SOUTH ORANGE COUNTY
COMMUNITY COLLEGE DISTRICT

SPECIAL PROVISIONS
FOR SITE IMPROVEMENTS AT
IRVINE VALLEY COLLEGE
GREAT LAWN
IN THE CITY OF IRVINE, CALIFORNIA

PROJECT NO. 713-09

May 12, 2010

PREPARED BY:
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NOTICE CALLING FOR BIDS

District: SOUTH ORANGE COUNTY COMMUNITY COLLEGE DISTRICT

Project: BID NO. 300: PAC/P.E. Landscape Project at Irvine Valley College

Bid Deadline: 1:30 P.M., July 29th, 2010

Mailing Address & Place of Bid Receipt:
South Orange County Community College District
Health Sciences Building, 3rd Floor, Room HS-357
Purchasing & Facilities Planning Department
28000 Marguerite Parkway
Mission Viejo, CA 92692

NOTICE IS HEREBY GIVEN that the South Orange County Community College District, of Orange County, California, acting by and through its Governing Board, hereinafter referred to as "DISTRICT," will receive up to, but not later than, the above-stated time, sealed bids for the award of a contract for the above Project.

Project’s Preliminary Cost Estimate: PAC/P.E. Landscaping Project: Base Bid $895,000

Complete description, specifications and general conditions may be viewed at the Office of the Director of Facilities Planning and Purchasing Department at the above address, telephone (949) 582-4678 or previewed on-line at socccd.edu Interested bidders may purchase complete bid documents from Repro X-press, 18207 McDurmott St., Suite I, Irvine, CA 92614, Phone: (866) 364-8569, Fax: (949) 336-7757. Payment will not be refunded, and the Project Documents are not required to be returned.

There will be a mandatory job walk and conference at 10:00 am, July 13, 2010 starting in front of the Performing Arts Center located adjacent to parking lot 5 at Irvine Valley College, 5500 Irvine Center Drive Irvine, CA 92618. Any bidder failing to attend the entire pre bid conference shall be deemed a non-responsive bidder and will have his bid returned unopened.

In accordance with the provisions of California Business and Professions Code Section 7028.15 and Public Contract Code Section 3300, the DISTRICT requires that the bidder possess the following classification of contractor’s license at the time the bid is submitted: Class A or Class B. Any bidder not so licensed at the time of the bid opening will be rejected as non-responsive.

Time is of the essence. Failure to complete the work within the time set forth in the bid documents will result in the imposition of liquidated damages for each day of delay in the amount set forth in the Information for Bidders.

Each bid shall be accompanied by a bid security in the form of cash, a certified or cashier’s check or bid bond in an amount not less than ten percent (10%) of the total bid price, payable to the DISTRICT. In the event the successful bidder fails to enter into the contract and execute the required documents, the bid security shall be forfeited. The successful bidder shall furnish a satisfactory Performance Bond and a Payment Bond in amounts not less than one hundred percent (100%) of the total bid price.
The DISTRICT reserves the right to reject any or all bids or to waive any irregularities or informalities in any bids or in the bidding process.

The California Department of Industrial Relations has determined the general prevailing rates of per diem wages for the locality in which the work is to be performed for the Project. Copies of these wage rate determinations, entitled Prevailing Wage Scale, are maintained at the DISTRICT office and are available at the following website: www.dir.ca.gov. It shall be mandatory upon the successful bidder to whom the contract is awarded, and upon any subcontractor listed, to pay not less than the said specified rates to all workers employed by them for the Project. These requirements will be enforced through our Labor Compliance consulting firm.

No bidder may withdraw any bid for a period of ninety (90) calendar days after the date set for the opening of bids.

The general prevailing rate of per diem wages is based upon a working day of eight (8) hours. The rate for holiday and overtime work shall be at least one-half.

Pursuant to Section 22300 of the Public Contract Code, the Agreement will contain provisions permitting the successful bidder to substitute securities for any monies withheld by the DISTRICT to ensure performance under the Agreement or permitting payment of retention earned directly into escrow.

Prequalification is a requirement for bidding this project. Prequalification documents will be distributed at the mandatory job walk and conference and are incorporated in the bid packages.

Brandy K. D'Lena
Director,
Facilities Planning & Purchasing

PUBLISH: THE REGISTER

June 24, 2010

&

July 1, 2010

ATTENTION: LEGAL AD DEPARTMENT

In order for our Department to process payment, you MUST send Proof of Advertisement (Affidavit) on the date of publication to:

South Orange County Community College District
ATTN: Facilities Planning & Purchasing
28000 Marguerite Parkway
Mission Viejo, CA  92692

NOTE: PLEASE CALL LINDA HALL AT (949) 348-6017 WHEN AD IS RECEIVED.
WARNING:
READ THIS DOCUMENT CAREFULLY. DO NOT ASSUME
THAT IT IS THE SAME AS OTHER SIMILAR DOCUMENTS
YOU MAY HAVE SEEN, EVEN IF FROM THE SAME DISTRICT.

1. Preparation of Bid Form. Bids shall be submitted on the prescribed Bid Form, completed in full. All bid
   items and statements shall be properly and legibly filled out. Numbers shall be stated both in words and in figures where so
   indicated, and where there is a conflict in the words and the figures, the words shall control over the numbers. The signatures
   of all persons shall be in longhand and in ink. Prices, wording and notations must be in ink or typewritten.

2. Form and Delivery of Bids. The bid must conform and be responsive to all Project Documents and shall be
   made on the Bid Form provided, and the complete bid, together with any and all additional materials as required, shall be
   enclosed in a sealed envelope, addressed and hand delivered or mailed to the DISTRICT at:

   South Orange County Community College District
   Health Science Building, 3rd Floor
   28000 Marguerite Parkway
   Mission Viejo, CA, 92692

   and must be received on or before the bid deadline (Public Contract Code Section 20112) The envelope shall be plainly
   marked in the upper left hand corner with the bidder's name, the Project designation and the date and time for the opening of
   bids. **It is the bidder's sole responsibility to ensure that its bid is received prior to the bid deadline.** In accordance with
   Government Code Section 53068, any bid received after the scheduled closing time for receipt of bids shall be returned to the
   bidder unopened. At the time and place set forth for the opening of bids, the sealed bids will be opened and publicly read
   aloud. However, if prequalification of bidders is required pursuant to Public Contract Code Section 20111.5 only those
   sealed bids received from prequalified bidders shall be opened and publicly read aloud.

3. Bid Security. Each bid shall be accompanied by a bid security in the form of cash, a certified or cashier's
   check or bid bond in the amount of not less than ten percent (10%) of the total bid price payable to the DISTRICT and shall
   be given as a guarantee that the bidder, if awarded the contract, will execute the Agreement within ten (10) working days
   after notice of award of the contract, and will furnish, on the prescribed forms, a satisfactory Faithful Performance Bond in an
   amount not less than one hundred percent (100%) of the total bid price and separate Payment (labor and material) Bond in an
   amount not less than one hundred percent (100%) of the total bid price, furnish certificates and endorsements evidencing that
   the required insurance is in effect, the Workers' Compensation Certificate, Drug-Free Work Place Certification, the Criminal
   Records Check Certification, Contractor’s Certificate Regarding Non-Asbestos Containing Materials, and the Disabled
   Veteran Business Enterprises Certification, if applicable, all within ten(10) working days of the notice of award of the
   contract or as otherwise requested in writing by the DISTRICT. It is understood and agreed that should bidder fail or refuse
   to return these documents as required by the DISTRICT, the bid security shall be forfeited to the DISTRICT. If the Bidder
   elects to furnish a bid bond as its Bid Security, the Bidder shall use the bid bond form included in the Project Documents.

4. Signature. Any signature required on Project Documents must be signed in the name of the bidder and
   must bear the signature of the person or persons duly authorized to sign these documents. Where indicated, if bidder is a
   corporation, the legal name of the corporation shall first be set forth, together with two signatures: one from among the
   chairman of the board, president or vice president and one from among the secretary, chief financial officer, or treasurer.
   Alternatively, the signature of other authorized officers or agents may be affixed, if duly authorized by the corporation. Such
   documents shall include the title of such signatories below the signature and shall bear the corporate seal. Where indicated,
   in the event that the bidder is a joint venture or partnership, there shall be submitted with the bid certifications signed by
authorized officers of each of the parties to the joint venture or partnership, naming the individual who shall sign all
necessary documents for the joint venture or partnership and, should the joint venture or partnership be the successful bidder,
who shall act in all matters relative to the Project for the joint venture or partnership. If bidder is an individual, his/her
signature shall be placed on such documents.

5. Modifications. Changes in or additions to any of the bid documents, summary of the work bid upon, alternative proposals, or any other modifications which are not specifically called for by the DISTRICT may result in the DISTRICT’S rejection of the bid as being nonresponsive. No oral, telephonic, facsimile or electronic modification of any of the bid documents will be considered.

6. Erasures, Inconsistent or Illegible Bids. The bid submitted must not contain any erasures, interlineations, or other corrections unless each such correction is authenticated by affixing the initials of the person(s) signing the bid in the margin immediately adjacent to the correction. In the event of inconsistency between words and numbers in the bid, words shall control numbers. In the event that DISTRICT determines that any bid is unintelligible, illegible or ambiguous, the DISTRICT may reject such bid as being nonresponsive.

7. Examination of Site and Project Documents. At its own expense and prior to submitting its bid, each bidder shall examine all documents relating to the Project; visit the site and determine the local conditions which may in any way affect the performance of the work, including the general prevailing rates of per diem wages and other relevant cost factors; familiarize itself with all Federal, State and Local laws, ordinances, rules, regulations and codes affecting the performance of the work, including the cost of permits and licenses required for the work; make such surveys and investigations, including investigation of subsurface or latent physical conditions at the site or where work is to be performed, as it may deem necessary for performance of the work at its bid price; determine the character, quality, and quantities of the work to be performed and the materials and equipment to be provided; and correlate its observations, investigations, and determinations with all requirements of the Project. The Project Documents show and describe the existing conditions as they are believed to have been used in the design of the work and are only provided as information for the bidder. The DISTRICT is not making any warranties regarding said information. The DISTRICT shall not be liable for any loss sustained by the successful bidder resulting from any variance between the conditions and design data given in the Project Documents and the actual conditions revealed during the bidder’s pre-bid examination or during the progress of the work. Bidder agrees that the submission of a bid shall be incontrovertible evidence that the bidder has complied with all the requirements of this provision of the Information for Bidders.

8. Withdrawal of Bids. Any bid may be withdrawn, either personally or by written request signed by the bidder, at any time prior to the scheduled closing time for receipt of bids. The bid security for a bid withdrawn prior to the scheduled closing time for receipt of bids, in accordance with this paragraph, shall be returned. No bidder may withdraw any bid for a period of ninety (90) calendar days after the date set for the opening of bids.

9. Agreement and Bonds. The Agreement which the successful bidder will be required to execute and the payment bond required in accordance with Civil Code Section 3247, are included in the Project Documents. The payment bond shall be in the amount not less than one hundred percent (100%) of the amount of the contract in accordance with Civil Code Section 3248. The successful bidder will also be required to furnish a separate faithful performance bond in the amount of one hundred percent (100%) of the contract and in the form included in the Project Documents, which shall remain in full force and effect through the guarantee period as specified in the General Conditions. All bond premiums shall be at bidder’s cost.

10. Interpretation of Project Documents. If any bidder is in doubt as to the true meaning of any part of the Project Documents, or finds discrepancies in, or omissions from the Project Documents, a written request for an interpretation or correction thereof must be submitted to the DISTRICT no later than four (4) days before bid deadline. No requests shall be considered after this time. The bidder submitting the written request shall be responsible for its prompt delivery. Any interpretation or correction of the Project Documents will be made solely at DISTRICT’S discretion and only by written addendum duly issued by the DISTRICT, and a copy of such addendum will be hand delivered or mailed or faxed to each bidder known to have received a set of the Project Documents. No person is authorized to make any oral
interpretation of any provision in the Project Documents, nor shall any oral interpretation of Project Documents be binding on the DISTRICT. If there are discrepancies of any kind in the Project Documents, the interpretation of the DISTRICT shall prevail. Submittal of a bid without a request for clarification shall be incontrovertible evidence that the bidder has determined that the project documents are acceptable and sufficient for bidding and completing the work; that bidder is capable of reading, following and completing the work in accordance with the project documents; and that bidder agrees that the project can and will be completed according to the DISTRICT’s timelines and according to the progress schedule to be submitted by the successful bidder incorporating the DISTRICT’s timelines for completion of the project.

11. Bidders Interested in More Than One Bid. No person, firm or corporation shall be allowed to make, or file, or be interested in more than one bid for the same work unless alternate bids are specifically called for by the DISTRICT. A person, firm, or corporation that has submitted a sub-proposal to a bidder, or that has quoted prices of materials to a bidder, is not thereby disqualified from submitting a proposal or quoting prices to other bidders or submitting a bid on the Project.

12. Award of Contract. The DISTRICT reserves the right to reject any or all bids, or to waive any irregularities or informalities in any bids or in the bidding process. The award of the contract, if made by the DISTRICT, will be by action of the Governing Board and to the lowest responsive and responsible bidder. If two identical low bids are received from responsive and responsible bidders, the DISTRICT will determine which bid will be accepted pursuant to Public Contract Code Section 20117. In the event an award of the contract is made to a bidder, and such bidder fails or refuses to execute the Agreement and provide the required documents within fifteen (15) working days after the notice of award of the contract to bidder, the DISTRICT may award the contract to the next lowest responsive and responsible bidder or reject all bidders.

13. Alternate Bids. If alternate bids are called for, the DISTRICT will award the contract to the lowest responsive and responsible bidder based on the lowest total of the bid prices on the base contract without consideration of the prices on the additive or deductive items.

14. Competency of Bidders. In selecting the lowest responsive and responsible bidder, consideration will be given not only to the financial standing but also to the general competency of the bidder for the performance of the Project. By submitting a bid, each bidder agrees that the DISTRICT, in determining the successful bidder and its eligibility for the award, may consider the bidder’s experience and facilities, conduct and performance under other contracts, financial condition, reputation in the industry, and other factors which could affect the bidder’s performance of the Project. To this end, each bid shall be supported by a statement of the bidder’s experience on the form entitled “INFORMATION REQUIRED OF BIDDER.”

