes pass under paving or through walls as shown on Drawings. Extend twelve inches (12") beyond edges of paving and walls and cap ends until ready for use.
- G. Pipeline Assembly:
1. Install pipe and fittings in accordance with manufacturer's current printed Specifications.
 2. Clean all pipes and fittings of dirt, scale and moisture before assembly.
 3. Solvent-welded Joints for PVC Pipes:
 - a. Solvents: Use solvents and methods specified by pipe manufacturer.
 - b. Curing Period: Minimum of one (1) hour before applying any external stress on the piping and at least 24 hours before placing the joint under water pressure.
 4. Threaded Joints for Plastic Pipes:
 - a. Use Permatex on all threaded PVC fittings except sprinkler heads and quick coupler valve ACME threads.
 - b. Joining: Use strap-type friction wrench only. Do not use metal-jawed wrench. Assemble finger tight plus one or two turns.
 5. Laying of Pipe:
 - a. Bedding On-grade: Remove from trench all rocks or clods. Bed pipe in at least 2 inches of soil excavated from trench. Backfill on all sides of piping to provide a uniform bearing.
 - b. Snaking: Snake pipe from side to side of trench bottom to allow for expansion and contraction. Minimum allowance for snaking is one (1) additional foot per 100 ft. of pipe.
 - c. Moisture Restrictions: Do not lay PVC pipe when there is water in the trench. Do not assemble PVC pipe unless the pipe is dry.
- H. Closing of Pipe and Flushing of Lines:
1. Capping: Cap or plug all openings as soon as lines have been installed to prevent entrance of materials that would obstruct the pipe. Leave in place until removal is necessary for completion of installation.
- I. Detection Wire and Warning Tape:
1. Install a bare #12 copper wire or greater on top of the PVC supply line for the purpose of possible future mine detection search.
- J. Control Valves:
1. Install in valve boxes where shown on Drawings and group together where practical. Install box flush with finish grade, not necessarily level. If valve occurs in drainage swale, relocate out of drainage swale as approved by Owner's Representative.
 2. Where two or more valves are installed adjacent to each other, provide at least six inches (6") separation. Align boxes in a row, perpendicular with pavement edge.
 3. Permanently mark valve box lid with 2" black valve number and controller letter or with numbered metal tag inside box as approved by Owner's Representative.
 4. Refer to control wiring for required spare wire in each valve box.
- K. Install "Y"-Strainer at remote control valves as recommended by manufacturer of valve.
- L. RCV Identification Tags:

1. Install in remote control valve box as recommended by manufacturer and as accepted by Owner's Representative.

M. Pop-up Spray Heads and Rotors:

1. Place all sprinkler heads in planting areas with top of heads set to finish grade or top of mulch as required.
2. Place part-circle pop-up sprinkler heads two inches (2") from edge of and flush with top of adjacent walks, header boards, curbs and mowing bands or paved areas and 12 inches (12") from building foundations at time of installation.
3. Set all sprinkler heads in turf to allow for settlement. Adjust as required after settlement. Hold heads two inches (2") clear of pavement edge.

N. Bubblers:

1. Coordinate installation with planting contractor to ensure timely and proper placement of heads at new planting.

O. In-Line Drip Irrigation

1. Coordinate plant locations with emitter locations. Refer to QUALITY ASSURANCE herein.
2. Coordinate hand watering of emitter irrigated and drip irrigated areas. Refer to QUALITY ASSURANCE herein.
3. Coordinate emitter spacing with planting types and plant spacing as accepted by Owner's Representative. Install emitters at uniform on center maximum and 2 to 4 inches deep, except where emitter spacing and depth is shown otherwise.
4. In Turf in raised (podium) planters and similar sandy soil planting areas, install emitters at uniform 12 inches on center maximum and 3 inches deep, except where emitter spacing and depth is shown otherwise.
5. Adjust spacing on slopes to prevent over watering at base of slopes. Install system in accordance with manufacturer's recommendations and as shown on the Drawings as required for a complete working system.
6. Provide air/vacuum relief valves at all high points on systems.
7. Provide filter as shown and as recommended by emitter manufacturer.
8. Tape pipe ends during installation and do not allow dirt or debris to enter pipe.
9. Use emitter line with the specified emitter flow rate and emitter spacing. Assemble dripper line to allow water to flow continuously and directly, with no dead ends or dead end loops between control valve and flush valve.
10. Use fittings at sharp bends and do not allow dripper line to kink.
11. Install emitter line around perimeter of planter not more than 3 inches off edge for ground cover and turf, 18 inches maximum for shrub planting.
12. Adjust alternate rows so emitters are spaced in a triangular pattern.
13. Collect water from multiple dripper lines and convey the water to automatic line flush valve.
14. Install flush valve at end(s) of collector laterals so that entire system will flush and be free of dirt and debris.
15. Flush valves shall be open when water is turned on for the first time and after a break in the main or lateral lines. Extend collector lateral as required and locate flush valve at convenient accessible location.
16. Flush the systems weekly through the first month of the maintenance period.

17. Thoroughly saturate soil prior to planting. Provide additional surface watering as required to keep plant root systems moist during planting establishment period.
18. Install operation indicator as shown on drawings or where approved by Owner's Representative.

P. Drip Emitter Irrigation:

1. Install system in accordance with "RainBird Landscape Irrigation Design and Specifications Xerigation Products and Details" or equal and as shown on the Drawings as required for a complete working system.
2. Install Toro DL 2000 Air/Vacuum Relief Valves at high points in system.
3. Install manual PVC ball valve with extra 3' of hose coiled in valve box at end(s) of collector laterals so that entire system will flush and be free of dirt and debris.
4. Install a continuous PVC irrigation mainline warning tape 12" above the supply line.
5. Install operation indicator as shown on drawings or where approved by Owner's Representative.

3.05 MISCELLANEOUS EQUIPMENT

- A. Install miscellaneous equipment with concrete footings, brackets, etc., as required and as recommended by manufacturer.

3.06 FIELD QUALITY CONTROL

A. Testing of Irrigation System:

1. Make hydrostatic tests with risers capped when welded PVC joints have cured at least 24 hours. Center load piping with backfill to prevent pipe from moving under pressure.
2. Keep all couplings and fittings exposed.
3. Install two (2) pressure gauges at opposite ends of main line system. Pump system up to a minimum of 125 psi the day preceding the scheduled test and verify that pressure is holding. Inspect system early following day and immediately notify Owner's Representative if the test confirmation must be postponed.
4. Apply continuous static water pressure of 125 psi in accordance with Caltrans Standard Specifications Section 20-5.03H, except after a drop in pressure (5 psi maximum), then the pressure must stabilize and remain stable for a one (1) hour minimum period before acceptance of the test.
5. Leaks detected during tests shall be repaired and test repeated until system passes tests at no additional cost to Owner.

B. Irrigation Audit Report with Certificate of Completion

1. Per the requirements of the California Model Water Efficient Landscape Ordinance, the Contractor shall perform an irrigation audit and provide a report with certificate of completion to the local agency that may include, but is not limited to: inspection, system tune-up, system test with distribution uniformity, reporting overspray or run off that causes overland flow, and preparation of an irrigation schedule. Irrigation audits shall be conducted by a CLIA Certified landscape Irrigation Auditor by the Irrigation Association. Operation of the irrigation system outside the normal watering window is allowed for auditing and system maintenance.

C. Adjustment of the System:

1. Flush and adjust all sprinkler heads for optimum performance and to prevent overspray onto walks, roadways and buildings. Adjust the arc and radius as applicable.

2. Include as a part of the work any nozzle changes or arc adjustments necessary due to daytime windy conditions during grass establishment period. After grass has been established and watering can be performed during calm early morning or evening hours, make any required adjustments to nozzles and arcs.
3. Set all sprinkler heads perpendicular to finished grades unless otherwise noted on the drawings.
4. When the landscape sprinkler system is completed and before planting, perform a coverage test in the presence of the Owner's Representative to determine if the water coverage for planting areas is adequate.
5. Test controllers individually in the presence of the Owner's Representative and the Landscape Architect. Demonstrate that all control valves operate electronically. Provide vehicles and radio equipment as necessary to expedite this process.
6. Demonstrate to Owner's Representative that irrigation scheduling programmed into controller is adequate for plant requirements without causing runoff, and that scheduling capacities of controller are utilized.

3.07 OPERATION

- A. Routine: Inspect and adjust all spray heads and control valves including raising or lowering of spray head heights to accommodate plant growth and weather conditions.
- B. Controller: Inspect regularly for power interruption and reset clock as required. Adjust station timing to accommodate changes in plant growth and weather conditions.
- C. System Failure: Perform all repairs within one (1) operating period. Replacements to match removed products and materials in all respects. Report promptly all damage not resulting from Contractor's operations. Repair all damage caused by Contractor at no expense to Owner.
- D. Climate Change: Set and program automatic controllers in response to seasonal requirements and requirements of newly planted materials.

3.08 IRRIGATION SCHEDULING AND CONTROLLER PROGRAMMING

- A. Per the requirements of the California Model Water Efficient Landscape Ordinance All irrigation schedules and programs shall be developed, managed and evaluated to utilize the minimum amount of water required to maintain plant health.
- B. Irrigation controller Scheduling and Programming Parameters to be conducted by a CLCA Certified Irrigation manager and submitted to the local agency as part of the Certificate of Completion.
- C. Parameters used to set the automatic controller shall be developed for each of the following:
 1. Plant establishment period
 2. Established landscape period
 3. Temporary irrigated area (if applicable)
- D. Each irrigation schedule shall consider for each station all of the following that apply:
 1. Irrigation interval (days between irrigation)
 2. Irrigation run times (hours or minutes per irrigation event to avoid runoff)
 3. Number of cycle starts required for each irrigation event to avoid runoff
 4. Amount of applied water scheduled to be applied on a monthly basis
 5. Application rate setting
 6. Root depth setting

7. Plant type setting
 8. Soil type
 9. Slope factor setting
 10. Shade factor setting
 11. Irrigation uniformity or efficiency setting
- E. Total annual applied water shall be less than or equal to Maximum Applied Water Allowance (MAWA). Actual irrigation schedules shall be regulated by automatic irrigation controllers using current reference evapotranspiration data (CIMIS or soil moisture sensor data).

3.09 BACKFILL AND COMPACTING

- A. General: After system is operating and required tests and reviews have been made, backfill excavations and trenches with clean soil, free of debris.
- B. Backfill for All Trenches: Regardless of the type of pipe covered, compact to minimum 95% density under pavements and 85% under planted areas.
- C. Finishing: Dress off areas to finish grades. Re-dress any areas which subsequently settle.
- D. Owner's testing agency will test backfill compaction in areas under paving.

3.10 MAINTENANCE

- A. The entire sprinkler irrigation system shall be under full automatic operation for a period of 2 days prior to any planting.
- B. The Owner's Representative reserves the right to waive or shorten the operation period.
- C. Maintain/repair system for full duration of plant maintenance period.