The DISTRICT may also consider the qualifications and experience of subcontractors and other persons and organizations (including those who are to furnish the principal items of material and equipment) proposed for those portions of the work. Operating costs, maintenance considerations, performance data and guarantees of materials and equipment may also be considered by the DISTRICT. In this regard, the DISTRICT may conduct such investigations as the DISTRICT deems necessary to assist in the evaluation of any bid and to establish the responsibility, qualifications and financial ability of the bidder, proposed subcontractors, and other persons and organizations to do the work to the DISTRICT’s satisfaction within the prescribed time. The DISTRICT reserves the right to reject the bid of any bidder who does not pass any such evaluation to the satisfaction of the DISTRICT.

15. Bidder's Prequalification. Only Bid Proposals submitted by Prequalified Bidders will be considered. A Bid Proposal submitted by a Bidder who is not prequalified will be deemed a non-responsive Bid Proposal and will be rejected by the District. A Bidder who has not completed the Prequalification Application and has not been deemed a "Qualified Bidder" must complete the Prequalification Application and submit the Prequalification Application to the District by 10:00 A.M. on July 27, 2010. The failure to submit a completed Prequalification Application on or prior to such date will render the Bid Proposal of the Bidder untimely submitting a completed Prequalification Application to be non-responsive and rejected. If the District determines that any information provided by a Bidder in the Prequalification Application 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.
16. **Listing Subcontractors.** Each bidder shall submit, on the form furnished with the Project Documents, a list of the proposed subcontractors on this Project as required by the Subletting and Subcontracting Fair Practices Act (Public Contract Code Section 4100, et seq.). If alternate bids are called for and the bidder intends to use different or additional subcontractors, a separate list of subcontractors must be submitted for each such alternate bid. If the bidder fails to specify a subcontractor for any portion of the work in excess of one half (1/2) of one percent (1%) of the bidder’s total bid, the bidder agrees that he/she is fully qualified to perform that work and agrees to perform that portion of the work. Violation of this requirement (including the procurement of a subcontractor for the Project if no subcontractor is specified) can result in the DISTRICT invoking the remedies of Public Contract Code Sections 4110 and 4111.

17. **Insurance and Workers' Compensation.** The successful bidder shall be required to furnish certificates and endorsements evidencing that the required insurance is in effect. DISTRICT may request that such certificates and endorsements are completed on DISTRICT provided forms. In accordance with the provisions of Section 3700 of the Labor Code, the successful bidder shall secure the payment of compensation to all employees. The successful bidder who has been awarded the contract shall sign and file with DISTRICT prior to performing the work, the Workers’ Compensation Certificate included as a part of the Project Documents. Labor Code Section 1861.

18. **Contractor's License.** If, at the time and date of the contract execution, bidder is not properly licensed to perform the Project in accordance with Division 3, Chapter 9, of the Business and Professions Code and the Project Documents, such bid will be rejected as nonresponsive. (Public Contract Code Section 3300) Pursuant to Business and Professions Code Section 7028.15, no payment shall be made for work or materials under the contract unless and until the Registrar of Contractors verifies to the DISTRICT that the bidder was properly licensed at the time the bid was submitted. Any bidder not so licensed is subject to penalties under the law and the contract will be considered void and DISTRICT shall have the right to bring an action against the unlicensed bidder awarded the contract for recovery of all compensation paid under the contract. (Business and Professions Code Section 7031(b)) If the license classification specified hereinafter is that of a "specialty contractor" as defined in Section 7058 of the Business and Professions Code, the specialty contractor awarded the contract for this work shall construct a majority of the work, in accordance with the provisions of Business and Professions Code Section 7059. The bidder may not use the contractor license of a third party for this bid.

19. **Anti-Discrimination.** In connection with all work performed under this Project, there shall be no unlawful discrimination against any prospective or active employee engaged in the work because of race, color, ancestry, national origin, religious creed, sex, age, marital status, physical disability, mental disability, or medical condition. The successful bidder agrees to comply with applicable Federal and State laws including, but not limited to, the California Fair Employment and Housing Act, beginning with Government Code Section 12900 and Labor Code Section 1735. In addition, the successful bidder agrees to require like compliance by any subcontractors employed on the Project by such bidder.

20. **Hold Harmless and Indemnification.** The successful bidder awarded the contract will be required to indemnify and hold harmless the DISTRICT, its Governing Board, officers, agents, and employees as set forth in the Agreement.

21. **Substitutions.** Should the bidder wish to request any substitution for the materials, process, service, or equipment specified, the bidder shall be required to comply with Article 30 of the General Conditions.

22. **Surety Qualifications for Bonds.** Bidders shall ensure all surety companies have a minimum rating of "A-VIII," as rated by the current edition of Best's Key Rating Guide, published by A.M. Best Company, Oldwick, New Jersey 08858. Only California admitted surety insurers will be acceptable for the issuance of bonds. (Code of Civil Procedure Section 995.311) DISTRICT shall verify the status of the surety by one of the following ways: (1) printing out information from the website of the California Department of Insurance confirming the surety is an admitted surety insurer and attaching it to the bond, or (2) obtaining a certificate from the county clerk for the county in which the DISTRICT is located that confirms the surety is an admitted surety insurer and attaching it to the bond. Any admitted surety insurer who cannot satisfy the minimum rating specified above, but who satisfies the following requirements set forth in Code of Civil Procedure Section 995.660 shall be accepted and approved for the issuance of bonds.
(a) There must be on file in the office of the county clerk, for the county in which the DISTRICT is located, an unrevoked appointment, power of attorney, bylaws, or other instrument, duly certified by the proper authority and attested by the seal of the insurer authorizing the person who executed the bond to do so for and on behalf of the insurer within ten (10) calendar days of the insurer’s receipt of a request to submit such document from the DISTRICT, and an original or certified copy of the document must be submitted to the DISTRICT.

(b) A certified copy of the certificate of authority of the insurer issued by the Insurance Commissioner must be submitted to the DISTRICT within ten (10) calendar days of the insurer’s receipt of a request to submit such document from the DISTRICT.

(c) A certificate from the clerk of the county that the certificate of authority of the insurer has not been surrendered, revoked, cancelled, annulled, or suspended, and in the event it has, whether renewed authority has been granted must be submitted to DISTRICT within ten (10) calendar days of the insurer’s receipt of a request to submit such document from the DISTRICT.

(d) Copies of the insurer’s most recent annual statement and quarterly statement filed with the California Department of Insurance must be submitted to the DISTRICT within ten (10) calendar days of the insurer’s receipt of a request to submit the statements.

23. Liquidated Damages. All work must be completed within the time limits set forth in the Project Documents. It is agreed that damages for the failure to complete the Project described herein within the time limits required are impossible to ascertain. Should the work not be completed within the specified time for completion, the successful bidder awarded the contract shall be liable for liquidated damages, payable to the DISTRICT, in an amount of One Thousand Dollars ($1,000.00) for each consecutive calendar day of delay in completion. Such damages shall be deducted from any payments due or to become due to the successful bidder. Government Code Section 53069.85, Civil Code Section 1671.

24. Drug-Free Workplace Certification. Pursuant to Government Code Sections 8350, et seq., the successful bidder will be required to execute a Drug-Free Workplace Certification upon execution of the Agreement. The bidder will be required to take positive measures outlined in the certification in order to ensure the presence of a drug-free workplace. Failure to abide with the conditions set forth in the Drug-Free Workplace Act could result in penalties including termination of the Agreement or suspension of payment thereunder.

25. Noncollusion Affidavit. In accordance with the provisions of Section 7106 of the Public Contract Code, each bid must be accompanied by a noncollusion affidavit properly notarized.

26. Escrow Agreement. Public Contract Code Section 22300 permits the substitution of securities for any monies withheld by a public agency to ensure performance under a contract. At the request and expense of the successful bidder awarded the contract, securities equivalent to the amount withheld as retention shall be deposited with the DISTRICT, or with a state or federally chartered bank in California as the escrow agent, who shall then pay such monies to the successful bidder. The DISTRICT retains the sole discretion to approve the bank selected by the successful bidder to serve as escrow agent. Upon satisfactory completion of the contract, the securities shall be returned to the successful bidder. Securities eligible for investment shall include those listed in Government Code Section 16430 or bank or savings and loan certificates of deposit. The successful bidder shall be the beneficial owner of any securities substituted for monies withheld and shall receive any interest thereon.

In the alternative, under Section 22300, the successful bidder may request DISTRICT to make payment of earned retentions directly to the escrow agent at the expense of the successful bidder. Also at the successful bidder's expense, the successful bidder may direct investment of the payments into securities, and the successful bidder shall receive interest earned on such investment upon the same conditions as provided for securities deposited by successful bidder. Upon satisfactory completion of the contract, successful bidder shall receive from the escrow agent all securities, interest and payments received by escrow agent from DISTRICT pursuant to the terms of Section 22300.
The successful bidder who elects to receive interest on monies withheld in retention by the DISTRICT shall, at the request of any subcontractor performing more than five percent (5%) of the successful bidder’s total bid, make that option available to the subcontractor regarding any monies withheld in retention by the successful bidder from the subcontractor. If the successful bidder elects to receive interest on any monies withheld in retention by the DISTRICT, then the subcontractor shall receive the identical rate of interest received by the successful bidder on any retention monies withheld from the subcontractor by the successful bidder, less any actual pro rata costs associated with administering and calculating that interest. In the event that the interest rate is a fluctuating rate, the rate for the subcontractor shall be determined by calculating the interest rate paid during the time that retentions were withheld from the subcontractor. If the successful bidder elects to substitute securities in lieu of retention, then, by mutual consent of the successful bidder and subcontractor, the subcontractor may substitute securities in exchange for the release of monies held in retention by the successful bidder. Public Contract Code Section 22300(d)(1).

The successful bidder wishing to utilize Public Contract Code Section 22300 and enter into an Escrow Agreement shall complete and execute the form Escrow Agreement included in the Project Documents and submit it to the DISTRICT.

27. **Change Orders.** All change order requests must be submitted in the form set forth in the Project Documents and pursuant to Article 60 of the General Conditions. The amount of allowable charges submitted pursuant to a change order shall be limited to the charges allowed under Article 60 of the General Conditions. Indirect, consequential and incidental costs, project management costs, extended home office and field office overhead, administrative costs and profit and other charges not specifically authorized under Article 60 of the General Conditions will not be allowed.

28. **Tobacco-Free Policy.** The successful bidder shall agree to enforce a tobacco-free work site.

29. **Lead.** Pursuant to the Lead-Safe Schools Protection Act (Education Code Sections 32240, et seq.) and other applicable law, the successful bidder shall not use lead-based paint, lead plumbing and solders, or other potential sources of lead contamination in the construction of any new school facility or the modernization or renovation of any existing school facility.

30. The number of executed copies of the Agreement, the Faithful Performance Bond, and the Payment Bond required is THREE (3).
The undersigned Bidder, having become familiarized with all the following documents including but not limited to the Notice Calling for Bids, Information for Bidders, Bid Form, Bid Security, Designation of Subcontractors Form, Information Required of Bidder, all prequalification forms pursuant to Public Contract Code Section 20111.5, if any, Noncollusion Affidavit, Workers’ Compensation Certificate, Faithful Performance Bond, Payment Bond, Agreement, Escrow Agreement, Drug-Free Workplace Certification, Criminal Records Check Certification, Change Order Forms, Shop Drawing Transmittal Form, all insurance requirements, Guarantee forms, Contractor’s Certificate Regarding Non-Asbestos Containing Materials, Disabled Veteran Business Enterprises Certification, if applicable, General Conditions and Supplemental Conditions, if any, Special Conditions, if any, drawings, specifications, and all modifications, addenda and amendments, if any (hereinafter Project Documents), the local conditions affecting the performance of the work and the cost of the work at the place where the work is to be done, hereby proposes and agrees to be bound by all the terms and conditions of the Project Documents and agrees to perform, within the time stipulated, the work, including all of its component parts, and everything required to be performed, and to provide and furnish and pay for any and all of the labor, materials, tools, expendable equipment, and all applicable taxes, utility and transportation services necessary to perform the work and complete in a good workmanlike manner all of the work required in accordance with laws, codes, regulations, ordinances and any other legal requirements governing the work, in connection with the following:

Project: PAC/P.E. Landscaping Project at Irvine Valley College
Project No.: Bid No. #300

all in strict conformity with the Project Documents, including Addenda Nos. ____ , ____, ____ and _____, on file at the office of the Director of Facilities Planning and Purchasing of said DISTRICT for the following sums:

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<th>Handwritten</th>
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<tr>
<td>Base Bid</td>
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<td>Bid Alternate #1</td>
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<td>Bid Alternate #3</td>
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<td>ALLOWANCE:</td>
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<tr>
<td>BID TOTAL (INCLUDING ALLOWANCE)</td>
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</tr>
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</table>

To: South Orange County Community College District, acting by and through its Governing Board, herein called the "DISTRICT."
Each individual bid term shall be determined from visiting the work site, reviewing the drawings and specifications and all portions of the Project Documents, and shall include all items necessary to complete the work, including the assumption of all obligations, duties, and responsibilities necessary to the successful completion of the Project, and the furnishing of all materials and equipment required to be incorporated in and form a permanent part of the work, and the furnishing of tools, equipment, supplies, transportation, facilities, labor, superintendence, and services required to perform and complete the work, all as per the requirements of the Project Documents, whether or not expressly listed or designated.

2. It is understood that the DISTRICT reserves the right to reject any or all bids or to waive any irregularities or informalities in any bids or in the bidding process. Bidder agrees that this bid shall remain open and not be withdrawn for the period specified in the Information for Bidders.

3. The required bid security is attached.

4. The required list(s) of proposed subcontractors is attached hereto, and the undersigned represents and warrants that such list(s) is complete and in compliance with the Subletting and Subcontracting Fair Practices Act. Public Contract Code Sections 4100, et seq.

5. It is understood and agreed that if written notice of the award of a contract is mailed, faxed, or delivered to the bidder, the bidder will execute and deliver to the DISTRICT the Agreement and will also furnish and deliver to the DISTRICT the Faithful Performance Bond and a separate Payment Bond as specified, and certificates and endorsements of insurance, the Workers’ Compensation Certificate, Drug-Free Work Place Certification, the Criminal Records Check Certification, Contractor’s Certificate Regarding Non-Asbestos Containing Materials, and the Disabled Veteran Business Enterprises Certification, if applicable, within 10 working days of the notice of award of the contract, or as otherwise requested in writing by the DISTRICT. It is understood that should bidder fail or refuse to return these documents as required by the DISTRICT, the bid security shall be forfeited to the DISTRICT. The bidder further agrees that the work shall be commenced by the bidder, if awarded the contract, on or before the fifth day after receiving the DISTRICT’s Notice to Proceed, and shall be completed by the bidder in the time specified by the DISTRICT.