3.11 REVIEWS PRIOR TO ACCEPTANCE

- A. Notify the Owner's Representative in advance for the following reviews, according to the time indicated:
 1. Supply line pressure test and control wire installation - 72 hours.
 2. Coverage and controller test - 72 hours.
 3. Final review - 7 days.
- B. No reviews will commence without record drawings, without completing previously noted corrections, or without preparing the system for review.

3.12 FINAL REVIEW AND CLEANUP, per Section 01 70 00.

- A. Operate each system in its entirety for the Owner's Representative at time of final review. Any items deemed not acceptable by the Owner's Representative shall be reworked to the complete satisfaction of the Owner's Representative.
- B. Provide evidence to the Owner's Representative that the Owner has received all accessories and equipment as required before final review can occur.
- C. Final acceptance and start of warranty period will occur no earlier than the end of the plant maintenance period.
- D. Contractor shall arrange a meeting with the Owner's maintenance personnel to demonstrate the operation of the irrigation systems automatically in order to verify acceptance and to familiarize the maintenance personnel with the system and recommended programming with the goal of maintaining healthy, thriving plants.

END OF SECTION

PART 1 – GENERAL**1.01 RELATED DOCUMENTS**

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections apply to this Section.

1.02 SUMMARY

- A. This Section includes the following:
 - 1. Scarification of Subgrade
 - 2. Installation of topsoil from site stockpiles
 - 3. Installation of import topsoil
 - 4. Installation of clean topsoil or import topsoil to replace soil adjacent to the structure or paving that has been treated with lime

1.03 RELATED WORK

- A. Section 31 20 00 – Earth Moving
- B. Section 31 14 13 – Topsoil Stripping and Stockpiling
- C. Section 31 25 14 – Erosion Control Matting
- D. Section 32 92 19 – Hydroseeding
- E. Section 32 93 00 – Planting

1.04 REFERENCES

- A. USDA Handbook No. 60

1.05 DEFINITIONS

- A. Existing Soil: Area of undisturbed native soil where no rough grading is to be performed. Surface cultivation and soil amending are included in this Section.
- B. Subgrade: Soil level resulting from the rough grading work under another Section. Cultivation of all subgrade areas prior to placement of topsoil is included in this Section.
- C. Stockpiled Native Topsoil: Topsoil stripped from the site prior to rough grading work under another Section, to be spread and amended as work under this Section.
- D. Imported Topsoil: Off-site topsoil imported and stockpiled under this Section, to be spread and amended as work under this Section.

1.06 QUALITY ASSURANCE

- A. Provide written laboratory tests on any required import topsoil, prepared by a reputable firm experienced in the field of soils and plant nutrition.
- B. All tests will be paid for by the Owner, but the cost of re-testing of topsoil required because of rejected topsoil submittals will be deducted from the amount due the Contractor under this Section.

1.07 SUBMITTALS

- A. Three copies of laboratory tests on any planting areas that were treated with lime to verify quantity of lime in soil is acceptable for planting.

- B. Source of supply of proposed import topsoil types.
- C. Three copies of laboratory tests on the proposed import topsoil.
 - 1. Fertility determined by pH, salinity, nitrate, ammonium, phosphate, potassium, calcium and magnesium analysis.
 - 2. Agricultural Suitability as determined by pH, salinity, boron, sodium, potassium, calcium and magnesium analyses using USDA saturation extract procedure.
 - 3. Appraisal of the soil type and certain chemical properties provided as pH, salinity, organic matter and particle size distribution (USDA classification).
- D. Three copies of laboratory tests on the stockpiled native topsoil.
 - 1. Soils analysis report through Waypoint Analytical Laboratory Inc, 1101 S. Winchester Blvd, Suite G-173, San Jose, CA 95128 Tel (408) 727-0330 or equal. The soil laboratory must be Seal of Testing Certified. Analyses are to be obtained at Contractor's cost and are to include:
 - a. A05-2 Analysis Report to include amendment recommendations based on an "organic" approach to soil and landscape management. A05-2 requires a 4-cup sample.
 - b. Request Testing Agency to send one (1) copy of test results direct to the Landscape Architect and one (1) copy to the Owner. Existing soil shall be amended per soils analysis report.
 - c. Test for parasitic nematodes only, if the import soil is from an agricultural source.
 - d. The soil analysis lab test must be conducted within 120 days prior to the start date of planting, after mass grading and before fine grading.
- E. Fertilizers and amendments as required through the Soil analysis report and per Sections 32 93 00 and 32 92 19.

1.08 PROJECT CONDITIONS

- A. Do not do subgrade preparation, or topsoil installation until construction work is completed in the area to be planted and the subgrade for topsoil is approved by the Architect.
- B. Protect utilities, paving, and other structures from damage caused by topsoil operations.
- C. Do not purchase or deliver any required import topsoil to the site without the written approval of the proposed topsoil by the Landscape Architect.

PART 2 – PRODUCTS

2.01 STOCKPILED NATIVE TOPSOIL

- A. Quantity: The approximate quantity of stockpiled native topsoil will not be known until the demolition and rough grading have been completed under Civil work.
- B. Stockpiling: Stripped topsoil shall have been stockpiled on the site under Civil work.
- C. Composition: Fertile, friable, well-drained soil, of uniform quality, free of stones over 1 inch in diameter, sticks, oils, chemicals, plaster, concrete and other deleterious materials.
- D. Excess Topsoil: If more topsoil has been stockpiled on the site than is required to complete the work as indicated on the Drawings and specified in Sections 02930 and 02921, dispose of the excess topsoil on the site at the direction of the Owner at no additional cost to the Owner.

2.02 IMPORT TOPSOIL

- A. If insufficient topsoil has been stockpiled on the site to complete the work as indicated on the Drawings and herein specified, supply import topsoil of sufficient quantity to complete the work at no additional cost to the Owner.
- B. Furnish and install sufficient topsoil to complete the work as indicated on the Drawings and herein specified.
- C. Preselected Topsoils:
 - 1. Sandy Loam, TMT Enterprises, 408-432-9040
 - 2. Colma Loamy, Roger's , 650-952-1800
 - 3. Or equal.
- D. Agricultural Suitability:

Salinity (ECe x 10(3)):	0-2	
Sodium (SAR) 2:	0-8	
(ESP) 1:	0-10	
Boron (PPM in Saturated Extract):	0- 0.7	
pH:	5.5 to 7.5	
- E. Soil Type: agricultural sandy loam; maximum 50% clay and silt fines. Meet USDA specifications for the specified texture.
- F. Quality: free of debris, rocks over 2" diameter, noxious weeds and parasitic nematodes.
- G. Should the samples not meet all of the standards given above, the soil laboratory may submit in the report what additives (in addition to those specified in Section 329300) should be added to the soil to correct deficiencies.

PART 3 – EXECUTION**3.01 INSPECTION**

- A. Examine the substrate in which the work is to be performed. Do not proceed until unsatisfactory conditions have been corrected.

3.02 PREPARATION

- A. All scaled dimensions are approximate. Before proceeding with any work, carefully check and verify all dimensions and quantities and immediately inform the Architect of any discrepancy between the Drawings and/or specifications and the actual conditions. No work shall be done in any area where there is such a discrepancy until review for same has been given by the Architect.
- B. Coordination: Coordinate work with other trades to insure proper sequencing fitting of construction.

3.03 SUBGRADE PREPARATION

- A. Grades:
 - 1. Subgrades have been established under work of another Section to within 1 inch, plus or minus, of required grades. Subgrades are 6-inches below finished grades, plus or minus 1-inch, allowing for 6-inches of topsoil and soil amendments.
 - 2. Verify that subgrades are within 1" plus or minus, of required subgrades.
 - 3. Notify the Architect prior to commencing soil preparation work if existing grades are not satisfactory or assume responsibility for conditions as they exist.

- B. Weed and Debris Removal: All ground areas to receive topsoil shall be cleaned of all weeds and debris prior to any subgrade preparation or topsoiling. Weeds and debris shall be disposed of off the site.
- C. Do not perform any subgrade preparation work in areas where soil is contaminated with cement, plaster, paint, or other construction debris. Bring such areas to the attention of the Architect and do not proceed until the contaminated soil is removed and replaced.
- D. Moisture Content: Soil shall not be worked when moisture content is so great that excessive compaction will occur, nor when it is so dry that dust will form in the air or that clods will not break readily. Water shall be applied, if necessary, to bring soil to optimum moisture content for tilling and planting.
- E. Soil Loosening: Compacted soil subgrade in areas to receive topsoil shall be ripped or cultivated to the depths specified below. Water shall be added and ripping or cultivating shall be continued until the entire specified depth is loose and friable. All debris, pavement, concrete, and rocks over 2 inches in diameter shall be removed from the site.
 - 1. All compacted areas to be topsoiled: rip or cultivate to 10 inches deep.

3.04 INSTALLATION OF TOPSOIL

- A. Do not install topsoil until preparation of subgrade has been approved by the Architect.
- B. Moisture Content: Do not work topsoil when moisture content is so great that excessive compaction will occur, nor when it is so dry that dust will form, nor when clods will not break readily. Water shall be applied, if necessary, to bring soil to an optimum moisture content for tilling and planting.
- C. Remove all unacceptable lime treated soil in all plant areas next to the newly constructed building and paving to a depth of three feet and dispose of off the site.
- D. Remove noxious weeds, rocks over 2 inches in diameter, and debris from topsoil, and dispose of off the site.
- E. Fertilize and amend the soil as required by the Soil Analysis Report. If such a report is not available at the time of bidding, the following materials shall be used for bidding purposes only:
 - 1. Soil Amendments per 1,000 square feet: Incorporate thoroughly with top six (6) inches of all planting areas:
 - a. 6 cubic yards organic amendment as specified
- F. Thickness of topsoil, including soil conditioners to be added later under other Sections, shall be 6 inches and grades shall conform to those indicated on the site grading plans and specified herein.
- G. Place topsoil and bring to a smooth even grade. Soil shall be thoroughly water settled and high and low areas regarded until the grade of all planting areas conforms to finished grade indicated on the Site Grading Plans to within plus or minus 1".

END OF SECTION

PART 1 – GENERAL**1.01 RELATED DOCUMENTS**

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

1.02 SUMMARY

- A. This Section includes the following:
 - 1. Soil preparation and conditioning
 - 2. Furnish and install sodded lawn
 - 3. Maintenance

1.03 RELATED WORK

- A. Section 328100 - Irrigation systems
- B. Section 329110 - Topsoil (329120 - Import Topsoil)
- C. Section 329300 - Tree, Shrub, Vine and Groundcover Planting

1.04 REFERENCES

- A. United States Department of Agriculture Rules and Regulations - Federal Seed Act.
- B. American Sod Producers Association (ASPA) classes of sod materials.

1.05 QUALITY ASSURANCE

- A. Provide Class A sod complying with the above references, grown by a commercial sod nursery.
- B. Furnish all certificates of inspection that are required by county or state authorities.

1.06 SUBMITTALS

- A. Soils analysis report through Soil and Plant Laboratory Inc, 1101 S. Winchester Blvd, Suite F-173, San Jose, CA 95128 Tel (408) 727-0330 or equal. The soil laboratory must be Seal of Testing Certified. Analyses are to be obtained at Contractor's cost and are to include:
 - 1. A05-2 Analysis Report to include amendment recommendations based on an "organic" approach to soil and landscape management. A05-2 requires a 4-cup sample.
 - a. Request Testing Agency to send one (1) copy of test results direct to the Landscape Architect and one (1) copy to the Owner. Existing soil shall be amended per soils analysis report.
 - 2. Test for parasitic nematodes only, if the import soil is from an agricultural source.
 - 3. The soil analysis lab test must be conducted within 120 days prior to the start date of planting.
- B. Submit sod grower's certification of grass species. Identify source location.
- C. Submit the following materials certification from approved qualified testing laboratories:
 - 1. Soil conditioners and fertilizers

1.07 DELIVERY, STORAGE, AND HANDLING

- A. Deliver rolls of sod to the site within 24 hours of harvesting. Deliver only as much sod as can be planted on the day of delivery. Remove from the site any sod not complying with the above.

- B. Protection: handle sod so that it is adequately protected at all times from drying out, exposure of roots to sun and from other injury.

1.08 PROJECT CONDITIONS

- A. Do not do soil preparation, conditioning or lawn sodding during late Fall, Winter, or hot Summer periods unfavorable to soil conditioning and sodding, and/or in soil conditions conducive to compaction of the soil.
- B. Work Notification: Notify the Architect at least 7 working days prior to start of sodding operations.
- C. Do not do soil preparation, conditioning, and sodding until construction work is completed in the area to be planted.
- D. Protect utilities, paving, and other structures from damage caused by lawn planting operations.
- E. The irrigation system shall be installed and tested prior to lawn planting.

1.09 WARRANTY

- A. Warrant sod to take root and grow, be in a healthy, vigorous condition, providing a uniform, weed free stand of grass with no bare spots, until final acceptance by the Owner.
- B. Replace, in accordance with the drawings and specifications, all sod that is, as determined by the Owner, in nonconformance with the above warranty.

PART 2 – PRODUCTS

2.01 SOD

- A. Quantities: Furnish sod in quantities required to complete work as indicated on the Drawings.
- B. Furnish sod in the species indicated on the Drawings.
- C. Nomenclatures: Grass names listed on Drawings conform to standardized plant names established by American Joint Committee on Horticulture Nomenclature, except that for names not covered therein, the established custom of the seed industry is followed.
- D. Quality:
 - 1. Class A, healthy, field grown sod, at least 9 months old, free from other grasses, weeds, insect eggs, diseases, stones and debris.
 - 2. Sod shall be cut to a thickness of 5/8 inch to 3/4 inch and delivered on rolls 6 feet long x 18 inches wide. Small irregular or broken pieces of sod will not be accepted by the Architect.
- E. Substitutions will be allowed only when specified material is proved unavailable and only with the approval of the Architect.

2.02 SOIL CONDITIONERS

- A. Organic Compost: 'Super Humus as available from Redi-Gro Corp (916) 381-6063 or American Soils (510) 883-7200
 - 1. Gradation: A minimum of 90% of the material by weight shall pass a 1/2" screen. Material passing the 1/2" screen shall meet the following criteria:

Percent Passing	Sieve Size
85-100	9.51 mm (3/8 inch)
50-80	2.38 mm (No. 8, 8 mesh)
0-40	500 micron (No. 35, 32 mesh)

2. Organic Content: Minimum 50% based on dry weight and determined by ash method. Minimum 250 lbs organic matter per cubic yard of compost.
 3. Carbon to Nitrogen Ratio: Maximum 25:1 if material is claimed to be nitrogen stabilized.
 4. pH: 5.5-8.0 as determined in saturated paste.
 5. Moisture content: 35-60%.
 6. Contaminants: The compost shall be free of contaminants such as glass, metal and visible plastic.
 7. Maturity: Physical characteristics suggestive of maturity include:
 - a. Color: Dark brown to black
 - b. Odor: Acceptable = none, soil-like, musty or moldy
Unacceptable = sour, ammonia or putrid.
 - c. Particle characterization: identifiable wood pieces are acceptable but the balance of material should be soil-like without recognizable grass or leaves.
- B. Any other soil conditioner and /or fertilizer required by the Soils Analysis Report.

PART 3 – EXECUTION

3.01 INSPECTION

- A. Examine the substrate in which the work is to be performed. Do not proceed until unsatisfactory conditions have been corrected.

3.02 PREPARATION

- A. All scaled dimensions are approximate. Before proceeding with any work, carefully check and verify all dimensions and quantities and immediately inform the Architect of any discrepancy between the Drawings and/or specifications and the actual conditions. No work shall be done in any area where there is such a discrepancy until review for same has been given by the Architect.
- B. Coordination: Coordinate work with other trades to insure proper sequencing of construction.

3.03 SOIL PREPARATION

- A. Grades:
1. Grades have been established under work of another Section to within 0.1' plus or minus, of required finished grades.
 2. Verify that grades are within 0.1' plus or minus, of required finished grades.
 3. Notify the Architect prior to commencing soil preparation work if existing grades are not satisfactory, or assume responsibility for conditions as they exist.
- B. Weed and Debris Removal: All areas to be planted in lawn shall be cleaned of all weeds and debris prior to any soil preparation or grading work. Weeds and debris shall be disposed of off the site.
- C. Do not perform any soil preparation work in areas where soil is contaminated with cement, plaster, paint, or other construction debris. Bring such areas to the attention of the Architect and do not proceed until the contaminated soil is removed and replaced.
- D. Moisture Content: Soil shall not be worked when moisture content is so great that excessive compaction will occur, nor when it is so dry that dust will form in the air or that clods will not break

readily. Water shall be applied, if necessary, to bring soil to optimum moisture content for tilling and sodding.

E. Soil Loosening:

1. Scope:
 - a. Lawn areas where no topsoil is indicated or specified: loosen soil as specified below.
 - b. Lawn areas where topsoil is indicated or specified: no loosening is required unless, as determined by the Architect, topsoil has become compacted by construction.
2. Loosening:
 - a. Cultivate soil to depths specified below. Add water as necessary and cultivate until the entire depth is loose and friable. Remove all debris, base rock, paving and rocks over 2-inches in diameter from the site.
 - b. All areas to be sodded: Cultivate 8-inches deep.

3.04 SOIL CONDITIONING

- A. General: After soil preparation has been completed and high and low spots graded, add soil amendments as indicated below and rototill, making repeated passes with the cultivator to the depth specified until the amendments have been thoroughly mixed.
- B. Sod Areas: Rototill the following into the top 5 inches of soil at the specified rates per 1000 square feet of area:
 1. Organic Compost: 6 cubic yards (2" layer).

3.05 FINISHED GRADING

- A. When weeding, soil preparation, and soil conditioning have been completed and soil has been thoroughly water settled, all sod areas shall be smooth-graded, ready for sodding.
- B. Grading shall be done when soil is at optimum moisture content for working.
- C. Grades:
 1. The Contractor shall make himself familiar with site grading plans and do finished grading in conformance with said plans and as herein specified.
 2. Finished grades shown on site-grading plans are given in feet and decimal fractions of feet. Slope uniformly between given spot elevations. Planting areas, including lawns, shall be true to grade with a 10-foot straight edge.
 3. Grades not otherwise indicated shall be uniform levels or slopes between points where elevations are given or between points established by walks, paving, curbs, or catch basins. Finished grades shall be smooth, even, and on a uniform plane with no abrupt change of surface. Minor adjustments of finish grades shall be made at the direction of the Architect, if required.
 4. All grades shall provide for natural runoff of water without low spots or pockets. Flow-line grades shall be accurately set and shall not be less than 2-percent gradient wherever possible.
 5. Sod Areas: Finished grade of sod bed shall be 3/4 inch below top of adjacent pavement, curbs, or headers.
 6. Tops and toes of all slopes shall be rounded to produce a gradual and natural-appearing transition between relatively level areas and slopes.

3.06 SODDING

A. General:

1. Do not install sod until all construction work has been completed and sprinkler systems have been installed and tested. Lawn areas shall have been graded and prepared as herein specified and shall have been approved by the Architect.
2. Do not plant during unfavorable weather.
3. Soil shall be at an optimum moisture content for planting. Do not plant in dry soil or muddy soil.
4. After the areas have been loosened, conditioned, and finish-graded as previously specified, they shall be hand-raked to remove all clods, weeds, roots, debris, and rocks 1-inch in diameter and larger.
5. After the areas have been prepared, no heavy objects (except lawn rollers) shall be taken over the areas at any time.
6. Roll the entire lawn area with approved lawn rollers and re-grade any areas that settle below indicated finished grades.
7. Final grades shall be approved by the Architect prior to fertilizing and sodding.

B. Fertilizing:

1. Do not fertilize until finished grades are approved by the Architect.
2. Apply fertilizer at the rate according to the soils analysis report. Incorporate into top 2 inches of soil.
3. Apply fertilizers by mechanical rotary or drop type distributor, thoroughly and evenly incorporated with soil. Fertilize areas inaccessible to power equipment with hand tools.

C. Sodding:

1. Sod immediately after preparation of bed.
2. Moisten sod bed thoroughly.
3. Lay sod with close fitting joints, staggering the ends of the strip in alternating rows. Use sod pieces no smaller than 1 square foot for plugging gaps.
4. Do not lay sod on top of the root ball/crown of any tree; leave the root ball bare, with sod flush to allow drainage away from the root crown. At existing trees, leave a three-foot diameter bare area with the sod flush as specified above.
5. Do not leave any sod stockpiled overnight.

D. Watering: after sod is laid, irrigate thoroughly so that water penetrates soil to a depth of 6 to 8 inches.

E. Rolling: When grass surface has dried, roll to eliminate irregularities and bring all sod in contact with the sod bed.

3.07 PROTECTION

- A. Protect all sodded areas against trespassing and damage at all times. If any sodded areas are damaged, re-sod as directed by the Architect, without additional cost to the Owner.
- B. Do not execute work in or over sodded lawn areas or adjacent to planting without proper safeguards and protection.

3.08 GENERAL CLEANUP

- A. Remove all surplus materials, and other debris from site. Neatly dress and finish all lawn areas. Flush walks, paved areas, and the like, clean to the satisfaction of the Architect.