6. Communications conveying notice of award of the contract, requests for additional information or other correspondence should be addressed to the bidder at the address stated below.

7. The name(s) of all persons interested in the bid as principals are as follows:

8. In submitting this bid, the bidder offers and agrees that if the bid is accepted, it will assign to DISTRICT all rights, title and interest in and to all causes of action it may have under Section 4 of the Clayton Act (15 U.S.C. Section 15) or under the Cartwright Act (Business & Professions Code Section 16700, et seq.) arising from purchases of goods, materials, or services by the bidder for sale to the DISTRICT pursuant to the bid. Such assignment shall be made and become effective at the time the DISTRICT tenders final payment under the contract. (Public Contract Code Section 7103.5; Government Code Section 4450, 4451 and 4552).

9. The undersigned hereby warrants that the bidder has an appropriate license, License No. __________________, Class A or B (circle one), at the time of the bid opening, that such license entitles bidder to provide the work, that such license will be in full force and effect throughout the duration of performance of this Project. Bidder shall be nonresponsive if the Bidder is not licensed as required by the DISTRICT at the time of the bid opening. Any and all subcontractors to be employed by the undersigned shall have appropriate licenses at the time of the bid opening.
10. The bidder hereby certifies that it is, and at all times during the performance of work hereunder shall be, in full compliance with the provisions of the Immigration Reform and Control Act of 1986 ("IRCA") in the hiring of its employees, and the bidder shall indemnify, hold harmless and defend the DISTRICT against any and all actions, proceedings, penalties or claims arising out of the bidder's failure to comply strictly with the IRCA.

11. It is understood and agreed that if requested by the DISTRICT, the bidder shall furnish a notarized financial statement, references, and other information required by the DISTRICT sufficiently comprehensive to permit an appraisal of bidder's ability to perform the Project.

12. The undersigned hereby warrants that all work, except work of a maintenance period, shall be completed within 180 consecutive calendar days from the date specified on the Notice to Proceed issued by the District. Time is of the essence. The undersigned agrees that failure to complete the work within the time set forth herein will result in the imposition of liquidated damages for each consecutive calendar day of delay in the amount of One Thousand Dollars ($1,000.00). (Government Code Section 53069.85)

13. The required non-collusion affidavit properly notarized is attached as required by Public Contract Code Section 7106. Bidder understands and agrees that failure to submit a completed and signed affidavit will render the bidder automatically nonresponsive.

14. It is understood and agreed that all change order requests must be submitted in the form set forth in the Project Documents and pursuant to Article 60 of the General Conditions. The amount of allowable charges submitted pursuant to a change order shall be limited to the charges allowed under Article 60 of the General Conditions. Indirect, consequential and incidental costs, project management costs, extended home office and field office overhead, administrative costs and profit and other charges not specifically authorized under Article 60 of the General Conditions will not be allowed.

15. The Information Required of Bidder form has been fully completed and is attached hereto.
The undersigned hereby declares that all of the representations of this bid are made under penalty of perjury under the laws of the State of California.

**Individual**

Name: ________________________________

Signed by: ________________________________

Print Name: ________________________________

Date: ________________________________

Business Address: ________________________________

Telephone: ________________________________

******************************************************************************

**Partnership**

Name: ________________________________

Signed by: ________________________________

Print Name: ________________________________

Date: ________________________________

Business Address: ________________________________

Telephone: ________________________________

******************************************************************************

**Corporation**

Name: ________________________________

(a Corporation\(^1\)

\(^1\) A corporation awarded the contract shall furnish evidence of its corporate existence and evidence that the officer signing the Agreement and bonds is duly authorized to do so.
Business Address: __________________________________________________________

__________________________________________________________

Telephone: __________________________________________________________

Signed by: ________________, President, Date: ______________

Print Name: __________________________ President

Signed by: ________________, Secretary, Date: ______________

Print Name: __________________________ Secretary

[Seal]
Joint Venturer

Name: ______________________________________

Signed by: ___________________________________, Joint Venturer

Print Name: ______________________________________

Date: ______________________________________

Business Address ______________________________________

________________________________________________

Telephone: ______________________________________

Other Parties to  If an individual: ______________________________________

Joint Venture: (Name)

Signed by: ______________________________________

Print Name: ______________________________________

Date: ______________________________________

Doing Business as: ______________________________________

Business Address: ______________________________________

________________________________________________

Telephone: ______________________________________
If a Partnership: ______________________________________

(Name)

Signed by: __________________________________________, Partner

Print Name: __________________________________________

Date: ________________________________________________

Business Address____________________________________

____________________________________________________

Telephone: __________________________________________

If a Corporation: ______________________________________

(a________________ Corporation)

Signed By: __________________________________________ Date: __________

Print Name: __________________________________________

Title: ________________________________________________

Date: ________________________________________________

Business Address:____________________________________

____________________________________________________

Telephone: __________________________________________
**BID BOND**

Bid Bond No.: _____

KNOW ALL PERSONS BY THESE PRESENT, that we______________________________,
as Principal, and ______________________ as Surety, a California admitted surety insurer, are held and firmly bound unto the South Orange County Community College District, hereinafter called the DISTRICT, in the sum of ___________ __________ PERCENT (___ %) OF THE TOTAL AMOUNT OF THE BID of the Principal submitted to the said DISTRICT for the work described below for the payment of which sum in lawful money of the United States, well and truly to be made, we jointly and severally bind ourselves, our heirs, executors, administrators, successors and assigns.

The condition of this obligation is such that whereas the Principal has submitted the accompanying bid dated __________, __________, for ____________________________________________________________________________________________

__________________________________________________________________________________________

NOW, THEREFORE, if the Principal shall not withdraw said bid within the period specified therein after the opening of the same, or, if no period be specified, within sixty (60) days after said opening; and if the Principal is awarded the contract, and shall within the period specified therefore, or, if no period be specified, within 10 working days after the notice of award of the contract, or as otherwise requested in writing by the DISTRICT, enter into a written contract with the DISTRICT, in accordance with the bid as accepted and give bonds 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, furnish certificates and endorsements evidencing the required insurance is in effect and furnish and deliver to the DISTRICT the Workers’ Compensation Certificate, Drug-Free Work Place Certification, the Criminal Records Check Certification, Contractor’s Certificate Regarding Non-Asbestos Containing Materials, and the Disabled Veteran Business Enterprises Certification, if applicable, then the above obligation shall be void and of no effect, otherwise the bond amount shall be forfeited to the DISTRICT.

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

In the event suit is brought upon this bond by the DISTRICT and judgment is recovered, the Surety shall pay all costs incurred by the DISTRICT in such suit, including reasonable attorney's fees to be fixed by the court.
IN WITNESS HEREOF, the parties have executed this bond under their several seals this ________ day of ________, 20__, the name and corporate seal of each corporate party being hereto affixed and duly signed by its undersigned authorized representative.

(Corporate Seal of Principal, if Corporation)

__________________________
Principal (Proper Name of Bidder)

By: _________________________
Signature

__________________________
Print Name

__________________________
Title

(Corporate Seal of Surety)

__________________________
Surety

(Attach Attorney-in-Fact Certificate and Required Acknowledgements)

By: _________________________
Signature

__________________________
Print Name

__________________________
Title

__________________________
Address

__________________________
Telephone No.

__________________________
Facsimile No.
DESIGNATION OF SUBCONTRACTORS

In compliance with the Subletting and Subcontracting Fair Practices Act (Public Contract Code Section 4100 et. seq.) and any amendments thereof, each bidder shall set forth below: (a) the name and the location of the place of business of each subcontractor who will perform work or labor or render service to the bidder (prime contractor) in or about the construction of the work or improvement to be performed under this contract or a subcontractor licensed by the State of California who, under subcontract to the bidder (prime contractor), specializes in the fabrication and installation of a portion of the work or improvement according to detailed drawings contained in the plans and specifications in an amount in excess of one-half of one percent of the bidder's (prime contractor's) total bid and (b) the portion of the work which will be done by each subcontractor. The bidder (prime contractor) shall list only one subcontractor for each such portion as is defined by the bidder (prime contractor) in this bid.

If a bidder (prime contractor) fails to specify a subcontractor or if a bidder (prime contractor) specifies more than one subcontractor for the same portion of work to be performed under the contract in excess of one-half of one percent of the bidder's (prime contractor's) total bid, bidder shall be deemed to have agreed that bidder is fully qualified to perform that portion, and that bidder alone shall perform that portion. Violation of this requirement (including the procurement of a subcontractor for the Project if no subcontractor is specified) can result in the DISTRICT invoking the remedies of Public Contract Code Sections 4110 and 4111.

No bidder (prime contractor) whose bid is accepted shall (a) substitute any subcontractor, (b) permit any subcontractor to be voluntarily assigned or transferred or allow it to be performed by anyone other than the original subcontractor listed in the original bid, or (c) sublet or subcontract any portion of the work in excess of one-half of one percent of the bidder's (prime contractor's) total bid as to which the original bid did not designate a subcontractor, except as authorized in the Subletting and Subcontracting Fair Practices Act. Subletting or subcontracting of any portion of the work in excess of one-half of one percent of the bidder's (prime contractor's) total bid as to which no subcontractor was designated in the original bid shall only be permitted in cases of public emergency or necessity, only after a finding reduced to writing as a public record of the DISTRICT awarding this contract setting forth the facts constituting the emergency or necessity.
Bidder agrees that within twenty-four (24) hours of the bid opening, Bidder shall provide the DISTRICT with the license number (if applicable), expiration date of license, complete address and telephone numbers of each listed subcontractor if such information is not available at the time of the bid opening.
Dated: ____________________________

Name of Bidder

By: ________________________________
   (Signature of Bidder)

Print Name: __________________________

Address_____________________________

____________________________________

____________________________________

Telephone: __________________________

FAX: ________________________________
NONCOLLUSION AFFIDAVIT

(Public Contract Code Section 7106)

State of California

) s.s.

County of____________________

) ss.

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

________________________

Signature of Bidder

NOTARY FOR NONCOLLUSION AFFIDAVIT

Subscribed and sworn to (or affirmed) before me this _______ day of________, 20____.

________________________

Signature of Notary

[SEAL OF NOTARY]

________________________

Typed Name of Notary
WORKERS' COMPENSATION CERTIFICATE

Labor Code Section 3700.

"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 as 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.

(c)  For any county, city, city and county, municipal corporation, public district, public agency or any political subdivision of the state, including each member of a pooling arrangement under a joint exercise of powers agreement (but not the state itself), by securing from the Director of Industrial Relations a certificate of consent to self-insure against workers' compensation claims, which certificate may be given upon furnishing proof satisfactory to the director of ability to administer workers' compensation claims properly, and to pay workers' compensation claims that may become due to its employees. On or before March 31, 1979, a political subdivision of the state which, on December 31, 1978, was uninsured for its liability to pay compensation, shall file a properly completed and executed application for a certificate of consent to self-insure against workers' compensation claims. The certificate shall be issued and be subject to the provisions of Section 3702."

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

________________________________________
Name of the Contractor

By: _____________________________________
Signature

________________________________________
Print Name

________________________________________
Title

________________________________________
Date

(In accordance with Article 5 [commencing at Section 1860], Chapter 1, Part 7, Division 2 of the Labor Code, the above certificate must be signed and filed with the awarding body prior to performing any work under the contract.)
PAYMENT BOND (CALIFORNIA PUBLIC WORK)

KNOW ALL PERSONS BY THESE PRESENTS:

THAT WHEREAS, the South Orange County Community College District (sometimes referred to hereinafter as “DISTRICT”) has awarded to __________________________ (hereinafter designated as the “CONTRACTOR” or “Principal”), an agreement for the work described as follows: __________________________ (hereinafter referred to as the “Public Work”); and

WHEREAS, said CONTRACTOR is required to furnish a bond in connection with said Contract, and pursuant to California Civil Code Section 3247;

NOW, THEREFORE, We, __________________________, the undersigned CONTRACTOR, as Principal; and __________________________, a corporation organized and existing under the laws of the State of __________________________, and duly authorized to transact business under the laws of the State of California, as Surety, are held and firmly bound unto the South Orange County Community College District and to any and all persons, companies, or corporations entitled by law to file stop notices under California Civil Code Section 3181, or any person, company, or corporation entitled to make a claim on this bond, in the sum of __________________________ Dollars ($____________________), said sum being not less than one hundred percent (100%) of the total amount payable by said DISTRICT under the terms of said Contract, for which payment will and truly to be made, we bind ourselves, our heirs, executors and administrators, successors and assigns, jointly and severally, firmly by these presents.

THE CONDITION OF THIS OBLIGATION IS SUCH that if said Principal, its heirs, executors, administrators, successors, or assigns, or subcontractor, shall fail to pay any person or persons named in Civil Code Section 3181; or fail to pay for any materials, provisions, or other supplies, used in, upon, for, or about the performance of the work contracted to be done, or for any work or labor thereon of any kind, or for amounts due under the Unemployment Insurance Code, with respect to work or labor thereon of any kind; or shall fail to deduct, withhold, and pay over to the Employment Development Department, any amounts required to be deducted, withheld, and paid over by Unemployment Insurance Code Section 13020 with respect to work and labor thereon of any kind, then said Surety will pay for the same, in an amount not exceeding the amount herein above set forth, and in the event suit is brought upon this bond, also will pay such reasonable attorneys’ fees as shall be fixed by the court, awarded and taxed as provided in California Civil Code Sections 3247 et seq.

This bond shall inure to the benefit of any person named in Civil Code Section 3181 giving such person or his/her assigns a right of action in any suit brought upon this bond.