3.09 MAINTENANCE

- A. Establishing Maintenance Period:
 - 1. As soon as all sodded lawn installation is completed, a planting review and preliminary inspection to determine the condition of the lawns will be held by the Architect upon request of the Contractor.
 - 2. Upon approval of the work by the Architect, the 60-day maintenance period shall begin.
- B. Maintenance of Lawns: Continuously maintain all lawns in areas included in the Contract from the beginning of Contract work, during the progress of work, and for the length of the maintenance period after completion of all work until final acceptance of all Contract work by the Owner.
- C. Scope:
 - 1. New lawns
 - 2. Existing lawns within the construction area.
 - 3. Continuous operations of watering, weeding, mowing, trimming, edging, rolling, fertilizing, spraying, insect, pest, fungus, and rodent control, and any other operations to assure good normal growth.
- D. Fertilizing: In addition to fertilizing of lawns herein specified, furnish and apply any additional fertilizers necessary to maintain plantings in a healthy, green, vigorous growing condition during the maintenance period.
- E. Mowing:
 - 1. Winter: Mow grass to 1½ inches when it reaches a height of 2-1/2 inches.
 - 2. Other seasons: Mow grass to 2½ inches when it reaches a height of 3-1/2 inches.
- F. Weeding and Cleanup: Lawn areas shall be kept neat and free from debris at all times and shall be weeded at not more than 10-day intervals.
- G. Insect, Pest, and Disease Control:
 - 1. Insects and diseases shall be controlled by the use of approved insecticides and fungicides.
 - 2. Moles, gophers, and other rodents shall be controlled by traps, approved pellets inserted by probe gun, or other approved means.
- H. Protection: Work under this Section shall include complete responsibility for maintaining adequate protection for all lawn areas. Any damaged areas shall be repaired at no additional expense to the Owner.
 - 1. Replacements: Immediately re-sod any lawn areas that die out or are damaged. Replacements shall be made to the Specifications as required for original plantings.
 - 2. Condition of Lawns at the End of the Maintenance Period:
 - 3. All lawns shall be live, healthy, undamaged, and free from infestations.
 - 4. All lawn areas shall be completely and uniformly covered at the time of final acceptance, leaving no barren spots.
 - 5. Lawns shall be free of all weeds (broadleaf and grass weeds).

6. Lawns that do not conform to Specifications shall be re-sodded and brought to a satisfactory condition before final acceptance of the work can be made.

END OF SECTION

PART 1 – GENERAL**1.01 DESCRIPTION**

- A. Provide planting work and planting maintenance complete as shown on the drawings and as specified including staking and layout of the landscaping, including soil sampling as required by the State of California Model Water Ordinance.
- B. Related work specified elsewhere includes:
 - 1. Section 31 10 00, SITE PREPARATION AND DEMOLITION
 - 2. Section 31 20 00, EARTHWORK AND GRADING
 - 3. Section 32 81 00, IRRIGATION

1.02 QUALITY ASSURANCE

- A. Reference Standards:
 - 1. All local, municipal and state laws, codes and regulations relating to all portions of this work are to be incorporated as part of these Specifications. These specifications shall not be construed to conflict with any of the above codes, regulations, or requirements. The Specifications and Drawings shall take precedence when they call for materials, workmanship or construction of a better quality or higher standard than required by the above-mentioned codes and regulations. Furnish without extra charge additional materials and labor required to comply with above rules and regulations.
 - 2. State of California Model Water Ordinance
 - 3. Public utility agency having jurisdiction over the project work.
 - 4. "Sunset Western Garden Book," Lane Publishing Co., Menlo Park, California; current edition.
 - 5. "American Standards for Nursery Stock," American Association of Nurseryman, 230 Southern Building, Washington, D.C. 20005.
 - 6. International Society of Arboriculture, Guide for Plant Appraisal, latest version.
 - 7. US Composting Council Compost Analysis Program (CAP)
 - 8. US Composting Council (USCC) Seal of Testing Assurance (STA) program.
 - 9. Test Methods for the Evaluation of Composting and Compost (TMECC)
 - 10. ASTM International: D1557 – Test Methods for Laboratory Compaction Characteristics of Soil Using Modified Effort.
 - 11. Manufacturer's recommendations.
- B. Qualifications:
 - 1. Experience: Assign a full-time employee to the job as foreman for the duration of the Contract who is certified landscape technician, certification through CLCA or minimum of four (4) years experience in landscape installation and maintenance supervision, with experience or training in turf management, entomology, pest control, soils, fertilizers and plant identification
 - 2. Labor Force: Provide a landscape installation and maintenance force thoroughly familiar with, and trained in, the work necessary to complete the tasks described herein in a competent, efficient manner acceptable to the Owner.
- C. Requirement

1. Site Visit: At beginning of work, visit and walk the site with the Owner's Representative to clarify scope of work and understand existing project/site conditions.
2. Supervision: The foreman shall directly supervise the work force at all times and be present during the entire installation. Notify Owner's Representative of all changes in supervision.
3. Identification: Provide proper identification at all times for landscape maintenance firm's vehicles and a labor force uniformly dressed in a manner satisfactory to Owner's Representative.
4. Protect all existing and new plants from construction activities, deer & rodents: Contractor shall be responsible for protection of all planting per Part 3.

D. Plant Material Standards:

1. Quality and Size of Plants: Conform to the State of California Grading Code of Nursery Stock, No. 1 grade. Use only nursery-grown stock which is free from insect pests and diseases.
2. Comply with federal and state laws requiring inspection for plant diseases and infestations. Submit inspection certificates required by law with each shipment of plants, and deliver certificates to the Owner. Obtain clearance from the County Agricultural Commissioner as required by law, before planting plants delivered from outside the County in which planted.

E. Soils & Amendment Testing

1. Amend soils per the soil analysis reports completed in May of 2022 by Sunland Analytical. These are SUN #87295-181591, #87295-181592, #87295-181593, #87295-181594, #87295-181595, #87295-181596, #87295-181597, and #97295-181598.
2. All soils & amendments are then to be retested for agricultural suitability by one of the following accredited soil testing laboratories (or approved equal). The soil laboratory must be Seal of Testing Certified. Components of the test shall include all major nutrients, pH, salinity, boron, sodium, micronutrients, copper, zinc, manganese and iron, adsorption rate, organic content and texture. The laboratory report shall include recommendations for adjusting fertilizer and amendment quantities based on an organic approach.
 - a. Sunland Analytical, 11419 Sunrise Gold Circle, #10, Rancho Cordova, CA 95742; (916-852-8557)
 - b. Waypoint Analytical, Inc., 1101 South Winchester Blvd, San Jose CA 95128; (408-727-0330)
 - c. Wallace Laboratories, LLC, 365 Coral Circle, El Segundo, CA 02345, (310-615-0016)
 - d. Root Zone Associates, P.O. Box 18911, San Jose, CA 95118; (408-264-7024)
3. Upon approval of the laboratory's report by the Owner's Representative, the recommendations in the report shall become a part of the Specifications and the soil preparation procedures, quantities of soil amendment, fertilizer and other additives shall be adjusted to conform with the report at no additional cost to the owner. Note that there is a minimum quantity of organic amendment specified elsewhere in this specification section.
4. Significant issues with soil quality will require soil to be retested in the locations identified on Soil Analysis Plan, prior to proceeding with plant installation, to ensure that the recommendations in the report have been followed and the In-Situ Topsoil is agriculturally suitable as described in Part 2.

1.03 DEFINITIONS

- A. Subsoil: Soil beneath the level of subgrade; soil beneath the topsoil layers of a naturally occurring soil profile, typified by less than 1 percent organic matter and few soil organisms. Subsoil is

defined as either existing site soil located below the topsoil prior to construction activities, or select fill used for rough grading during construction. Subsoil cannot be considered for use as planting soil.

- B. Surface Soil: Soil that is present at the top layer of the existing soil profile. In undisturbed areas, surface soil is typically called "topsoil," but in disturbed areas such as urban environments, the surface soil can be subsoil.
- C. Topsoil: Top layer of the soil profile consisting of existing native surface topsoil or existing in-place surface soil; the zone where plant roots grow. Its appearance is generally friable, pervious, and black or a darker shade of brown, gray, or red than underlying subsoil; reasonably free of subsoil, clay lumps, gravel, and other objects larger than 2 inches (50 mm) in diameter; and free of weeds, roots, toxic materials, or other non-soil materials.
- D. Planting Soil: Approved existing topsoil or imported planting soil, meeting the requirements herein. Subsoil cannot be considered for use as planting soil.

1.04 SUBMITTALS, per Section 01 33 00.

- A. The following shall be submitted to the Owner's Representative for approval prior to the installation of landscape materials and products. All data sheets to be included in a single submittal.
- B. Manufacturer's Technical data sheets for fertilizers, turf, and all other products and materials listed herein.
- C. Manufacturer's technical data sheets for amendments.
- D. Submit planting soil and organic amendment laboratory reports a minimum of [3] weeks prior to beginning soil prep. See below for required soil analysis reports.
- E. All reports and amendments to be submitted in a single submittal.
- F. Required Soil Analysis Reports. Reports to be dated no more than [3] months prior to soil preparation.
 - 1. Soil Analysis Plan: Contractor to submit annotated plan showing confirmed locations of all required soil tests. Each location is to be identified with a unique label.
 - 2. Existing Planting Soil Analysis: After approval of the Soil Analysis Plan, rough grading, and topsoil placement, contractor to obtain [3] representative samples of in situ topsoil taken from approved site locations at depth of 4" to 6" below finish grade and submit to an accredited soils testing laboratory for "agricultural suitability" analysis, including particle size, infiltration rate, and evaluation of physical and chemical properties of soil and recommendations for adding amendments and fertilizers to the soil.
 - 3. Subsoil Analysis: In addition to the above required soil samples, contractor to obtain one representative sample of any subgrade soil that is to receive a layer of imported planting soil over it. The laboratory report shall include the soil's infiltration rate, total combined silt and clay content for determining the total allowable combined silt and clay content of the imported planting soil specified herein.
 - 4. Imported Planting Soil Analysis: Contractor to submit an "agricultural suitability" analysis report from an accredited soils testing laboratory, including particle size, infiltration rate, and evaluation of physical and chemical properties of soil and recommendations for adding amendments and fertilizers to the soil. Soil to conform to requirements in Part 2.
 - 5. Amended Planting Soil Analysis: Significant issues with soil quality will require soil to be retested in the locations identified on Soil Analysis Plan, prior to proceeding with plant installation, to ensure that the recommendations in the report have been followed and the final Planting Soil is agriculturally suitable as described in Part 2.