It is further stipulated and agreed that the Surety of this bond shall not be exonerated or released from the obligation of the bond by any change, extension of time for performance, addition, alteration or modification in, to, or of any contract, plans, or specifications, or agreement pertaining or relating to any scheme or work of improvement herein above described; or pertaining or relating to the furnishing of labor, materials, or equipment therefore; nor by any change or modification of any terms of payment or extension of time for payment pertaining or relating to any scheme or work of improvement herein above described; nor by any rescission or attempted rescission of the contract, agreement or bond; nor by any conditions precedent or subsequent in the bond attempting to limit the right of recovery of claimants otherwise entitled to recover under any such contract or agreement or under the bond; nor by any fraud practiced by any person other than the claimant seeking to recover on the bond; and that this bond be construed most strongly against the Surety and in favor of all persons.
for whose benefit such bond is given; and under no circumstances shall the Surety be released from liability to those for whose benefit such bond has been given, by reason of any breach of contract between the DISTRICT and the CONTRACTOR or on the part of any DISTRICT named in such bond; that the sole condition of recovery shall be that the claimant is a person described in California Civil Code Sections 3110 and 3112, and who has not been paid the full amount of his or her claim; and that the Surety does hereby waive notice of any such change, extension of time, addition, alteration or modification herein mentioned.

IN WITNESS WHEREOF, we hereunto set our hands and seals this_________day of ________, 20____.

PRINCIPAL/CONTRACTOR:

__________________________________________

By: _______________________________________

SURETY:

__________________________________________

By: _______________________________________

Attorney-in-Fact
IMPORTANT: THIS IS A REQUIRED FORM.

Surety companies executing bonds must possess a certificate of authority from the California Insurance Commissioner authorizing them to write surety insurance defined in California Insurance Code Section 105, and if the work or project is financed, in whole or in part, with federal, grant or loan funds, Surety’s name must also appear on the Treasury Department’s most current list (Circular 570 as amended).

Any claims under this bond may be addressed to:

(Name and Address of Surety)          (Name and Address of agent or representative for service for service of process in California)

___________________________________  __________________________________

___________________________________  __________________________________

Telephone: ___________________________  Telephone: ___________________________

STATE OF CALIFORNIA                 )                     
                                    )  ss.
COUNTY OF                          )                     
                                    )  
On this _____ day of _____________, in the year __________, before me, ________________, a Notary Public in and for said State, personally appeared ________________________, known to me to be the person whose name is subscribed within the instrument as the Attorney-in-Fact of the ________________________ (Surety) and acknowledged to me that he subscribed the name of the ________________________ (Surety) thereto and his own name as Attorney-in-Fact.

___________________________________  (SEAL)
Notary Public in and for said State

Commission expires: ______________________

NOTE: A copy of the power-of-attorney to local representatives of the bonding company must be attached hereto.
KNOW ALL PERSONS BY THESE PRESENTS:

THAT WHEREAS, the South Orange County Community College District (sometimes referred to hereinafter as “DISTRICT”) has awarded to _____________________________ (hereinafter designated as the “CONTRACTOR” or “Principal”), an agreement for the work described as follows: _____________________________ (hereinafter referred to as the “Public Work”); and

WHEREAS, the work to be performed by the CONTRACTOR is more particularly set forth in that certain contract for said Public Work dated _____________________________, (hereinafter referred to as the “Contract”), which Contract is incorporated herein by this reference; and

WHEREAS, the CONTRACTOR is required by said Contract to perform the terms thereof and to provide a bond both for the performance and guaranty thereof.

NOW, THEREFORE, we, _____________________________, the undersigned CONTRACTOR, as Principal, and ___ _____________________________, a corporation organized and existing under the laws of the State of ________________, and duly authorized to transact business under the laws of the State of California, as Surety, are held and firmly bound unto the South Orange County Community College District in the sum of _____________________________ Dollars ($________________), said sum being not less than one hundred percent (100%) of the total amount payable by said DISTRICT under the terms of said Contract, for which amount well and truly to be made, we bind ourselves, our heirs, executors, administrators, successors, and assigns, jointly and severally, firmly by these presents.

THE CONDITION OF THIS OBLIGATION IS SUCH THAT, if the bounded CONTRACTOR, his or her heirs, executors, administrators, successors or assigns, shall in all things stand to and abide by, and well and truly keep and perform the covenants, conditions, and agreements in said Contract and any alteration thereof made as therein provided, on his or her part, to be kept and performed at the time and in the manner therein specified, and in all respects according to their intent and meaning; and shall faithfully fulfill guarantees of all materials and workmanship; and indemnify, defend and save harmless the DISTRICT, its officers and agents, as stipulated in said Contract, then this obligation shall become null and void; otherwise it shall be and remain in full force and effect.

The Surety, for value received, hereby stipulates and agrees that it shall not be exonerated or released from the obligation of this bond (either by total exoneration or pro tanto) by any change, extension of time, alteration in or addition to the terms of the contract or to the work to be performed there under or the specifications accompanying the same, nor by any change or modification to any terms of payment or extension of time for any payment pertaining or relating to any scheme of work of improvement under the contract. Surety also stipulates and agrees that it shall not be exonerated or released from the obligation of this bond (either by total exoneration or pro tanto) by any overpayment or underpayment by the DISTRICT that is based upon estimates approved by the Architect. The Surety stipulates and agrees that none of the aforementioned changes, modifications, alterations, additions, extension of time or actions shall in any way affect its obligation on this bond, and it does hereby waive notice of any such changes, modifications, alterations, additions or extension of time to the terms of the contract, or to the work, or the specifications as well notice of any other actions that result in the foregoing.
As a condition precedent to the satisfactory completion of the contract, the above obligation shall hold good for a period of One (1) year(s) after the acceptance of the work by DISTRICT, during which time if Contractor/Principal shall fail to make full, complete, and satisfactory repair and replacements and totally protect the DISTRICT from loss or damage made evident during the period of One (1) year(s) from the date of completion of the work, and resulting from or caused by defective materials or faulty workmanship, the above obligation in penal sum thereof shall remain in full force and effect. The obligation of Surety hereunder shall continue so long as any obligation of Contractor remains.

Whenever Principal shall be, and is declared by the DISTRICT to be, in default under the Contract, the Surety shall promptly either remedy the default, or shall promptly complete the Contract through its agents or independent contractors, subject to acceptance and approval of such agents or independent contractors by DISTRICT as hereinafter set forth, in accordance with its terms and conditions and to pay and perform all obligations of Principal under the Contract, including, without limitation, all obligations with respect to warranties, guarantees and the payment of liquidated damages; or, at DISTRICT’s sole discretion and election, Surety shall obtain a bid or bids for completing the Contract in accordance with its terms and conditions, and upon determination by DISTRICT of the lowest responsible bidder, arrange for a contract between such bidder and the DISTRICT and make available as Work progresses (even though there should be a default or succession of defaults under the contract or contracts of completion arranged under this paragraph) sufficient funds to pay the cost of completion less the “balance of the Contract price” (as hereinafter defined), and to pay and perform all obligations of Principal under the Contract, including, without limitation, all obligations with respect to warranties, guarantees and the payment of liquidated damages. The term “balance of the Contract price,” as used in this paragraph, shall mean the total amount payable to Principal by the DISTRICT under the Contract and any modifications thereto, less the amount previously paid by the DISTRICT to the Principal, less any withholdings by the DISTRICT allowed under the Contract.

Surety expressly agrees that the DISTRICT may reject any agent or contractor which may be proposed by Surety in fulfillment of its obligations in the event of default by the Principal. Unless otherwise agreed by DISTRICT, in its sole discretion, Surety shall not utilize Principal in completing the Contract nor shall Surety accept a bid from Principal for completion of the work in the event of default by the Principal.

No final settlement between the DISTRICT and the CONTRACTOR shall abridge the right of any beneficiary hereunder, whose claim may be unsatisfied.

CONTRACTOR and Surety agree that if the DISTRICT is required to engage the services of an attorney in connection with enforcement of the bond, CONTRACTOR and Surety shall pay DISTRICT’s reasonable attorneys’ fees incurred, with or without suit, in addition to the above sum.

In the event suit is brought upon this bond by the DISTRICT and judgment is recovered, the Surety shall pay all costs incurred by the DISTRICT in such suit, including reasonable attorneys’ fees to be fixed by the Court.
IN WITNESS WHEREOF, we have hereunto set our hands and seals this _____ day of __________, 20___.

PRINCIPAL/CONTRACTOR:

______________________________________________________________

By: __________________________________________________________

SURETY:

______________________________________________________________

By: __________________________________________________________

Attorney-in-Fact

The rate of premium on this bond is ______________________________ per thousand.

The total amount of premium charged: $___________________________ (This must be filled in by a corporate surety).
IMPORTANT: THIS IS A REQUIRED FORM.

Surety companies executing bonds must possess a certificate of authority from the California Insurance Commissioner authorizing them to write surety insurance defined in California Insurance Code Section 105, and if the work or project is financed, in whole or in part, with federal, grant or loan funds, Surety’s name must also appear on the Treasury Department’s most current list (Circular 570 as amended).

Any claims under this bond may be addressed to:

(Name and Address of Surety) (Name and Address of agent or representative for service for service of process in California)

__________________________________________________________ _________________________________

__________________________________________________________ _________________________________

Telephone: _______________________________ Telephone: _______________________________

STATE OF CALIFORNIA )
COUNTY OF )

On this ___________day of ___________, in the year __________, before me, __________________________________________, a Notary Public in and for said State, personally appeared __________________________________________, known to me to be the person whose name is subscribed within the instrument as the Attorney-in-Fact of the (Surety) and acknowledged to me that he subscribed the name of the (Surety) thereto and his own name as Attorney-in-Fact.

_____________________________________________________

Notary Public in and for said State

Commission expires: _______________________________

NOTE: A copy of the power-of-attorney to local representatives of the bonding company must be attached hereto.
AGREEMENT

THIS AGREEMENT, dated the ______ day of ________, 20___, in the County of Orange, State of California, is by and between South Orange County Community College District, (hereinafter referred to as "DISTRICT"), and ________________________________, (hereinafter referred to as "CONTRACTOR").

The DISTRICT and the CONTRACTOR, for the consideration stated herein, agree as follows:

1. CONTRACTOR agrees to complete the Project known as ________________________________ according to all the terms and conditions set forth in the Project Documents, including but not limited to the Notice Calling For Bids, Information for Bidders, Bid Form, Bid Security, Designation of Subcontractors, Information Required of Bidder, all prequalification forms submitted pursuant to Public Contract Code Section 20111.5, if any, Non-collusion Affidavit, Workers' Compensation Certificate, Faithful Performance Bond, Payment Bond, Escrow Agreement, if applicable, Drug-Free Workplace Certification, Change Orders, Shop Drawing Transmittals, Insurance Certificates and Endorsements, Guarantees, Contractor’s Certificate Regarding Non-Asbestos Containing Materials, Disabled Veteran Business Enterprises Certification, if applicable, General Conditions, Supplemental Conditions, if any, Special Conditions, if any, Drawings, Specifications, and all modifications, addenda and amendments thereto by this reference incorporated herein. The Project Documents are complementary, and what is called for by any one shall be as binding as if called for by all.

2. CONTRACTOR shall perform within the time set forth in Paragraph 4 of this Agreement everything required to be performed, and shall provide, furnish and pay for all the labor, materials, necessary tools, expendable equipment, and all taxes, utility and transportation services required for construction of the Project. All of said work shall be performed and completed in a good workmanlike manner in strict accordance with the drawings, specifications and all provisions of this Agreement as hereinafore defined and in accordance with applicable laws, codes, regulations, ordinances and any other legal requirements governing the Project. The CONTRACTOR shall be liable to the DISTRICT for any damages arising as a result of a failure to fully comply with this obligation, and the CONTRACTOR shall not be excused with respect to any failure to so comply by any act or omission of the Architect, Engineer, Inspector, Division of State Architect, or representative of any of them, unless such act or omission actually prevents the CONTRACTOR from fully complying with the requirements of the Project Documents, and unless the CONTRACTOR protests at the time of such alleged prevention that the act or omission is preventing the CONTRACTOR from fully complying with the Project Documents. Such protest shall not be effective unless reduced to writing and filed with the DISTRICT within three (3) working days of the date of occurrence of the act or omission preventing the CONTRACTOR from fully complying with the Project Documents.

3. DISTRICT shall pay to the CONTRACTOR, as full consideration for the faithful performance of this Agreement, subject to any additions or deductions as provided in the Project Documents, the sum of ________________________________ Dollars ($_________________ ____________).

4. The work shall be commenced on or before the _________________ (______) day after receiving the DISTRICT'S Notice to Proceed and shall be completed within _________________ (______) consecutive calendar days from the date specified in the Notice to Proceed.

5. **Time is of the essence.** If the work is not completed in accordance with Paragraph 4 above, it is understood that the DISTRICT will suffer damage. It being impractical and infeasible to determine the amount of
actual damage, in accordance with Government Code Section 53069.85, it is agreed that CONTRACTOR shall pay to DISTRICT as fixed and liquidated damages, and not as a penalty, the sum of______________________________ Dollars($__________________) for each calendar day of delay until work is completed and accepted.

Time extensions may be granted by the DISTRICT as provided in Article 64 of the General Conditions. Liquidated damages shall be imposed as set forth in Article 64 of the General Conditions.

6. Termination for Cause or Non-appropriation. In the event CONTRACTOR defaults in the performance of the Agreement as set forth in General Conditions Article 13(a) or if there is a non-appropriation of funds or insufficient funds as set forth in General Conditions Article 13(d), then this Agreement shall terminate or be suspended as set forth in General Conditions Article 13.

Termination for Convenience. DISTRICT has discretion to terminate this Agreement at any time and require CONTRACTOR to cease all work on the Project by providing CONTRACTOR written notice of termination specifying the desired date of termination. Upon receipt of written notice from DISTRICT of such termination for DISTRICT’s convenience, CONTRACTOR shall:

(i) Cease operations as directed by DISTRICT in the notice;

(ii) Take any actions necessary, or that DISTRICT may direct, for the protection and preservation of the work; and

(iii) Not terminate any insurance provisions required by the Project Documents.

In case of such termination for DISTRICT’s convenience, CONTRACTOR shall be entitled to receive payment from DISTRICT for work satisfactorily executed and for proven loss with respect to materials, equipment, and tools, including overhead and profit for that portion of the work completed. In the case of Termination for Convenience, DISTRICT shall have the right to accept assignment of subcontractors. The foregoing provisions are in addition to and not in limitation of any other rights or remedies available to the DISTRICT.