- G. The Contractor is responsible to follow all local water ordinances and make available to the local agency the soil analysis report and verification of its implementation as required.
- H. Delivery Receipts upon request by Owner, provide delivery receipts for quantities of soil & amendments delivered to the site.
- I. 1-pint samples of imported soils, organic amendments/compost, mulches, and stones. All samples to be included in a single submittal.
- J. Plant sample of each variety of plant. Samples to be delivered to the site 2 weeks prior to plant installation and stored and maintained separately from entire quantity of delivered plants. Contractor to maintain plants throughout maintenance period. Plants to be reviewed in a single site visit.
- K. Representative photos of each plant species. Photos to be labelled with plants and sizes of plants to be delivered to site and not a stock photograph.
- L. Entire plant quantity delivered to the site. Plants to be reviewed prior to installation during a single site visit.
- M. Representative photos of each tree species (unless trees previously tagged at nursery by Owner's Representative). Photos to be of trees to be delivered to site and not a stock photograph.

1.05 WARRANTY AND REPLACEMENT

- A. Maintenance Period: See Part 3.
- B. Warrant the work against weed growth for a period of four (4) months after application of Pre-Emergence Weed Killer.
- C. Warrant all plants to be in a healthy, thriving condition until the end of the maintenance period, and deciduous trees, shrubs and vines beyond that time until active growth is evident.
- D. Replace all dead and damaged plants and plants not in a vigorous condition immediately upon discovery and as directed by the Owner's Representative and at no cost to the owner. Install replacement plants before the final acceptance of the maintenance period in the size specified.
- E. Warrant all products, prepared soils and plant material installed and maintained by contractor against defects for a period of one year after final acceptance of the maintenance period.

PART 2 – PRODUCTS

2.01 SUBSOIL

- A. Submit soil analysis report from an approved soils laboratory for approval by the Owner's Representative. Refer to Part 1 for soil testing requirements.

2.02 EXISTING PLANTING SOIL (ON-GRADE):

- A. Existing Planting Soil is defined as on-site topsoil that is either to be removed and stockpiled for reuse or to remain in place during construction. Satisfactory planting soil shall be free of subsoil, clay, lumps, stones, and other objects over 4" in diameter, and without weeds, roots, and other objectionable material. The soil shall be fertile, friable, natural, productive soil containing a normal amount of humus, and shall be capable of sustaining healthy plant life. Soil shall not be infested with nematodes or with other noxious animal life or toxic substances. Soil shall be obtained from well-drained, arable land, and shall be of an even texture. Soil shall not be taken from areas on which are growing any noxious weeds such as Morning Glory, Equisetum, or Bermuda Grass, etc.
- B. If herbicide contamination is suspected, then a radish/ryegrass growth trial must be performed. Consult with Owner's Representative prior to decision to test or not.

- C. Amended Planting Soils are to conform with the following target levels. Elements are expressed as mg/kg dry soil or mg/l for saturation extract

pH value 6.5-7.9,	iron 4-15 mg/kg
lime none present	manganese 0.6-3.0 mg/kg
salinity (ECe) 0.5-3 milli-mho/cm	zinc 1-3 mg/kg
chloride <150 ppm	copper 0.2-3.0 mg/kg
nitrate 20-30 ppm	boron 0.2-0.5 mg/kg
SAR <3	magnesium 25-100 mg/kg
phosphorus 8-20 mg/kg	sodium <200 mg/kg
potassium 60-180 mg/kg	sulfur 25-100 mg/kg

- D. If sufficient on-site surface topsoil is not available, contractor to provide imported planting soil as specified below. Placement of dissimilar soils shall be coordinated with irrigation zones by the contractor to maintain separate valves for dissimilar soils.
- E. Submit soil analysis report from an approved soils laboratory for approval by the Owner's Representative. Refer to Part 1 for soil testing requirements.

2.03 IMPORTED PLANTING SOIL (ON-GRADE):

- A. Imported planting soil shall be screened and shall be free of subsoil, heavy or stiff clay, rocks, gravel, brush, roots, weeds, noxious seeds, sticks, trash, and other deleterious substances.
- B. Imported Planting Soils are to conform with the following target levels. Elements are expressed as mg/kg dry soil or mg/l for saturation extract

pH value 6.5-7.9,	iron 4-15 mg/kg
lime none present salinity (ECe) 0.5-3 milli-mho/cm	manganese 0.6-3.0 mg/kg
chloride <150 ppm	zinc 1-3 mg/kg
nitrate 20-30 ppm	copper 0.2-3.0 mg/kg
SAR <3	boron 0.2-0.5 mg/kg
phosphorus 8-20 mg/kg	magnesium 25-100 mg/kg
potassium 60-180 mg/kg	sodium <200 mg/kg
	sulfur 25-100 mg/kg

- C. The silt and clay content of Imported Planting Soil shall not exceed that of the existing soil it is to be placed over. Except where otherwise required, it shall be a "Sandy Loam" as classified in accordance with USDA Standards with a combined total of between 25% to 40% Clay and Silt.
- D. Submit soil analysis report from an approved soils laboratory for approval by the Owner's Representative. Refer to Part 1 for soil testing requirements.

- E. Following approval of the sample, provide a one-half cubic yard sample, which shall be stored at the site of work for comparison with sample and subsequent loads of soil. The comparison sample shall be protected by a cover until the installation of all soil has been completed and accepted.

2.04 PALM TREE SOIL

- A. 100% Angular Planter Sand as specified herein.

2.05 ORGANIC AMENDMENT FOR PLANTING SOILS (ON-GRADE):

- A. Ground Redwood or Ground Fir Bark with the following properties:

Percent Passing	Sieve Designation	
100	9.51 mm	3/8"
50-60	6.35 mm	1/4"
20-40	4.76 mm	No. 4
0-20	2.38 mm	No. 8
		8 mesh

- 1. Redwood Sawdust
 - a. Dry bulk density, lbs. per cu. yd., 260-280 Nitrogen stabilized - dry weight basis, min. 0.4% Salinity (ECe): 4.0 maximum
 - b. Organic Content: 90% minimum Reaction (pH): 4.0 minimum
- 2. Ground Fir and/or Pine Bark
 - a. Dry bulk density, lbs. per cu. yd., Min. 350 Nitrogen stabilized - dry weight basis, min. 0.5% Salinity (ECe): 4.0 maximum
 - b. Organic Content: 90% minimum Reaction (pH): 4.0 minimum
- B. Submit sample, product’s technical data sheet, and analysis report from an approved soils laboratory for approval by the Owner’s Representative. The analysis report should include compliance to the specifications above and directions for product use.
- C. Contractor may use Composted Yard Waste Amendment in lieu of the above specified Organic Amendment pending approval of product’ technical data sheet.

2.06 COMPOSTED YARD WASTE AMENDMENT FOR PLANTING SOILS (ON-GRADE):

- A. The above ORGANIC AMENDMENT FOR PLANTING SOILS (ON-GRADE) is the specified organic amendment material. Acceptance of Composted Yard Waste Amendment in lieu of the above specified amendment material will be considered if the in situ planting soil salinity and soil structure is favorable for the inclusion of recycled yard waste organic matter, as approved by the Owner’s Representative.
- B. The composted yard waste amendment shall be a mixture of feedstock materials including green material consisting of chipped, shredded, or ground vegetation and mixed food waste, or clean processed recycled wood products. Single source, biosolids (sewage waste) compost will not be acceptable.
- C. The addition of the compost shall result in a final ECe of the amended soil of less than 4.0 dS/m @ 25 degrees C. as determined in a saturation extract. Use the following table to determine the maximum allowable Ece (dS/m of saturation extract) of compost at desired use rate and allowable Ece increase.

DESIRED USE RATE		MAXIMUM ALLOWABLE Ece INCREASE FROM AMENDMENT		
Cu. Yds. Amendment Per 1000 Sq. Ft. for Incorporation to 6" depth	Volume percentage of amendment	1 dS/m	2 dS/m	3 dS/m
		Maximum ECe of Compost		
1	5	14	28	42
2	11	7	14	21
3	16	5	9.5	14
4	22	3.5	7	10.5
5	27	3	5.5	8.5
6	32	2.5	4.5	7

Example: Specification calls for 6 cu. Yrds. Compost per 1000 sq. ft. for incorporation to 6" depth, and site soil has an ECe of 2.0. In order to avoid exceeding ECe of 4 in final blend, compost ECe shall be less than 4.5 dS/m.

D. Composted Yard Waste Soil Amendment properties to conform to the following:

1. Gradation:

% Passing by weight	Sieve Designation
90	1/2"
85-100	9.51 mm 3/8"
50-80	2.38 mm No. 8
0-40	500 micron No. 35

2. Organic Content: Minimum 50% based on dry weight and determined by ash method. Minimum 250 lbs. organic matter per cubic yard of compost.
3. Carbon to nitrogen ratio: Maximum 35:1 if material is claimed to be nitrogen stabilized.
4. pH: 5.5 – 8.0 as determined in saturated paste.
5. Soluble Salts: See B. above.
6. Moisture Content: 35-60%.
7. Contaminants: The compost shall be free of contaminants such as glass, metal and visible plastic. Heavy meals, fecal colliform and Salmonella shall not exceed levels outlined as acceptable in the California integrated waste management regulations
8. Maturity: Physical characteristics suggestive of maturity include:

- a. Color: Dark brown to black.
 - b. Acceptable Odor: None, soil-like, or musty.
 - c. Unacceptable Odor: Sour, ammonia or putrid.
 - d. Particle Characterization: Identifiable wood pieces are acceptable but the balance of the material shall be soil-like without recognizable grass or leaves.
- E. Submit sample, product's technical data sheet, and analysis report from an approved soils laboratory for approval by the Owner's Representative. The analysis report should include compliance to the specifications above, directions for product use, and a list of ingredients. It is the Contractor's responsibility to secure test of the proposed composted yard waste amendment (2 quart sample) and submit to a Soils Laboratory for evaluation and recommendations. The composted yard waste amendment sample shall be a grab sample from the currently available material that has been tested within the last 30 days and shall include the composter's Compost Technical Data Sheet that includes lab analytical test results and directions for product use along with list of ingredients. Refer to Part 1 for soil testing requirements.
- F. Based on the Soils Laboratory evaluation, the addition of composted yard waste amendment shall not be acceptable if it creates a leaching requirement.

2.07 PLANTS

- A. Plant the variety, quantity and size indicated on drawings. The total quantities indicated on the drawings are considered approximate and furnished for convenience only. Contractor shall perform plant quantity calculations and provide all plants shown on the drawings.
- B. Measure trees and shrubs with branches in normal position. Height and spread dimensions indicated refer to the main body of the plant, and not from branch tip to tip.
- C. Take precautions to ensure that the plants will arrive at the site in proper condition for successful growth. Protect plants in transit from windburn and sunburn. Protect and maintain plants on site by proper storage and watering.
- D. Install healthy, shapely and well rooted plants with no evidence of having been root-bound, restricted or deformed.
- E. Tag plants of the type or name indicated and in accordance with the standard practice recommended by the American Association of Nurserymen.
- F. Substitutions will not be permitted, except as follows:
 1. If proof is submitted to the Owner's Representative that any plant specified is not obtainable, a proposal will be considered for use of nearest equivalent size or variety with an equitable adjustment of contract price.
 2. Substantiate and submit proof of plant availability in writing to the Owner's Representative within 10 days after the effective date of Notice to Proceed.
- G. Tree Form:
 1. Trees shall have a symmetrical form as typical for the species/cultivar and growth form.
 2. Central Leader for Single Trunk Trees: Trees shall have a single, relatively straight central leader and tapered trunk, free of co-dominant stems and vigorous, upright branches that compete with the central leader. Preferably, the central leader should not have been headed; however, in cases where the original leader has been removed, an upright branch at leaves $\frac{1}{2}$ the diameter of the original leader just below the pruning point shall be present.
 3. Potential Main Branches: Branches shall be evenly distributed radially around and appropriately spaced vertically along the trunk, forming a generally symmetrical crown typical for the species.