7. Hold Harmless and Indemnification. To the fullest extent permitted by law, the CONTRACTOR, at the CONTRACTOR’s sole cost and expense, agrees to fully defend, indemnify and hold harmless, the DISTRICT, including but not limited to any of its governing board members, officers, employees, Construction Manager, Architect, and all other Agents and Representatives, from and against any and all claims, actions, demands, costs, judgments, liens, penalties, liabilities, damages, losses, anticipated losses of revenues, and expenses, including any fees of accountants, attorneys or other professionals, arising out of, in connection with, resulting from or related to, or claimed to be arising out of, in connection with, resulting from or related to any act or omission by the CONTRACTOR or any of its officers, agents, employees, subcontractors, sub-subcontractors, any person performing any of the work pursuant to a direct or indirect contract with the CONTRACTOR or individual entities comprising the CONTRACTOR, in connection with or relating to, or claimed to be in connection with or relating to the work, this Agreement, or the Project, including but not limited to any costs or liabilities arising out of or in connection with:

(a) failure to comply with any applicable law, statute, code, ordinance, regulation, permit or orders;

(b) any misrepresentation, misstatement or omission with respect to any statement made in the Project Documents or any document furnished by the CONTRACTOR in connection therewith;

(c) any breach of duty, obligation or requirement under the Project Documents;

(d) any failure to coordinate the work of other contractors;

(e) any failure to provide notice to any party as required under the Project Documents;
(f) any failure to act in such a manner as to protect the DISTRICT and the Project from loss, cost, expense or liability; or

(g) any failure to protect the property of any utility company or property owner.

This indemnity shall survive termination of the contract or final payment thereunder. This indemnity is in addition to any other rights or remedies which the DISTRICT may have under the law or under the Project Documents. In the event of any claim or demand made against any party which is entitled to be indemnified hereunder, the DISTRICT may in its sole discretion reserve, retain or apply any monies due to the CONTRACTOR under the Project Documents for the purpose of resolving such claims; provided, however, that the DISTRICT may release such funds if the CONTRACTOR provides the DISTRICT with reasonable assurance of protection of the DISTRICT’s interests. The DISTRICT shall in its sole discretion determine whether such assurances are reasonable.

8. CONTRACTOR shall take out, prior to commencing the work, and maintain, during the life of this Agreement, and shall require all subcontractors, if any, whether primary or secondary, to take out and maintain the insurance coverages set forth below and in Articles 16, 17, 18 and 19 of the General Conditions. CONTRACTOR agrees to provide all evidences of coverage required by DISTRICT including certificates of insurance and endorsements.

- Public Liability Insurance for injuries including accidental death, to any one person in an amount not less than $2,000,000
- Subcontractors of every tier $1,000,000

and

- Subject to the same limit for each person on account of one accident, in an amount not less than $2,000,000
- Subcontractors of every tier $1,000,000

- Property Damage Insurance in an amount not less than $2,000,000
- Subcontractors of every tier $1,000,000

- Course of Construction Insurance without exclusion or limitation in an amount not less than $2,000,000
- Subcontractors of every tier $1,000,000

- Excess Liability Insurance (Contractor only) $2,000,000

Insurance Covering Special Hazards: The following special hazards shall be covered by rider or riders to above-mentioned public liability insurance or property damage insurance policy or policies of insurance, or by special policies of insurance in amounts as follows:

- Automotive and truck where operated in amounts as above
- Material hoist where used in amounts as above
Waiver of Subrogation

Contractor waives (to the extent permitted by law) any right to recover against the District, and its respective elected officials, officers, employees, agents, and representatives for damages to the Work, any part thereof, or any and all claims arising by reason of any of the foregoing, but only to the extent that such damages and/or claims are covered by property insurance and only to the extent of such coverage (which shall exclude deductible amounts) actually carried by the District.

The provisions of this section are intended to restrict each party to recovery against insurance carriers only to the extent of such coverage and waive fully and for the benefit of each, any rights and/or claims which might give rise to a right of subrogation in any insurance carrier. The District and the Contractor shall each obtain in all policies of insurance carried by either of them, a waiver by the insurance companies there under of all rights of recovery by way of subrogation for any damages or claims covered by the insurance.

Additional Insured Endorsement Requirements.

The Contractor shall name, on any policy of insurance required the District, their officers, employees, Construction Manager, Architect, and all other Agents and Representatives as additional insureds. Subcontractors shall name the Contractor, the District, their officers, employees, Construction Manager, Architect, and all other Agents and Representatives as additional insureds. The Additional Insured Endorsement included on all such insurance policies shall state that coverage is afforded the additional insured with respect to claims arising out of operations performed by or on behalf of the insured. If the additional insureds have other insurance that is applicable to the loss, such other insurance shall be on an excess or contingent basis. The insurance provided by the Contractor must be designated in the policy as primary to any insurance obtained by the District. The amount of the insurer’s liability shall not be reduced by the existence of such other insurance.

9. Public Contract Code Section 22300 permits the substitution of securities for any retention monies withheld by the DISTRICT to ensure performance under this Agreement. At the request and expense of the CONTRACTOR, securities equivalent to the monies withheld shall be deposited with the DISTRICT, or with a state or federally chartered bank in California as the escrow agent, who shall then pay such monies to the CONTRACTOR. The DISTRICT retains the sole discretion to approve the bank selected by the CONTRACTOR to serve as escrow agent. Upon satisfactory completion of the Agreement, the securities shall be returned to the CONTRACTOR. Securities eligible for investment shall include those listed in Government Code Section 16430 or bank or savings and loan certificates of deposit. The CONTRACTOR shall be the beneficial owner of any securities substituted for monies withheld and shall receive any interest thereon.

In the alternative, under Section 22300, the CONTRACTOR may request DISTRICT to make payment of earned retention monies directly to the escrow agent at the expense of the CONTRACTOR. Also at the CONTRACTOR's expense, the CONTRACTOR may direct investment of the payments into securities, and the CONTRACTOR shall receive interest earned on such investment upon the same conditions as provided for securities deposited by CONTRACTOR. Upon satisfactory completion of the Agreement, CONTRACTOR shall receive from the escrow agent all securities, interest and payments received by escrow agent from DISTRICT pursuant to the terms of Section 22300.

10. If CONTRACTOR is a corporation, the undersigned hereby represents and warrants that the corporation is duly incorporated and in good standing in the State of__________________________, and that__________________________, whose title is__________________________, is authorized to act for and bind the corporation.

11. Each and every provision of law and clause required by law to be inserted in this Agreement shall be deemed to be inserted herein and the Agreement shall be read and enforced as though it were included herein, and
if through mistake or otherwise any such provision is not inserted, or is not currently inserted, then upon application of either party the Agreement shall forthwith be physically amended to make such insertion or correction.

12. This Agreement constitutes the entire agreement of the parties. No other agreements, oral or written, pertaining to the work to be performed, exists between the parties. This Agreement can be modified only by an amendment in writing, signed by both parties and pursuant to action of the Governing Board of the District. This Agreement shall be governed by the laws of the State of California.

IN WITNESS WHEREOF, the parties hereto have caused this Agreement to be executed.

DISTRICT

By: ________________________________
    Signature

Print Name

Title

Contractor's License No.

Tax ID/Social Security No.

(CORPORATE SEAL OF CONTRACTOR,
if corporation)

CONTRACTOR

By: ________________________________
    Signature

Print Name

Title

Contractor's License No.

Tax ID/Social Security No.
This Escrow Agreement is made and entered into, as of ______________________, 20______, by and between South Orange County Community College District, whose address is 28000 Marguerite Parkway, Mission Viejo, CA 92692 hereinafter called "DISTRICT;" ______________________, whose address is ______________________, hereinafter called "Contractor;" and, ______________________, whose address is ______________________, hereinafter called "Escrow Agent."

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

(1) Pursuant to Section 22300 of the 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 the Agreement entered into between the DISTRICT and Contractor for _______ in the amount of ______________________, dated ______________________ (hereinafter referred to as the "Agreement"). Alternatively, on written request of the Contractor, the DISTRICT shall make payments of the retention earnings directly to the Escrow Agent. When the Contractor deposits the securities as a substitute for retention earnings, the Escrow Agent shall notify the DISTRICT within ten (10) days of the deposit. The market value of the securities at the time of the substitution shall be at least equal to the cash amount then required to be withheld as retention under the terms of the Agreement between the DISTRICT and Contractor. Securities shall be held in the name of DISTRICT, and shall designate the Contractor as the beneficial owner.

(2) The DISTRICT shall make progress payments to the Contractor for those funds which otherwise would be withheld from progress payments, provided that the Escrow Agent holds securities in the form and amount specified above.

(3) When the DISTRICT makes payment of retentions earned directly to the Escrow Agent, the Escrow Agent shall hold them for the benefit of the Contractor until the time the escrow created under this Escrow Agreement is terminated. The 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 the DISTRICT pays the 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 the DISTRICT. These expenses and payment terms shall be determined by the DISTRICT, Contractor and Escrow Agent.

(5) The interest earned on the securities or the money market accounts held in escrow and all interest earned on that interest shall be for the sole account of Contractor and shall be subject to withdrawal by Contractor at any time and from time to time without notice to the 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 the DISTRICT to the Escrow Agent that DISTRICT consents to the withdrawal of the amount sought to be withdrawn by Contractor.
(7) The DISTRICT shall have a right to draw upon the securities in the event of default by the Contractor. Upon seven (7) days' written notice to the Escrow Agent from the DISTRICT of the default, the Escrow Agent shall immediately convert the securities to cash and shall distribute the cash as instructed by the DISTRICT.

(8) Upon receipt of written notification from the DISTRICT certifying that the Agreement is final and complete, and that the Contractor has complied with all requirements and procedures applicable to the Agreement, 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 monies and securities on deposit and payments of fees and charges.

(9) Escrow Agent shall rely on the written notifications from the DISTRICT and the Contractor pursuant to Sections (5) to (8), inclusive, of this Escrow Agreement and the DISTRICT and Contractor shall hold Escrow Agent harmless from Escrow Agent's release and disbursement of the securities and interest as set forth above.

(10) The names of the persons who are authorized to give written notice or to receive written notice on behalf of the DISTRICT and on behalf of Contractor in connection with the foregoing, and exemplars of their respective signatures are as follows:

On behalf of DISTRICT: On behalf of Contractor:

Title
Name
Signature
Address

Title
Name
Signature
Address
On behalf of Escrow Agent:

Title

Name

Signature

Address

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

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

DISTRICT

Title

Name

Signature

CONTRACTOR

Title

Name

Signature

Escrow Agent

Title

Name

Signature
GUARANTEE

Guarantee for _________________. We hereby guarantee that the ________________, which we have installed in ________________, has been done in accordance with the Project Documents and that the work as installed will fulfill the requirements included in the Project Documents. The undersigned agrees to repair or replace any or all of such work, together with any other adjacent work which may be displaced in connection with such repair or replacement, that may prove to be defective in workmanship or material within a period of one (1) year from the date of completion of the Project, ordinary wear and tear and unusual abuse or neglect excepted.

In the event of the undersigned's or undersigned surety's failure to commence and pursue with diligence said repairs or replacements within ten (10) calendar days after being notified in writing by the DISTRICT, the undersigned authorizes the DISTRICT to proceed to have said defects repaired or replaced and made good at the expense of the undersigned and surety who hereby agree to pay the costs and charges therefore immediately upon demand. (General Conditions Article 47(d))

______________________________________________
Name of Contractor

By: __________________________________________
Signature of Contractor

______________________________________________
Print Name

______________________________________________
Title

Contractor shall provide copy of this Guarantee to Contractor's surety.
Guarantee (continued)

Name of Subcontractor
(if work performed by subcontractor)

By: ________________________________
Signature of Subcontractor

______________________________
Print Name

______________________________
Title

Representatives to be contacted for service:

Name: ________________________________

Address: ________________________________

____________________________________

Telephone: ________________________________
SHOP DRAWING TRANSMITTAL

The procedure governing shop drawing submittals is contained in the General Conditions. In addition, all Supplemental Conditions, Special Conditions and Specifications must be followed by the CONTRACTOR.

Failure to comply with all requirements will constitute grounds for return of the shop drawing for proper resubmittal. CONTRACTOR shall sequentially number each submittal.

Date: _____________________________ Submittal No.: _____________________________

From: _____________________________ To: _____________________________

Project Name: _____________________________

This is a(n): Original __________

Submittal __________

2nd Submittal __________

[ ] Submittal __________

Subject of Submittal: _____________________________ Equipment Designation: _____________________________ Specification Section(s): _____________________________

Complete either (a) or (b) Check One:

| (a) We have verified that the material or equipment contained in this submittal meets all the requirements specified or shown (no exceptions). |
| (b) We have verified that the material or equipment contained in this submittal meets all the requirements specified or shown, except for the following deviations (List deviations on an attached sheet). |

(continued on next page)
The CONTRACTOR has reviewed and approved not only the field dimensions but the construction criteria and has also made written notation regarding any information in the shop drawings that does not conform to the Project Documents. This shop drawing has been coordinated with all other shop drawings received to date by CONTRACTOR and this duty of coordination has not been delegated to subcontractors, material suppliers, the ARCHITECT, or the engineers on this Project.

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

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

a) publishing a statement notifying employees that the unlawful manufacture, distribution, dispensation, possession or use of a controlled substance is prohibited in the person's or organization's workplace and specifying actions which will be taken against employees for violations of the prohibition;

b) establishing a drug-free awareness program to inform employees about all of the following:

1) the dangers of drug abuse in the workplace;

2) the person's or organization's policy of maintaining a drug-free workplace;

3) the availability of drug counseling, rehabilitation and employee-assistance programs;

4) the penalties that may be imposed upon employees for drug abuse violations;

c) requiring that each employee engaged in the performance of the contract be given a copy of the statement required by subdivision (a) and that, as a condition of employment on the contract, the employee agrees to abide by the terms of the statement.

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

I also understand that if the DISTRICT determines that I have either (a) made a false certification herein, or (b) violated this certification by failing to carry out the requirements of Section 8355, that the contract awarded herein is subject to suspension of payments, termination, or both. I further understand that, should I violate the terms of the Drug-Free Workplace Act of 1990, I may be subject to debarment in accordance with the requirements of Section 8350, et seq.
I acknowledge that I am aware of the provisions of Government Code Section 8350, et seq. and hereby certify that I will adhere to the requirements of the Drug-Free Workplace Act of 1990.