4. Headed temporary branches should be distributed around and along the trunk as noted above and shall be no greater than 3/8" diameter, and no greater than 1/2 diameter of the trunk at point of attachment.

H. Tree Trunk

1. Trunk diameter and taper shall be sufficient so that the tree will remain vertical without the support of a nursery stake.
2. Trunk shall be free of wounds (except properly made pruning cuts), sunburned areas, conks (fungal fruiting-bodies), wood cracks, bleeding areas, signs of boring insects, galls, cankers and/or lesions.
3. Tree trunk diameter at 6" above the soil surface shall be within the diameter range shown for each container size below, except where shown otherwise:

Container	Trunk Diameter	Soil level from Container Top
5 gallon	0.5" to 0.75"	1.25 to 2"
15 gallon	0.75" to 1.0"	1.75 to 2.75"
24" Box	1.5" to 2.5"	2.25 to 3"
36" Box	>2.5"	2.25 to 3"
60" Box	>2.5"	3-6"

4. Tree trunks shall be undamaged and uncut with all old abrasions and cuts completely callused over. Do not prune plants prior to delivery.

I. Tree Roots

1. Trunk root collar (root crown) and large roots shall be free of circling and/or kinked roots. Contractor may be required to remove soil near the root collar in order to verify that circling and/or kinked roots are not present.
2. The tree shall be well rooted in the container. When the trunk is lifted the trunk and root system shall move as one and the rootball shall remain intact.
3. The top-most roots or root collar shall be within 1" above or below the soil surface. The soil level in the container shall be within the limits shown in above table.
4. The rootball periphery shall be free of large circling and bottom-matted roots.
5. On grafted or budded trees, there shall be no suckers from the root stock.

2.08 FERTILIZERS

- A. Synthetic Controlled Release Fertilizer: Not permitted.
- B. Organic Fertilizer: Compost Tea Bags or Root Zone Feeder Paks, 4-6-4, Sustane Natural Fertilizer of America, Inc. 1 (507) 263.3003, www.sustane.com. Follow manufacturer's instructions for quantity and placement.
- C. Any other soil conditioner and/or fertilizer required by the Soils Analysis Report. If commercial fertilizer having the above analysis is not obtainable, other similar commercial fertilizer may be used providing it meets the approval of the Owner's Representative.
- D. Palm Tree Fertilizer: "Turf type" balanced fertilizer with nitrogen sources which allow fast, medium, and slow release. The fertilizer shall contain a full range of micronutrients and shall be as recommended or as approved by the palm tree supplier. Minor elements shall include the

following elements in the approximate amounts: 6.69% Mg, 3.87% Mn, 2.41% Zn, 4.00 % Fe, 4.24% combined Sulfur as S, .03% B and .0002% Mo.

2.09 EROSION CONTROL NETTING

- A. New, with a uniform, open plain-weave, flame-retardant mesh. The mesh shall be [natural brown-tan] and made from unbleached single jute yarn. The yarn shall be of loosely twisted construction and shall not vary in thickness by more than one-half its normal diameter. Furnish jute mesh in rolled strips to meet the following requirements:
 - 1. Width: 48 inches, with a tolerance of one-inch wider or narrower. Not less than 78 warp ends per width.
 - 2. Not less than 41 weft ends per yard.

2.10 PERFORATED DRAIN PIPE

- A. Polyvinyl Chloride (PVC) pipe and pipe fittings shall meet extra strength minimum of SDR-35 of the requirements of ASTM Specification D3034.
- B. Perforated and non-perforated corrugated polyethylene pipe, 3- to 10-inch diameter, shall meet the requirements of ASTM D883 and ASTM F412, and shall conform to Section 68 of the Standard Specifications.
- C. Corrugated polyethylene pipe fittings shall comply with all requirements of AASHTO M-252-85I for 3- to 10-inch diameter pipe. Couplings shall be split or snap-on type for perforated pipe and split couplings with gaskets for non-perforated pipe. Cutting pipe with integral couplings will not be allowed.
- D. Corrugated polyethylene pipe and fittings manufactured by Advanced Drainage Systems, Inc., shall be considered the standard to determine compliance to this specification.
- E. Inspection Tube Cap: Paint cap one coat chocolate-brown color using Flat, exterior grade latex paint as accepted by Owner's Representative.

2.11 FILTER FABRIC / PERMEABLE LANDSCAPE FABRIC

- A. Polyester or polypropylene non-woven filter fabric with uniform fiber distribution by "Terra Bond" #1115, "Mirafi, Inc." #140N, or approved equal.

2.12 PERMEABLE DRAIN ROCK

- A. Permeable drain rock used in subsurface drain installations to be Class 2 permeable material in conformance with Section 68 "Subsurface Drains" of the Standard Specifications: gradation to 3/4" maximum size. Submit Sample for approval.

2.13 ROOT BARRIER

- A. UB 24 as manufactured by Deep Root Corporation (800)458-7668, Root Solutions, Inc. (800) 554-0914, or equal. Install a minimum of 6 panels/12 linear feet centered on each tree, where tree is within 8 feet of sidewalk, paving, or utilities.

2.14 HEADER BOARD

- A. Redwood: 2x4 on all straight sections and 1x4 doubled or 1/4x4 four times on all radius sections.

2.15 PRE-EMERGENCE WEED KILLER, HERBICIDES, INSECTICIDES, AND FUNGICIDES

- A. Clean non-staining as recommended by a licensed pest control specialist and approved by Owners Representative.

2.16 TREE STAKES

- A. Lodge pole pine logs, clean, smooth, un-treated.
- B. Unless otherwise shown on drawings, provide two-inch (2") diameter by eight feet (8') long for trees less than 8' high and 1" caliper.
- C. Unless otherwise shown on drawings, provide three-inch (3") diameter by eight to ten feet (8' - 10') long for trees greater than 8' high and 1" caliper.

2.17 TREE TIES

- A. Unless otherwise shown on drawings, provide rubber strap, 24-inch minimum length without sharp edges adjacent to trunk, V.I.T. cinch-tie, Dublin, CA, (818)882-9530, or approved equal.
- B. Black corded rubber tree ties w/ clips by greensleeves.com
- C. Biodegradable VStrap webbing by Treestrap.

2.18 TREE GUYING SYSTEM:

- A. For trees up to 3" caliper, 3/16" galvanized steel cable, with rubber tree collar, 12" minimum long, and secured with cable clamp, and attached to anchor for below-grade location, Duckbill Model 40 DTS, or approved equal.
- B. For trees 3" to 6" caliper, 3/16" galvanized steel cable with rubber tree collar, 18" minimum long, and secured with cable clamp, 3" take-up eye to eye turnbuckle, and attached to anchor for below-grade location, Duckbill Model 68 DTS, or approved equal.
- C. Rootball guying system with three dead man anchors per tree as shown on drawings.

2.19 VINE SUPPORT SYSTEM:

- A. Provide vertical supports for all vines as required for vines to climb onto shown horizontal supports (trellis, arbor, etc.). Vertical support shall be 3/16" stainless steel cables secured taut with in-line end fasteners at ground and top of structure. Anchor cable at ground with 1 inch by 15-inch galvanized pipe stake driven flush with drilled hole to receive the cable. Train vine branches to supports with green nursery tape.

2.20 MULCH

- A. Organic Bark Mulch, derived from recycled green waste and screened to 1" – 3" in size, Zankerrcycling.com, 408.846.1577 or equal.
- B. Submit samples of rock mulch for approval by Owner's Representative until acceptable.

2.21 REPLACEMENT MATERIALS

- A. Materials in need of replacement such as tree stakes and ties are to match originally accepted materials on the site.

PART 3 – EXECUTION**3.01 PLANT PROTECTION AND REPLACEMENT**

- A. Inspect and protect all existing and new plants and trees against damage from construction activities, erosion, trespass, insects, rodents, deer, disease, etc. and provide proper safeguards, including trapping of rodent and applying protective sprays and fencing to discourage deer browsing. Maintain and keep all temporary barriers erected to prevent trespass.
- B. Repair all damaged planted areas. Replace plants and re-seed or re-sod turf immediately upon discovery of damage or loss.

3.02 DELIVERY, STORAGE, AND HANDLING

- A. Fertilizers and Amendments: Store fertilizers and amendments, bark mulch, soil mix, and other materials which could stain concrete and similar surfaces in such a manner that staining does not occur.
- B. Deliver, store, protect and handle products to site under Section 1007 Planting, SSDPWSF.
- C. Deliver fertilizer and other bulk products in waterproof bags showing date, weight, chemical analysis and name of manufacturer.
- D. Prevent spillage when hauling on or adjacent to any public street or highway. In the event that spillage occurs, remove all spillage and sweep, wash, or otherwise clean such streets or highways as required by local City, County and/or the State Authorities.
- E. Take precautions to prevent a dust nuisance to adjacent public or private properties and to prevent erosion and transportation of soil to downstream or adjacent properties due to work under this Contract. At project site exit, clean dirt from tires. Do not track dirt onto roadways.
- F. Prior to delivery, propose suitable stockpile locations. Stockpile to a 6-foot-high maximum and protect from traffic, wind and water erosion. Provide temporary seeding and/or erosion control measures as approved by Owner's Representative.

3.03 TOPSOIL STRIPPING AND STOCKPILING:

- A. Strip existing planting soil to whatever depths encountered in areas that may be compacted due to construction activities and in a manner to prevent intermingling with the underlying subsoil or other objectionable material. Topsoil stripping is limited to area outside "Drip Line" of existing trees to remain and areas indicated on drawings and as approved by the Owner's Representative.
- B. Remove heavy growths of grass from areas before stripping.
- C. Stockpile existing planting soil in storage piles in areas shown, or where designated by Owner. Construct storage piles to freely drain surface water. Cover storage piles if required to prevent windblown dust.
- D. If herbicide contamination is suspected, then a radish/ryegrass growth trial must be performed. Consult with Owner's Representative prior to decision to test or not.