NAME OF CONTRACTOR

______________________________
Signature

______________________________
Print Name

______________________________
Title

______________________________
Date
### CHANGE ORDER NO. (ADDITIVE)

**PROJECT:**

**TO:**

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

**DESCRIPTION OF CHANGE:**

**COST (This cost shall not be exceeded):**

<table>
<thead>
<tr>
<th>Item</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Original contract price</td>
<td>$</td>
</tr>
<tr>
<td>Change Order amount</td>
<td>$</td>
</tr>
<tr>
<td>New contract price</td>
<td>$</td>
</tr>
</tbody>
</table>

**TIME FOR COMPLETION:**

<table>
<thead>
<tr>
<th>Item</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Original completion date</td>
<td></td>
</tr>
<tr>
<td>Time for completion of</td>
<td></td>
</tr>
<tr>
<td>Change Order</td>
<td></td>
</tr>
<tr>
<td>New completion date</td>
<td></td>
</tr>
</tbody>
</table>

Contractor agrees to perform the above-described work in accordance with the above terms and in compliance with applicable sections of the Project Documents. The amount of the charges under this Change Order is limited to the charges allowed under Article 60 of the General Conditions. The adjustment in the contract sum, if any, and the adjustment in the contract time, if any, set out in this Change Order shall constitute the entire compensation and/or adjustment in the contract time due Contractor arising out of the change in the work covered by this Change Order, unless otherwise provided in this Change Order.

No additions or deletions to this Change Order shall be allowed, except with written permission of District. Contractor accepts the terms and conditions stated above as full and final settlement of any and all claims arising from this Change Order.

(continued on next page)
This Change Order is hereby agreed to, accepted and approved.

CONTRACTOR

By: ________________________________
    Signature

______________________________
Print Name

______________________________
Title

______________________________
Date

DISTRCT

By: ________________________________
    Signature

______________________________
Print Name

______________________________
Title

______________________________
Date

ARCHITECT

By: ________________________________
    Signature

______________________________
Print Name

______________________________
Title

______________________________
Date
CHANGE ORDER NO. ________________  (DEDUCTIVE)

PROJECT: ____________________________________________________________

TO: ________________________________________________________________
You are hereby directed to comply with this Change Order.

DESCRIPTION OF CHANGE: ____________________________________________

____________________________________________________________________

____________________________________________________________________

COST (This cost shall be deleted.):

  Original contract price:  $ __________________
  Change Order amount:     $ __________________
  New contract price:       $ __________________

TIME FOR COMPLETION:

  Original completion date: __________________________
  Time for completion of
      Change Order: __________________________
  New completion date: __________________________

Contractor agrees to deduct the above-described work in accordance with the above terms and in compliance with applicable sections of the Project Documents. Contractor agrees to the adjustment in the contract sum, if any, and the adjustment in the contract time, if any, set out in this Change Order.

No additions or deletions to this Change Order shall be allowed, except with written permission of District. Contractor accepts the terms and conditions stated above as full and final settlement of any and all claims arising from this Change Order.

(continued on next page)
This Change Order is hereby agreed to, accepted and approved.

CONTRACTOR

By: __________________________

______________________________

Print Name

______________________________

Title

______________________________

Date

DISTRICT

By: __________________________

______________________________

Print Name

______________________________

Title

______________________________

Date

ARCHITECT

By: __________________________

______________________________

Signature

______________________________

Print Name

______________________________

Title

______________________________

Date
CONTRACTOR’S CERTIFICATE REGARDING NON-ASBESTOS CONTAINING MATERIALS

Per Article 70 of the General Conditions.

Certification for ________________. We hereby certify that no Asbestos, or Asbestos Containing Materials shall be used in this Project or in any tools, devices, clothing, or equipment used to affect the _________ ________ which we have installed in the South Orange County Community College District under Project/Bid No. ___ ________.

(a) The Contractor further certifies that he/she has instructed his/her employees with respect to the above mentioned standards, hazards, risks and liabilities.

(b) Asbestos and/or asbestos containing material shall be defined as all items containing but not limited to chrysotile, crocidolite, amosite, anthophyllite, tremolite and actinolite.

(c) Any or all material containing greater than one-tenth of one percent (.1%) asbestos shall be defined as asbestos containing material.

(d) Any disputes involving the question of whether or not material contains asbestos shall be settled by electron microscopy. The costs of any such tests shall be paid by the Contractor if the material is found to contain asbestos.

(e) All work or materials found to contain asbestos or work or material installed with asbestos containing equipment will be immediately rejected and this work will be removed at no additional cost to the District.

__________________________________________
Date

Name of Contractor

By: _______________________________________
Signature

__________________________________________
Print Name

__________________________________________
Title
PREQUALIFICATION
OF BIDDERS
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*Prequalification of Bidders*
INFORMATION ON PREQUALIFICATION PROCESS

As a condition of bidding, prospective bidders are required to submit to the District a completed prequalification questionnaire and financial statement supplied by the District.

I. REQUEST FOR PREQUALIFICATION OF BIDDERS

The District requires from prospective bidders answers to questions contained in this standard form of questionnaire and financial statement which includes the following documents:

1. Complete Statement of financial ability and experience in performing public works;
2. Affidavit of Contractor; and

These documents will be the basis of rating bidders with respect to the size and scope of contracts upon which each bidder is qualified to bid. All portions of the Statement must be completed. Failure to provide any information requested may result in a reduced rating or disqualification.

The questionnaire and financial statements are not public records and are not open to public inspection.

A. Statement of Financial Ability and Experience.

A prospective bidder must be a Contractor duly licensed pursuant to Chapter 9 (commencing with section 7000) of Division 3 of the Business and Professions Code and shall have completed 2 public works projects of similar nature as evaluated by the District; according to California Public Works Law, each with a contract sum of at least 80% of the engineer's estimated cost for the referenced package, completed during the past 5 years.

A new and current submittal shall be required for each project.

B. Accountant's Certificate

The certificate of an accountant licensed by the State of California will be required in all cases. A suggested form of a certificate for both an audit and a review is attached, (Attachment A). The accountant may submit a certificate in his/her own words provided it does not include qualifications too extensive as to nullify the value of the statement or its usefulness to the District. Note: A reviewed or audited financial statements are acceptable submissions. A compilation is not acceptable.

The Certificate of Accountant shall not be made by any individual who is in the regular employ of the individual, partnership or corporation submitting the statement, nor by any individual who is a member of the firm.

Prequalification of Bidders
C. Insurance Certificates

Provide general liability and workers compensation certificates demonstrating $2,000,000.00 combined comprehensive single limit coverage.

II. SUBMISSION OF COMPLETED STATEMENTS

Prequalification statements and supporting documents must be submitted on June 30, 2010. Proposed bidders who are prequalified will be noticed at least one day prior to bid date.

Completed Statements should be marked Confidential and mailed or hand delivered to:

South Orange County Community College District
28000 Marguerite Parkway
Health Sciences Building, 3rd Floor
Mission Viejo, California 92692
Attention: Brandye K. D’Lena
Director of Facilities Planning & Purchasing

Bids for packages requiring prequalification will not be accepted if a contractor’s prequalification statement is not approved by the District.

III. STANDARD OF REVIEW

Maximum prequalification ratings by the District are based on the lesser of five times working capital (current assets) or two times net worth (assets less liabilities), subject to adjustment upon consideration of experience and performance factors.

IV. NOTIFICATION OF PREQUALIFICATION RESULTS

Contractors will be notified by telephone and/or by mail of their prequalification rating within four (4) days of submission of their prequalification documents. Ratings of individual firms will only be disclosed upon written request of that firm.

In the event that the Contractor is unable to obtain a bond in the time and form prescribed by the District, the Contractor will not be allowed to bid on the Project.
CONTRACTOR’S STATEMENT OF EXPERIENCE AND FINANCIAL CONDITION

Contractor: _________________________________________________________
(as name appears on license)

Address: ____________________________________________________________

Phone: ____________________________ FAX: ____________________________

Email: ______________________________

Type of Firm: (check one) Corporation ____ Partnership ____ Individual ____ Tax I.D. No.: ____________________________

License No(s): ________________________ License Class: ________________________

Have you ever been licensed under a different name or license number? _____ If yes, give name(s) and license number(s) ____________________________

CORPORATE OFFICERS-PARTNERS-PROPRIETOR-OWNERS-KEY-PERSONNEL:

<table>
<thead>
<tr>
<th>Name</th>
<th>Years with Firm</th>
<th>Position</th>
<th>% of Ownership</th>
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</table>

Have officers or principals of firm ever had their Contractor’s licenses suspended or revoked? ____________________________
If yes, explain on separate signed page.

Prequalification of Bidders
1. What is the largest project your company has bonded? Single job: $______________ Total work in progress: $______________

2. In what type of construction do you specialize?______________________________________________

3. How many years experience in school construction work has your organization had:
   a) as a general contractor? ________________ b) as a subcontractor? ______________________

4. NAME OF PRESENT AND PRIOR SURETIES: list company, largest bond

<table>
<thead>
<tr>
<th>Company</th>
<th>Address</th>
<th>Largest Bond</th>
</tr>
</thead>
</table>

   Contact Information | Name | Phone

5. Has your company ever been unable to obtain a bond or been denied a bond for a contract? ______ If yes, explain.

6. Has company (or any owner) ever defaulted on a contract? Has company ever caused a Surety to suffer a loss? ______ If yes, explain.

7. Have you been in litigation or arbitration on a question relating to your performance on a contract during the past three years? ______ If yes, explain.

8. Do you have $2,000,000 or more of Comprehensive General Liability insurance coverage? ______ If no, explain.

9. Has your company ever failed to complete a contract in the past three years? _________ If yes, explain.

10. Has this company, an affiliated company, or any owner ever declared bankruptcy? _______ been in receivership? ___________ If yes, explain.

11. List references for at least two contracts, each with a contract sum of at least 80% of the engineer’s estimated cost for the referenced bid package, completed in the past 5 years pursuant to California Public Works Laws:

   **Project Number 1:**

   Name of Project: ________________________________________

   Prequalification of Bidders
<table>
<thead>
<tr>
<th>Detailed Description:</th>
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<table>
<thead>
<tr>
<th>Name of Project Owner:</th>
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<thead>
<tr>
<th>Name of Project Owner Representative:</th>
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<tr>
<th>Phone and FAX Numbers:</th>
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<table>
<thead>
<tr>
<th>Contact information for DSA I.O.R.:</th>
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<table>
<thead>
<tr>
<th>Contract Amount:</th>
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<table>
<thead>
<tr>
<th>Completion Date:</th>
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**Project Number 2:**

<table>
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<tr>
<th>Name of Project:</th>
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<th>Detailed Description:</th>
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<table>
<thead>
<tr>
<th>Name of Project Owner:</th>
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<table>
<thead>
<tr>
<th>Name of Project Owner Representative:</th>
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<table>
<thead>
<tr>
<th>Phone and FAX Numbers:</th>
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</table>

<table>
<thead>
<tr>
<th>Contact information for DSA I.O.R.:</th>
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</table>

<table>
<thead>
<tr>
<th>Contract Amount:</th>
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<table>
<thead>
<tr>
<th>Completion Date:</th>
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**Project Number 3:**

<table>
<thead>
<tr>
<th>Name of Project:</th>
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<tr>
<th>Detailed Description:</th>
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</table>

<table>
<thead>
<tr>
<th>Name of Project Owner:</th>
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</tbody>
</table>
Name of Project Owner Representative: ________________________________

Phone and FAX Numbers: ____________________________________________

Contact information for DSA I.O.R.: ________________________________

Contract Amount: ________________________________________________

Completion Date: ________________________________________________

Project Number 4:

Name of Project: ________________________________________________

Detailed Description: ____________________________________________

Name of Project Owner: __________________________________________

Name of Project Owner Representative: ____________________________

Phone and FAX Numbers: _________________________________________

Contact information for DSA I.O.R.: ________________________________

Contract Amount: ________________________________________________

Completion Date: ________________________________________________

Project Number 5:

Name of Project: ________________________________________________

Detailed Description: ____________________________________________

Name of Project Owner: __________________________________________

Name of Project Owner Representative: ____________________________

Phone and FAX Numbers: _________________________________________

Contact information for DSA I.O.R.: ________________________________

Contract Amount: ________________________________________________

Prequalification of Bidders
Completion Date: ______________________________________

List all projects awarded to your firm by the South Orange County Community College District.

<table>
<thead>
<tr>
<th>Name of College &amp; Project Title</th>
<th>Contract Price</th>
<th>Year</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
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<tr>
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<td></td>
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</tr>
</tbody>
</table>

13. Has your company ever failed to complete an SOCCCD contract within the authorized contract time? [ ] If yes, explain.

14. Are there any outstanding liens/stop notices filed against your company on any contracts, which have been done or are being done by your company? ________ [ ] If yes, explain.

**FINANCIAL INFORMATION**

**ACCOUNTING**

Name of Accounting firm: ___________________________ Phone: ___________________________

How many years has this firm prepared financial statements for you: __________ Tax returns: __________

Fiscal year end: __________ Are taxes, both company and personal current: __________________________

Basis of preparation of Statements: Tax payments:

<p>| | | | |</p>
<table>
<thead>
<tr>
<th></th>
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<th></th>
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</tr>
</thead>
<tbody>
<tr>
<td>[ ]</td>
<td>Cash</td>
<td>[ ]</td>
<td>Cash</td>
</tr>
<tr>
<td>[ ]</td>
<td>Simple Accrual</td>
<td>[ ]</td>
<td>Simple Accrual</td>
</tr>
<tr>
<td>[ ]</td>
<td>% of Completion</td>
<td>[ ]</td>
<td>% of Completion</td>
</tr>
</tbody>
</table>

**BANK**

Name of Bank ___________________________ Account Manager ___________________________

Address ___________________________ Phone Number (____) ___________________________

Account Numbers: __________________________________________

Prequalification of Bidders
Amount of line of credit $ ____________________________ Amount in use $ ____________________________

How secured: __________________________________ Expiration date: ____________________________

Attach letter from bank confirming line of credit and/or relationship/credit/banking history.

SIGNED THIS ____________ DAY OF ____________________________, ____________

_________________________ _______________________________
SIGNATURE NAME AND TITLE

Attach additional signed pages as needed for required explanations.
**CONTRACTOR'S FINANCIAL STATEMENT**

**ASSETS**

<table>
<thead>
<tr>
<th>Asset Description</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. FREE AND UNRESTRICTED, CASH ON HAND</td>
<td></td>
</tr>
<tr>
<td>2. NOTES RECEIVABLE</td>
<td></td>
</tr>
<tr>
<td>3. ACCOUNTS RECEIVABLE FROM COMPLETED CONTRACTS</td>
<td></td>
</tr>
<tr>
<td>4. ACCOUNTS RECEIVABLE, SUMS BILLED ON INCOMPLETE CONTRACTS</td>
<td></td>
</tr>
<tr>
<td>5. OTHER ACCOUNTS RECEIVABLE</td>
<td></td>
</tr>
<tr>
<td>6. ADVANCES TO CONSTRUCTION JOINT VENTURES</td>
<td></td>
</tr>
<tr>
<td>7. MATERIAL IN STOCK NOT INCLUDED IN ITEM 4</td>
<td></td>
</tr>
<tr>
<td>8. NEGOTIABLE SECURITIES</td>
<td></td>
</tr>
<tr>
<td>9. OTHER CURRENT ASSETS</td>
<td></td>
</tr>
<tr>
<td><strong>SUBTOTAL OF CURRENT ASSETS</strong></td>
<td>$</td>
</tr>
</tbody>
</table>

**FIXED AND OTHER ASSETS**

<table>
<thead>
<tr>
<th>Asset Description</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>10. REAL ESTATE</td>
<td>$</td>
</tr>
<tr>
<td>11. CONSTRUCTION PLANT AND EQUIPMENT</td>
<td></td>
</tr>
<tr>
<td>12. FURNITURE AND FIXTURES</td>
<td></td>
</tr>
<tr>
<td>13. INVESTMENTS OF A NONCURRENT NATURE</td>
<td></td>
</tr>
<tr>
<td>14. OTHER NONCURRENT ASSETS</td>
<td></td>
</tr>
<tr>
<td>Description</td>
<td>Amount</td>
</tr>
<tr>
<td>----------------------------------------------------------------------------</td>
<td>--------</td>
</tr>
<tr>
<td>Subtotal of Fixed and Other Assets</td>
<td></td>
</tr>
<tr>
<td>Total Assets</td>
<td>$</td>
</tr>
<tr>
<td><strong>Liabilities and Capital</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Current Liabilities</strong></td>
<td></td>
</tr>
<tr>
<td>15. Notes Payable, Exclusive of Equipment Obligations</td>
<td></td>
</tr>
<tr>
<td>And Real Estate Encumbrances</td>
<td>$</td>
</tr>
<tr>
<td>16. Accounts Payable</td>
<td></td>
</tr>
<tr>
<td>17. Other Current Liabilities</td>
<td></td>
</tr>
<tr>
<td>Subtotal of Current Liabilities</td>
<td>$</td>
</tr>
<tr>
<td><strong>Other Liabilities</strong></td>
<td></td>
</tr>
<tr>
<td>18. Real Estate Encumbrances</td>
<td>$</td>
</tr>
<tr>
<td>19. Equipment Obligations Secured by Equipment</td>
<td></td>
</tr>
<tr>
<td>20. Other Noncurrent Liabilities</td>
<td></td>
</tr>
<tr>
<td>Subtotal of Other Liabilities</td>
<td>$</td>
</tr>
<tr>
<td><strong>Capital and Surplus</strong></td>
<td></td>
</tr>
<tr>
<td>21. Capital Stock, Paid Up</td>
<td>$</td>
</tr>
<tr>
<td>22. Retained Earnings</td>
<td></td>
</tr>
<tr>
<td>Subtotal of Capital and Retained Earnings</td>
<td>$</td>
</tr>
<tr>
<td>Total of Liabilities and Capital</td>
<td>$</td>
</tr>
<tr>
<td><strong>Contingent Liabilities</strong></td>
<td></td>
</tr>
</tbody>
</table>
23. LIABILITY ON NOTES RECEIVABLE, DISCOUNTED OR SOLD ........... $_________

24. LIABILITY ON ACCOUNTS RECEIVABLE, PLEDGED, ASSIGNED

OR SOLD ..........................................................

25. LIABILITY AS A BONDSMAN ....................................

26. LIABILITY AS GUARANTOR ON CONTRACTS OR ON ACCOUNTS

OF OTHERS ......................................................

OTHER CONTINGENT LIABILITIES .................................

TOTAL OF CONTINGENT LIABILITY ............................... $_________
## ASSETS

List any and all items of the following categories that exceed 10% of the subject line total or any item that exceeds $50,000.00.

<table>
<thead>
<tr>
<th>DUE FROM</th>
<th>DUE DATE</th>
<th>SECURITY</th>
<th>AMOUNT</th>
</tr>
</thead>
<tbody>
<tr>
<td>LINE 2 NOTES RECEIVABLE</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>LINE 3 ACCOUNTS RECEIVABLE FROM COMPLETED CONTRACTS EXCLUSIVE OF CLAIMS NOT APPROVED FOR PAYMENT</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>LINE 4 SUMS EARNED ON INCOMPLETE CONTRACTS</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>LINE 5 OTHER ACCOUNTS RECEIVABLE</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>LINE 6 ADVANCES TO CONSTRUCTION JOINT VENTURES</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

## LIABILITIES

Prequalification of Bidders

14
LIST ANY AND ALL ITEMS OF THE FOLLOWING CATEGORIES THAT EXCEED 10% OF THE SUBJECT LINE TOTAL OR ANY ITEM THAT EXCEEDS $50,000.00.

<table>
<thead>
<tr>
<th>DUE FROM</th>
<th>DUE DATE</th>
<th>SECURITY</th>
<th>AMOUNT</th>
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<tbody>
<tr>
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</tbody>
</table>

LINE 15 NOTES PAYABLE EXCLUSIVE OF EQUIPMENT OR REAL ESTATE


LINE 16 ACCOUNTS PAYABLE


LINE 17 OTHER CURRENT LIABILITIES


LINE 18 REAL ESTATE ENCUMBRANCES


LINE 19 EQUIPMENT OBLIGATIONS SECURED BY EQUIPMENT


Prequalification of Bidders
15
THE CERTIFICATE OF A LICENSED ACCOUNTANT WILL BE REQUIRED IN ALL CASES

CERTIFICATE OF ACCOUNTANT

FOR AN AUDIT OF A FINANCIAL STATEMENT COMPLETE THIS CERTIFICATE

STATE OF ____________________

We have examined the Financial Statement of ____________________ as of _________________. Our examination was made in accordance with generally accepted auditing standards, and accordingly included such tests of the accounting records and such other auditing procedures, as we considered necessary in the circumstances.

In our opinion, the accompanying financial statement included on pages ___ to ___ inclusive, sets forth fairly the financial condition of ____________________ as of ________________ in conformity with generally accepted accounting principles.

__________________________________________
(Print Name of Firm)  (Accountant must sign here)

__________________________________________
(Telephone No.)  (License No.)

FOR A REVIEW OF A FINANCIAL STATEMENT COMPLETE THIS CERTIFICATE

I (we) have reviewed the accompanying financial statement of ____________________ as of _________________. The information included in the financial statement is the representation of the management of the above firm.

Based on (our) review, with the exception of the matter(s), described in the following paragraph(s), (we are) not aware of any material modifications that should be made to the accompanying financial statements, in order for them to be in conformity with generally accepted accounting principles.

Note: The review consists principally of inquiries of Management and appropriate analytical procedures applied to this financial data. It is substantially less in scope than an examination in accordance with generally accepted auditing standards, the objective of which is the expression of an opinion regarding the financial statements taken as a whole. Accordingly, we have not expressed such an opinion.

Prequalification of Bidders

16
Special Note to Accountant:

The above Certificates of Accountant shall not be made by any individual who is in the regular employ of the individual, partnership or corporation submitting the statement; nor by any individual who is a member of the firm with more than a 10 percent financial interest.
GENERAL LETTER OF CREDIT

TO: South Orange County Community College District
    28000 Marguerite Parkway
    Mission Viejo, CA 92692

ATTN: Facilities Planning

SUBJECT: GENERAL LETTER OF CREDIT

Reference is made to the prequalification of _____________________________ (Name of Contractor)

Under Board Rules of the Board of Trustees pertaining to the construction, alteration and maintenance of Community College District Facilities, we certify that the above Contractor has been extended an unqualified line of credit not to exceed $_____________, and that such credit will not be withdrawn or reduced without 30 days written notice to the District.

It is understood that this letter of credit is to be used by the District solely for determining the financial resources of the said Contractor during the term of his prequalification with the District.

___________________________________________ Bank No. Code ____________________________

___________________________________________ (Name of Bank)

___________________________________________ (Address)

___________________________________________ (City)

By: _____________________________

(Please type or print name & title)

PLEASE NOTE: The above form may be completed by your bank to augment your Working Capital. If it prefers, the bank may issue a Letter of Credit on its own letterhead, provided the Letter of Credit contains substantially the same provisions, is addressed to the South Orange County Community College District and bears an original signature.
VERIFICATION

AFFIDAVIT OF AN INDIVIDUAL FOR A SOLE PROPRIETORSHIP

I, an individual, ________________________________

Doing business as ________________________________

This ______ Day of ______________, 20__________

City of __________________________ County of __________________________

State of ________________________________

Signature of Applicant ________________________________

PARTNERSHIP AFFIDAVIT

I, a partner of ________________________________

(Name of Firm)

This ______ Day of ______________, 20__________

City of __________________________ County of __________________________

State of ________________________________

Signature of Applicant ________________________________

CORPORATION AFFIDAVIT

I, the ________________________________

(Title of Corporation Officer)

Of ________________________________

(Use full corporate name)

This ______ Day of ______________, 20__________

City of __________________________ County of __________________________

State of ________________________________

Signature of Applicant ________________________________

The submitter of the foregoing statement of experience and financial condition has read the same and the matters stated therein are true of his or her own knowledge. The statement is for the purpose of inducing the District to supply the submitter with plans and specifications and any depository, vendor, or other agency named therein is hereby authorized to supply the District with any information necessary to verify the statement. Should the foregoing statement at any time cease to properly and truly represent the
financial condition of the submitter in any substantial respect, the submitter will refrain from further bidding on District work until a revised and corrected statement is submitted. Attached is a certified copy of the minutes of the corporation indicating that the person whose signature appears below has authority to bind the corporation. For other types of organization, provide evidence in a form and substance acceptable to the District (such as a Power of attorney) that the person whose signature appears below has authority to bind the contractor.

By signing the proper affidavit the submitter certifies and declares under penalty of perjury that the foregoing is true and correct.

If a corporation, answer this:

Capital paid in cash, $____________________

When incorporated _______________________

In what state ___________________________

President’s name _______________________ Name and address of each partner

Vice President’s name ____________________

Secretary’s name ________________________

Treasurer’s name ________________________

Provide copy of most recent certificate from the Secretary of State indicating the standing of the Corporation.
RATING CRITERIA:

Rating – Financial Capacity is determined by:

The Contractor must meet the engineer’s estimate when evaluating the lesser of the following:

10 x working capital (current assets) is greater than or equal engineer’s estimate, or

4 x net worth (assets less liabilities) is greater than or equal engineer’s estimate

Inability to meet this rating for a specific project will disqualify a contractor for that project.

The Financial Rating may be adjusted after considering responses of the contractor and surety regarding the size of project they are capable of performing and bonding capacity.

FINANCIAL RATING (based upon financial statements): $__________________

ADJUSTED FINANCIAL RATING (based upon surety and contractor’s responses): $__________________

Licensing – Shall be an experienced Contractor who is duly licensed under the provisions of Chapter 9 (commencing with Section 7000) of Division 3 of the Business and Professions Code and shall have any other licenses required for the work. Failure to possess the appropriate license for the work will result in automatic disqualification.

License Classification verified: _____________________
Rating – Experience/Performance.

The following factors will be considered in establishing the experience/performance rating (keyed to the performance section of the questionnaire):

1. Present and prior sureties – When contacted, the following questions will be asked of the Surety(ies):

What is the largest contract this contractor has had bonded through this surety? $______________

Comments:

________________________________________________________________________
________________________________________________________________________
________________________________________________________________________

Has the contractor ever been suspended, dismissed or declared in default from a project? (If during the last two years, include in Disqualification section #3 below and comment here.)

Comments:

________________________________________________________________________
________________________________________________________________________
________________________________________________________________________

2. Size of project contractor can undertake - the contractor’s and bonding company’s response to the question concerning size of project the contractor is capable of performing will be considered to the extent that it may reduce the contractor’s financial rating to the lower figure given by the contractor or surety.

Comments:

________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
TOTAL POINTS: ___________________  CONFIDENTIAL PRIVILEGED INFORMATION

In order to Pre-qualify to bid on the Project, a Contractor must meet the minimum criteria for each of the following four (4) categories as set forth herein:

Part I: Essential Requirements;
Part II: Financial Capacity;
Part III: Performance/Experience; and
Part IV: Safety.

PART I. ESSENTIAL REQUIREMENTS.

Contractor is disqualified if the answer to any of questions 1 through 6, and 11 in this section is “No” or the answer to any of questions 7 through 10 in this section is “Yes.”

1. Contractor possesses a valid and current California Contractor’s license for the Project.
   ____________Yes ____________No

2. Contractor has a liability insurance policy with a policy limit of at least $2,000,000 per occurrence and $2,000,000 aggregate or has attached a letter from their insurer that such policy limits will be secured in the event that the Bidder is awarded the project for which it submits a bid.
   ____________Yes ____________No

3. Contractor has a current workers’ compensation insurance policy as required by the Labor Code or is legally self-insured pursuant to Labor Code section 3700 et. seq.
   ____________Yes ____________No ________________Contractor is exempt from this requirement, because it has no employees.

4. Have you attached your latest copy of an audited or reviewed financial statement with accompanying notes and supplemental information or completed the attached form of Financial Statement?
   ____________Yes ____________No

5. Have you attached a letter from an admitted surety insurer (approved by the California Department of Insurance, NOT by your agent or broker) authorized to issue bonds in the State of California, which states your current available bonding capacity?
   ____________Yes ____________No

6. Have you completed within the last 5 years, two or more public works projects of similar nature each with a contract sum of at least 80% of the engineer’s estimated cost?
   ____________Yes ____________No

Prequalification of Bidders
7. Have you defaulted on a contract that caused a surety to suffer a loss in the past five (5) years?
   Yes  No

8. Have you failed to complete one or more contracts in the past five (5) years?
   Yes  No

9. Have you failed to complete any SOCCCD contract due to default of the contractor (including any
   officers, shareholders, or principals of the firm regardless of how the license is held)?
   Yes  No

10. Have you declared bankruptcy or having been placed in receivership within the past three years?
    Yes  No

11. Contractor has an Experience Modification Rate (EMR) (California workers' compensation
    insurance) average for the past three premium years of 1.25 or less?
    Yes  No

List your firm’s Experience Modification Rate (EMR) (California’s workers’ compensation insurance) for each of the past three premium years: (Note: An Experience Modification Rate is issued to your firm annually by your workers’ compensation insurance carrier).