3.04 LIME TREATED SOIL

- A. If site work includes Lime Treatment of the subsoil, the Contractor shall remove full depth of treated soil beyond 12" from structure(s) and replace with approved planting soil. Following removal of lime treated material, scarify subgrade to a minimum depth of 6 inches and test for drainage.
- B. Test subgrade in all planting areas for drainage by flooding with minimum 4 inch depth of water puddle and verify complete absorption of standing water within two hours. If standing water is still present after two hours, provide perforated pipe and drain rock "French Drain" system in bottom of non-draining planters and connect to storm drainage system, as accepted by Owner's Representative prior to backfilling with approved planting soil.

3.05 LANDSCAPE FINISH GRADING

- A. Perform grading within contract limits, including adjacent transition areas, to new elevations, levels, profiles, and contours indicated. Conform to existing grades at edges of Work as accepted by Owner's Representative. Provide subgrade surfaces parallel to finished surface grades. Provide uniform levels and slopes between new elevations and existing grades.
- B. After clearing subgrade of all vegetation and debris in accordance with section 16 of the Standard Specifications, scarify subgrade to a depth of at least 6" below final subgrade elevation, harrow,

dry roll and break clods to achieve a finely divided condition. Remove all boulders, hardened material or rock encountered.

- C. Adjust finish elevation of utility lids and manhole covers to ensure slope of adjacent planting area does not exceed 3:1.
- D. Hold finish grade of soil in planting areas 1/2-inch below adjacent pavement surfaces, tops of curbs, manholes, etc. The subgrade of the mulch in mulched planting areas shall be a minus 3 inches at a distance of 12 to 18 inch from the edge of pavement. Drag finish grade to a smooth, even surface. Grade to form all swales and berms. Pitch grade with uniform slope to catch basins, streets, curb, etc., to ensure uniform surface drainage. Areas requiring grading include adjacent transition areas that shall be uniformly sloped between finish elevations. Slope surface away from walls so water will not stand against walls or buildings. Control surface water to avoid damage to adjoining properties or to finished work on the site. Take required remedial measures to prevent erosion of freshly graded areas.
- E. Grade surfaces to assure areas drain away from structures and to prevent ponding and pockets of surface drainage. Provide subgrade surfaces free from irregular surface changes and as follows:
 - 1. Provide subgrade surface free of exposed boulders or stones exceeding 4" in greatest dimension.
 - 2. Lawn and Planting Areas: Allow for 12 inches average depth of topsoil at lawn areas, and 12 inches depth at planting areas, except as otherwise indicated on the drawings.
 - 3. Provide earth mounding where indicated.
 - 4. Drainage Swales: Grade to profiles indicated
- F. Grading at existing trees to remain:
 - 1. Perform grading, within branch spread of existing trees to remain, by hand methods to elevations indicated.
 - 2. If roots are damaged, cut roots cleanly to depth 3" below proposed finish grade.
- G. Tolerances
 - 1. Handle and place the soil and amended backfill to required depths as shown on Drawings and stated herein.
 - a. Deposit amended backfill in horizontal lifts not exceeding 12 inches. Moisten to settle. Compact or roll each lift to 85 percent relative compaction.
 - 2. Work soil and amended backfill sufficiently so that after rolling, and after full settlement has occurred, the site will be graded to within +0.10 of a foot from the lines, grades, and elevations shown, and as may be directed by the City Representative. Finished surface shall be smooth and uniform, and shall be free of depressions that retain standing water, or any surface irregularities that would impede proper drainage.
 - 3. Unless otherwise noted, finish grade for all planting areas and tree pits shall allow for a two-inch mulch layer, set 1/2 inch below top of adjacent walks, pavement, curbs, and walls.

3.06 GENERAL PREPARATION OF PLANTING SOIL

- A. Submit soil analysis report of amended soils from an approved soils laboratory for approval by the Owner's Representative. Refer to Part 1 for soil testing requirements.
- B. All planting soils to be amended as specified in soil laboratory analysis report(s).
- C. Provide a minimum of [12"] depth of amended planting soil in all planting areas, or more where shown or specified otherwise. Install soil in maximum [12"] lifts. Compact each lift prior to installing subsequent lifts.

- D. Thoroughly wet down the planting areas to settle the soil and confirm irrigation coverage and operation. Allow soil to dry so as to be workable as described herein.
- E. After the rototill work, float areas to a smooth, uniform grade as indicated on the drawings. Slope all planting areas to drain. Roll, scarify, rake and level as necessary to obtain true, even planting surfaces. Remove rocks, sticks and debris 1 inch and larger in size in turf areas and 2 inches or larger in shrub and ground cover areas. Secure approval of the grade by the Owner's Representative before any planting.
- F. Prior to planting, soil shall be loose and friable to a minimum depth of [12"] with a relative maximum compaction of 85%. Rip and scarify any overly compacted and re-compacted planting areas (in two directions full depth of compacted soil) prior to planting.
- G. Water settling, puddling, and jetting of soil and backfill materials as a compaction method is not acceptable.
- H. Prior to planting, soil shall be moist, but not so moist that it sticks to a hand shovel. Do not work planting soil in a wet or muddy condition or dump or spread in areas where subgrade is not in proper condition.
- I. Provide planting soil as a final lift in all planting areas within and adjacent to paved areas and other construction where native site soil has been covered by engineered fill and/or base rock. Unless otherwise shown or specified, finish grade in planting islands shall be crowned with a minimum 2% pitch to drain.
- J. Planting operations shall be performed only during periods when beneficial results can be obtained. When excessive moisture or other unsatisfactory conditions prevail, the work shall be stopped until conditions are satisfactory.

3.07 PREPARATION OF IN-SITU PLANTING SOIL

- A. In-Situ Planting Soil is defined as top soil left in it's original place and undisturbed during construction activities which is to receive new planting
- B. Except within tree driplines, rip all planting areas in two directions full depth to a minimum of [12" into undisturbed native subsoil prior to amending. Scarification of any planting area which cannot be accomplished with a tractor shall be accomplished by an alternative method approved by the Owner's Representative to the specified depth to ensure proper percolation/drainage.
- C. Inspect planting areas and remove all base rock and other foreign material. Verify placement of planting soil within dripline of trees with Owner's Representative.
- D. Test depth of loose soil with hand shovel in presence of Owner's Representative in several locations as directed.
- E. After acceptance of the planting condition, uniformly mix and amend soil with required fertilizers, nutrients, etc. per specifications herein and recommendations given in soils reports.
- F. In the case of a contradiction between the quantity of organic amendment required by the soils laboratory analysis and the specified quantity below, the greater of the two quantities shall take precedence. Spread organic amendment, iron and Type A fertilizer evenly over installed and rough graded on-site topsoil in all planting areas including turf, ground cover and shrub areas at the following rates:
 - 1. Organic Amendment: 6 cubic yards per 1,000 square feet
 - 2. Fertilizer: Type A (6-20-20) at 20 lbs. per 1,000 square feet.
 - 3. Iron Sulfate: 10 lbs. per 1,000 square feet
- G. Rototill above additives into soil [8-12"] inches deep. Keep iron sulfate off pavement and other surfaces to prevent rust staining. Correct all rust damage to work.
- H. Final planting soil shall have a pH range of 6.5 to 7.5.

3.08 PREPARATION OF IMPORTED PLANTING SOIL (ON-GRADE)

- A. Uniformly distribute and spread Subsoil or select fill in planting areas to achieve rough grading and compact to a maximum of 85% relative compaction.
- B. Except within tree driplines, rip all planting areas in two directions full depth to a minimum of [12"] into undisturbed native subsoil prior to backfilling. Scarification of any planting area which cannot be accomplished with a tractor shall be accomplished by an alternative method approved by the Owner's Representative to the specified depth to ensure proper percolation/drainage.
- C. Thoroughly water-settle subsoil to required subgrade prior to installing Top Soil.
- D. Prior to placing planting soil secure the Owner's Representatives acceptance of the planting areas subgrade condition. Test depth of loose soil with hand shovel in presence of Owner's Representative in several locations as directed.
- E. After acceptance of the planting areas subgrade condition, uniformly distribute and spread planting soil backfill over scarified subgrade in planting areas as specified.
- F. Mix and amend soil with required fertilizers, nutrients, etc. per specifications herein and recommendations given in soils reports.

3.09 WEED GERMINATION

- A. Work shall be done under the supervision of a person licensed by the State of California as a pest control applicator and holding a qualified applicator license or a Qualified Applicator Certificate.
- B. Following soil preparation and fine grading of planting areas, irrigate the planting areas to germinate any weed seeds for a minimum period of 21 days. Maintain the soil in a damp condition for a minimum depth of 4 inches. Following approval of the weed germination by the Owner's Representative, spray kill the weeds using a short lived systemic weed killer that will not affect subsequent planting. Confirm the weed kill and allow the soil to dry out to optimum degree for planting prior to planting.

3.10 PRE-EMERGENCE WEED KILLER

- A. Work shall be done under the supervision of a person licensed by the State of California as a pest control applicator and holding a qualified applicator license or a Qualified Applicator Certificate.
- B. Apply pre-emergence weed killer in all areas to receive ground cover planting. Obtain approval of the finish grades prior to applying weed killer and coordinate planting and watering with the pest control specialist prior to planting. Take care to keep weed killer off areas to be seeded.

3.11 ROOT BARRIER

- A. Install in continuous sheet parallel and adjacent to curb or pavement edge as required on drawings and in accordance with manufacturer's recommendations. Set top of barrier approximately ½-inch above finished soil surface to allow concealment with mulch, as accepted by Owner's Representative

3.12 EROSION CONTROL NETTING

- A. Verify finished grades and provide Jute Mesh and single grind Redwood bark mulch on all slopes 3:1 and steeper as accepted by the Owner's Representative. Install jute mesh loosely up and down the slope in accordance with manufacturer's specifications and as follows. Fit the soil surface contour and hold in place with 12-inch long, 11-gauge (minimum) steel wire staples driven vertically into the soil at 18- to 24-inch spacing. Jute mesh strips shall overlap along all edges at least 6 inches. Ends of side strips shall be buried into the soil at least 6 inches. Drive staples along edges to securely anchor mesh to ground.

3.13 HEADER BOARD

- A. Install in continuous, smooth alignment as indicated with stakes spaced 48 inches on center maximum and at all joints.

3.14 TREE AND SHRUB PLANTING

- A. Mark tree and shrub locations on site using stakes, gypsum or similar approved means and secure location approval by the Owner’s Representative before plant holes are dug. Adjust location as required prior to planting.
- B. Review location of plants in relationship to irrigation heads and adjust location(s) that interfere with the function of the spray heads. Adjust locations as required to ensure that the plant roots receive the proper amount of water in order for the plants to thrive.
- C. Square Tree Pits
 - 1. Drilled tree pits shall be modified to a square pattern with pit walls scarified to promote root penetration.
- D. Excavate tree, shrub and vine pits as follows:

	Width	Depth
Boxed Trees	Box + 24"	Box depth
Canned Trees (15 gc)	Can + 18"	Can depth
Canned Shrubs/Vines (1- 5 gc)	Can + 12"	Can depth

- E. Test drainage of plant beds and tree pits by filling with water (minimum 6"). The retention of water in planting beds and plant pits for more than two (2) hours shall be brought to the attention of the Owner’s Representative. If rock, underground construction work, tree roots, poor drainage, or other obstructions are encountered in the excavation of plant pits, alternate locations may be selected by Owner’s Representative.
- F. Break and loosen the sides and bottom of tree pits to ensure root penetration and water test hole for drainage as required above.
- G. Excavate plant hole or tree pit keeping excavated planting soil layer on the surface when backfilling around the plant. Carefully set plants as detailed without damaging the rootball. Superficially cut edge roots vertically on three sides. Remove bottom of plant boxes before planting. Remove sides of boxes after positioning the plant and partially backfilling.
- H. Set plants in backfill with top of the rootball 1 inch above finished grade of adjacent soil. Backfill remainder of hole and soak thoroughly by jetting with a hose and pipe section. Water backfill until saturated the full depth of the hole.
- I. Backfill plant holes with mix as specified, free from rocks, clods or lumpy material. Backfill native soil free of soil amendments under rootball and foot tamp to prevent settlement. Backfill remainder of the hole with soil mix
- J. Use a soil mix of 2 parts soil from the hole, and 1 part amendment with iron added at the following rates:

1 gallon can plants	iron, 1/4 cup
5 gallon can plants	iron, 1/3 cup

15 gallon can plants iron, 1/2 cup

24" box and larger iron, 1 cup

1. Mix the iron, amendment and soil thoroughly for use in the top 8 inches of backfill around plants. For acid loving plants, mixture to be 1/2 soil from the hole and 1/2 amendment.

- K. Remove any soil from top of plant rootballs and secure Owner's Representative approval of rootball height prior to mulching.
- L. After approval of rootball height, install mulch as required below.
- M. Stake and/or guy trees as detailed. Drive stake(s) until solid (at least 12" beyond bottom of rootball) and remove excess stake protruding above top tree tie to prevent rubbing against branches. Avoid driving stakes through rootball. If subgrade does not accept stakes to a stable degree, delete stakes and guy the trees as specified herein and as detailed. Locate tree ties to avoid contact with tree branches. Locate top tie at tree flex point.
- N. Build watering basin berms around trees and shrubs to drain through rootball. Basins are not required around trees in turf areas. Water backfill until saturated the full depth of the hole.

3.15 PALM TREE PLANTING

- A. Holes for palm trees shall be dug in a square configuration and size as shown on drawings.
- B. Flood the excavated tree holes with 6 inches of water and verify that it has completely drained within 2 hours. Notify Owner's Representative of any wet or impervious soil conditions that might adversely affect the tree's ability to survive and resolve the problem as approved by the Owner's Representative prior to proceeding with the planting.
- C. While palms are still in horizontal position, spray crown to point of runoff with 3336f fungicide by W. A. Clearly Chemical Co. to prevent Penicillium Rot. Provide follow-up spraying as required until the trees become established.
- D. Remove the fronds ties at time of planting.
- E. While the tree is hooked and held plumb by the crane, backfill with 100% specified backfill without additives. Position the tree plumb and the height of the rootball at its original grade and compact the sand bedding underneath sufficiently to prevent settlement of the rootball. Water and compact sand around and under rootball sufficiently to eliminate any air pockets. Reposition tree and re-compact the sand if it settles or becomes out of plumb.
- F. Maintain the rootball in a moist condition prior to and after planting. Do not cover rootballs with plastic or soil. Do not apply vitamin B1 or other "transplant Shock" materials.
- G. Temporarily brace the tree as site conditions require using a padded wooden collar around the trunk with braces nailed to the collar. Do not nail into tree trunk.
- H. Drench the root zone with a broad-spectrum fungicide labeled for landscape use on soil borne diseases for Palms. After this initial application, apply the fungicide 3 more times as recommended by the label during the first few months. Cover soil surface around tree with mulch as specified.
- I. All existing and new palm trees: Hold turf a minimum of 18" away from trunk and adjust irrigation so that water does not spray onto trunk.

3.16 GROUND COVER PLANTING

- A. Plant in neat, straight, parallel and staggered rows as indicated on plan. Plant first row one-half required ground cover spacing behind adjacent curbs, structures, or other plant bed limits. Plant ground cover to edge of water basins of adjacent trees and shrubs.

3.17 MULCH:

- A. Mulch all tree, shrub and ground cover areas with mulch to a 3-inch depth.
- B. Hold bark mulch away from base (trunk) of plant 4" or as directed by the Owner's Representative.
- C. Individual trees and/or shrubs planted in non-irrigated areas shall, at minimum, receive bark mulch over their watering basin and berm.

3.18 WATERING:

- A. Water all trees, shrubs and ground cover immediately after planting. Apply water to all plants as often and in sufficient amount as conditions may require to keep the plants in a healthy vigorous growing condition until completion of the Contract. Provide supplemental hand watering of trees and shrubs, as required, to maintain a moist root zones throughout plant establishment period.

3.19 PRE-MAINTENANCE PERIOD REVIEW AND APPROVAL OF PLANTING

- A. Maintain plants from time of delivery to site until final acceptance of landscape installation.
- B. Receive approval of the installed planting prior to commencement of planting establishment maintenance period. Notify the Owner's Representative a minimum of seven (7) days prior to requested review. Before the review, complete the following:
 - 1. Complete all construction work.
 - 2. Present all planted areas neat and clean with all weeds removed and all plants installed and appearing healthy.
 - 3. Plumb all trees and tree and shrub supports.
 - 4. No partial approvals will be given.

3.20 PLANTING ESTABLISHMENT MAINTENANCE:

- A. General Requirements:
 - 1. Maintenance Period: The planting establishment maintenance period required shall be [365 calendar days] after all planting and irrigation is complete, turf is installed/seeded, and as approved by Owner's representative. A longer period may be required if the turf is not thick, vigorous and even and has been mowed a minimum of 4 times, or if the plant material is not acceptably maintained during the maintenance period. The start of the maintenance period to be confirmed by Owner's representative. Contractor to notify Owner's Representative of start and end dates of maintenance period. The maintenance period may be suspended at any time upon written notice to the Contractor that the landscaping is not being acceptably maintained, and the day count suspended until the landscape is brought up to acceptable standards as determined by the Owner's Representative.
 - 2. Planting establishment maintenance immediately follows, coincides with, and is continuous with the planting operations, and continues through turf installation, and after all planting is complete and accepted; or longer where necessary to establish acceptable stands of thriving plants.
 - 3. Protect all areas against damage, including erosion, trespass, insects, rodents, disease, etc. and provide proper safeguards. Maintain and keep all temporary barriers erected to prevent trespass.
 - 4. Keep all walks and paved areas clean. Keep the site clear of debris resulting from construction or maintenance activities.
 - 5. Repair all damaged planted areas, and replace plants and resod turf immediately upon discovery of damage or loss.

6. Check sprinkler systems at each watering; adjust coverage and clean heads immediately. Adjust timing of sprinkler controller to prevent flooding.
 7. Maintain adequate moisture depth in soil to ensure vigorous growth. Check rootball of trees and shrubs independent of surrounding soils and hand water as required.
 8. Keep contract areas free from weeds by cultivating, hoeing or hand pulling. Use of chemical weed killers will not relieve the Contractor of the responsibility of keeping areas free of weeds at all times.
- B. Tree and Plant Maintenance:
1. Maintain during the entire establishment period by regular watering, cultivating, weeding, repair of stakes and ties, and spraying for insect pests. Prune when requested by the Owner's Representative.
 2. Keep watering basins in good condition and weed-free at all times.
 3. Replace all damaged, unhealthy or dead trees, shrubs, grasses, vines and ground covers with new stock immediately; size as indicated on the drawings.
- C. Palm Tree Maintenance:
1. Do not over water palm trees. Do not use a predetermined watering schedule for the palms. Use a soil probe to determine optimum soil moisture level within the rootball.
 2. Palm Tree Fertilizing: After palms show new frond growth, approximately 6 to 8 weeks after planting, apply specified balanced fertilizer with trace elements. Repeat application after 3 to 4 months. Established palms shall be fertilized spring and fall.
 3. Check palms for plumb and re-plumb as required.
 4. Check palms periodically for Penicillium Rot and Fusarium Wilt. If the apical bud has fallen over (Penicillium Rot symptom) or Fusarium Wilt is suspected, remove the affected tree immediately.
 5. Reapply broad-spectrum fungicide labeled for landscape use on soil borne diseases for Palms as noted herein under Palm Tree Planting.
- D. Fertilizing:
1. Upon approval and after submitting fertilizer delivery tags, maintenance fertilization shall begin 30 days after planting is complete. Fertilize all turf and ground cover areas by broadcast Type C (21-7-14) fertilizer at the rate of 5 lbs. per 1,000 square feet evenly throughout. Reapply every forty-five (45) days until acceptable.
 2. During the winter, for quick turf greening effect, calcium nitrate (15.5-0-0) may be applied at the rate of 6 lbs. per 1,000 square feet.
 3. Early spring and fall substitute a complete fertilizer such as 15-15-15 applied at the rate of 6 lbs. per 1,000 square feet, to help insure continuing adequate phosphorus and potassium.
 4. Apply ammonium sulfate fertilizer as necessary to maintain vigorous, green grass between fertilizations mentioned above.
 5. Observe plant's color, and if a soil pH imbalance is suspected, take soil samples and obtain laboratory analysis for confirmation. Take necessary action recommended in laboratory analysis such as top dressing with soil sulfur, leaching soil, etc.
- E. Irrigation:
1. The entire irrigation system shall be under full automatic operation and adjust as needed during the plant maintenance period to ensure healthy, thriving plants.

3.21 FINAL PLANTING REVIEW AND ACCEPTANCE

- A. Final acceptance and start of warranty period will occur no earlier than the end of the plant maintenance period.
- B. At the conclusion of the Maintenance Period, schedule a final review with the Owner, the Owner's maintenance person, and/or the Owner's Representative. On such date, all project improvements and all corrective work shall have been completed. If all project improvements and corrective work are not completed, continue the planting establishment maintenance period at no additional cost to the Owner until all work has been completed. This condition will be waived by the Owner under such circumstances wherein the Owner has granted an extension of time to permit the completion of a particular portion of the work beyond the time of completion set forth in the Agreement.
- C. Submit written notice requesting review at least 10 days before the anticipated review.
- D. Prior to review, weed and restore all planted areas, mow and edge turf, plumb trees and tree supports, clear the site of all debris and present in a neat, orderly manner.

END OF SECTION

**BID #22/23-04
Landscape Renovation Project
Exhibit F**

**CONSTRUCTION FENCE
LOCATION - DRAFT**

**CONSTRUCTION LAYDOWN AREA
- ENCLOSED WITH FENCE**