Current Year: 

Previous Year: 

Year prior to previous year: 

PART II. FINANCIAL CAPACITY.

The prospective bidder shall meet the FINANCIAL RATING requirements stipulated elsewhere in this document.

A Letter of Credit shall not be included in determining the working capital (current assets) of the contractor for the purposes of prequalification with the District.

PART III. PERFORMANCE/EXPERIENCE.

Contractor must receive a minimum of 65 points out of a possible 90 points in this section, or is disqualified.

1. How many years' experience in public works construction has your firm had? ________ years

5 to 10 years - 10 points
2 to 5 years - 5 points

Prequalification of Bidders

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2. Has a claim or other demand ever been made against your firm’s California Contractors License Bond? ___________ Yes __________ No
   - No: 5 points
   - Yes: 0 points

3. Has a complaint ever been filed against your firm’s California Contractors License with the California Contractors State License Board? ______________ Yes __________ No
   - No: 5 points
   - Yes: 0 points

4. Has your firm ever been unable to obtain a bond or been denied a bond for a contract? ___________ Yes __________ No
   If yes, list each occasion and explain on separate pages.
   - No: 5 points
   - Yes: 0 points

5. Has your firm ever refused to sign a contract awarded to it? ___________ Yes __________ No
   - No: 5 points
   - Yes: 0 points

6. Has your firm ever failed to complete a construction contract? ___________ Yes __________ No
   - No: 5 points
   - Yes: 0 points

7. Has your firm ever been declared in default of a construction contract? ___________ Yes __________ No
   - No: 5 points
   - Yes: 0 points

8. Has your firm ever failed to complete a public works contract within the authorized time? ___________ Yes __________ No
   - No: 5 points
   - Yes: 0 points

9. Has your firm ever been assessed for liquidated damages under a construction contract with either a public or private owner? ___________ Yes __________ No
   - No: 5 points

---

**Comment (A1):** We would recommend not removing. There are strategic times the contractor may choose to include in his bid and pay L/D’s rather because it is cheaper than the acceleration example. Needed to complete a project in 8 weeks and the L/D’s are $200/day. The nature of the work requires a large work force on 6 weekend days where the premium costs on Saturday and Sunday are greater than $2,000/day. The contractor may choose to pay the L/D’s if the cost difference is large enough.

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10. Has your firm ever been denied an award of a public works contract based upon a finding by a public agency that your firm was not a responsible bidder?  Yes  No

No - 5 points
Yes - 0 points

11. Has any claim against your firm concerning your firm's work on a construction project ever been filed in court or submitted to arbitration or mediation by either a public or private owner?  Yes  No. If yes, on how many occasions? 

No occasions - 10 points
1 or 2 occasions - 5 points
More than 2 occasions - 0 points

12. Has your firm ever made any claim against a public or private owner concerning work or payment on a construction project and filed that claim in court or submitted the claim to arbitration or mediation?  Yes  No. If yes, on how many occasions? 

No occasions - 10 points
1 or 2 occasions - 5 points
More than 2 occasions - 0 points

13. Has your firm or any owner, officer or principal (including Responsible Managing Officer/ Responsible Managing Employee) of your firm ever been found guilty of violating any federal, state or local law, rule or regulation regarding a construction contract? Yes  No

No - 5 points
Yes - 0 points

14. Has any surety made any payments on your firm's behalf to satisfy any claims made against a payment or performance bond issued on your firm's behalf in connection with a public or private construction project?  Yes  No. If yes, on how many occasions? 

No occasions - 10 points
1 occasion - 5 points
More than 1 occasion - 0 points

Comment [A2]: This requirement tells you who has a proprietary to file claims against the client.

Comment [A3]: This is different than Essential #7. Since #7 would be a loss suffered by the surety and this one would be a time when the surety fronted money for a claim and then later recovered it from the contractor.

END OF PAGE

Prequalification of Bidders
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PART IV. SAFETY

Contractor must receive a minimum of 38 points out of a possible 48 points in this section, or is disqualified.

1. Has CAL OSHA cited and assessed penalties against your firm for any "serious," "willful" or "repeat" violations of its safety or health regulations in the past five years? (Note: If you have filed an appeal of a citation and the Occupational Safety and Health Appeals Board has not yet ruled on your appeal, you need not include information about it.)

   Yes    No   Number of occasions: 

If the firm's average gross revenues for the last three years was less than $30 million, scoring is as follows:

   1 or less occasion - 5 points
   2 occasions - 3 points
   More than 2 occasions - 0 points

If the firm's average gross revenues for the last three years was more than $30 million, scoring is as follows:

   3 or less occasions - 5 points
   4 or more occasions - 3 points
   More than 5 occasions - 0 points

2. Has the federal Occupational Safety and Health Administration cited and assessed penalties against your firm in the past five years? (Note: If you have filed an appeal of a citation and the appropriate appeals Board has not yet ruled on your appeal, you need not include information about it.)

   Yes    No   Number of occasions: 

If the firm's average gross revenues for the last three years was less than $30 million, scoring is as follows:

   1 or less occasion - 5 points
   2 occasions - 3 points
   More than 2 occasions - 0 points

If the firm's average gross revenues for the last three years was more than $30 million, scoring is as follows:

   3 or less occasions - 5 points
   4 or more occasions - 3 points
   More than 5 occasions - 0 points
3. Has the EPA or any Air Quality Management District or any Regional Water Quality Control Board cited and assessed penalties against either your firm or the owner of a project on which your firm was the contractor in the past five years? (Note: If you have filed an appeal of a citation and the appropriate appeals Board has not yet ruled on your appeal, you need not include information about it.)

[Yes] [No] Number of occasions:

If the firm’s average gross revenues for the last three years was less than $30 million, scoring is as follows:

1 or less occasion - 5 points
2 occasions - 3 points
More than 2 occasions - 0 points

If the firm’s average gross revenues for the last three years was more than $30 million, scoring is as follows:

3 or less occasions - 5 points
4 or more occasions - 3 points
More than 5 occasions - 0 points

4. How often do you require documented safety meetings to be held for construction employees and field supervisors during the course of a project? _______________________/week

[Once a week or more often] 3 points
[Any other answer] 0 points

5. Within the last five years, has there ever been a period when your firm had employees but was without workers’ compensation insurance or state-approved self-insurance? [Yes] [No] Number of occasions: ________________________

1 or less occasion - 5 points
More than 1 occasion - 0 points

6. Has there been more than one occasion during the last five years in which your firm was required to pay either back wages or penalties for your own firm’s failure to comply with California’s prevailing wage laws? (Note: This question refers only to your own firm’s violation of prevailing wage laws, not to violations of the prevailing wage laws by a subcontractor.) [Yes] [No] Number of occasions: ________________________

If your firm’s average gross revenues for the last three years was less than $30 million, scoring is as follows:

0 or less occasions - 5 points
2 occasions - 3 points
More than 2 occasions - 0 points

Prequalification of Bidders
Question 6, continued:

If your firm’s average gross revenues for the last three years was more than $30 million, scoring is as follows:

- 3 or less occasions - 5 points
- 4 occasions - 3 points
- More than 4 occasions - 0 points

7. During the last five years, has there been more than one occasion in which your own firm has been penalized or required to pay back wages for failure to comply with the federal Davis-Bacon prevailing wage requirements?

[ ] Yes [ ] No Number of occasions:________________________

If your firm’s average gross revenues for the last three years was less than $30 million, scoring is as follows:

- 0 or less occasions - 5 points
- 2 occasions - 3 points
- More than 2 occasions - 0 points

If your firm’s average gross revenues for the last three years was more than $30 million, scoring is as follows:

- 3 or less occasions - 5 points
- 4 occasions - 3 points
- More than 4 occasions - 0 points

8. Provide the name, address and telephone number of the apprenticeship program sponsor(s) (approved by the California Division of Apprenticeship Standards) that will provide apprentices to your company for use on any public work project for which you are awarded a contract by the District.

________________________________________________________________________

________________________________________________________________________

If at least one approved apprenticeship program is listed - 5 points
Any other answer - 0 points

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9. If your firm operates its own State-approved apprenticeship program:

(a) Identify the craft or crafts in which your firm provided apprenticeship training in the past year.

(b) State the year in which each such apprenticeship program was approved, and attach evidence of the most recent California Apprenticeship Council approval(s) of your apprenticeship program(s).

(c) State the number of individuals who were employed by your firm as apprentices at any time during the past three years in each apprenticeship and the number of persons who, during the past three years, completed apprenticeships in each craft while employed by your firm.

If one or more persons completed an approved apprenticeship while employed by your firm - 5 points
If no persons completed an approved apprenticeship while employed by your firm - 0 points

10. At any time during the last five years, has your firm been found to have violated any provision of California apprenticeship laws or regulations, or the laws pertaining to use of apprentices on public works? (Note: You may omit reference to any incident that occurred prior to January 1, 1999 if the violation was by a subcontractor and your firm, as general contractor on a project, had no knowledge of the subcontractor’s violation at the time they occurred.)

________________________Yes ____________No ___________________Number of occasions: _______________________

If yes, provide the date(s) of such findings, and attach copies of the Department’s final decision(s).

If your firm’s average gross revenues for the last three years was less than $30 million, scoring is as follows:

2 or less occasions - 5 points
3 occasions - 3 points
More than 3 occasions - 0 points

If your firm’s average gross revenues for the last three years was more than $30 million, scoring is as follows:

4 or less occasions - 5 points
5 or 6 occasions - 3 points

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More than 6 occasions - 0 points
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ARTICLE 1. DEFINITIONS

(a) Action of the Governing Board is a vote of a majority of the members in a lawful meeting.

(b) Addenda are the changes in plans, specifications, drawings, and/or Project Documents which have been authorized in writing by the DISTRICT or ARCHITEC, and which alter, explain, or clarify the Project Documents prior to the bid deadline.

(c) Agents & Representatives includes all project participants holding contract with the DISTRICT other than the CONTRACTOR.

(d) Agreement includes collectively all Project Documents.

(e) Approval means written authorization by ARCHITEC or DISTRICT.

(f) CONTRACTOR or DISTRICT are those mentioned as such in the Agreement. They are treated throughout the Project Documents as if they are of singular number and neuter gender.

(g) DISTRICT is the Governing Board or its duly authorized representative.

(h) Locality in which the work is performed means the county and city in which the work is done.

(i) Project is the planned undertaking as provided for in the Project Documents by DISTRICT and CONTRACTOR.

(j) Project Documents includes collectively, to wit: Notice Calling for Bids, Information for Bidders, Bid Form, Bid Security, Designation of Subcontractor form, Information Required of Bidder, all prequalification forms submitted pursuant to Public Contract Code Section 20111.5, if any, Noncollusion Affidavit, Workers’ Compensation Certificate, Faithful Performance Bond, Payment Bond, Agreement, Escrow Agreement, Drug-Free Workplace Certification, Change Order forms, Shop Drawing Transmittals form, Insurance Certificates and Endorsements, Guarantee form, Contractor’s Certificate Regarding Non-Asbestos Containing Materials, General Conditions, Supplemental Conditions, if any, Special Conditions, if any, Drawings, Specifications, and all modifications, addenda and amendments thereto. The Project Documents are complementary, and what is called for by any one shall be as binding as if called for by all.
(k) **Provide** shall include "provide complete in place," that is, "furnish and install."

(l) **Safety Orders** are those issued by the Division of Industrial Safety and OSHA safety and health standards for construction.

(m) **Standards, Rules, and Regulations** referred to are recognized printed standards and shall be considered as one and a part of these specifications within limits specified.

(n) **Subcontractor**, as used herein, includes those having a direct contractual relationship with CONTRACTOR and one who furnishes material worked to a special design according to plans, drawings, and specifications, but does not include one who merely furnishes material not so worked.

(o) **Surety** is the person, firm, or corporation that executes as a California admitted surety insurer, the CONTRACTOR's Bid Security, faithful performance bond and payment bond.

(p) **Work** of the CONTRACTOR or subcontractor includes labor or materials (including, without limitation, equipment and appliances) or both, incorporated in, or to be incorporated in the Project.

(q) **Workers** includes laborer, worker, or mechanic.

**ARTICLE 2. STATUS OF CONTRACTOR**

(a) CONTRACTOR is and shall at all times be deemed to be an independent contractor and shall be wholly responsible for the manner in which it performs the services required of it by the terms of the Project Documents. Nothing herein contained shall be construed as creating the relationship of employer and employee, or principal and agent, between the DISTRICT and CONTRACTOR or any of CONTRACTOR's agents or employees. CONTRACTOR assumes exclusively the responsibility for the acts of its employees as they relate to the services to be provided during the course and scope of their employment. CONTRACTOR, its agents and employees shall not be entitled to any rights or privileges of DISTRICT employees and shall not be considered in any manner to be DISTRICT employees. DISTRICT shall be permitted to monitor the activities of the CONTRACTOR to determine compliance with the terms of the Project Documents.

(b) Contractors are required by law to be licensed and regulated by the Contractors' State License Board. Any CONTRACTOR not so licensed is subject to penalties under the law, and the contract will be considered void pursuant to Section 7028.7 of the Business and Professions Code. Any questions concerning a contractor may be referred to the Registrar, Contractors' State License Board, 9821 Business Park Drive, P. O. Box 26000, Sacramento, CA 95826.

**ARTICLE 3. CHANGE IN NAME AND NATURE OF CONTRACTOR'S LEGAL ENTITY**
Before CONTRACTOR makes any change in the name or legal nature of the CONTRACTOR's entity, CONTRACTOR shall first notify the DISTRICT in writing and cooperate with DISTRICT in making such changes as the DISTRICT may request in the Project Documents.

**ARTICLE 4. CONTRACTOR'S SUPERVISION, PROSECUTION AND PROGRESS**

(a) During progress of the work, CONTRACTOR shall keep on the work site a competent superintendent satisfactory to DISTRICT. Before commencing the work herein, CONTRACTOR shall give written notice to DISTRICT and ARCHITECT of the name, qualifications and experience of such superintendent. If Superintendent is found unsatisfactory by DISTRICT, CONTRACTOR shall replace the Superintendent with one acceptable to the DISTRICT. Superintendent shall not be changed except with written consent of DISTRICT, unless a superintendent proves to be unsatisfactory to CONTRACTOR and ceases to be in its employ, in which case, CONTRACTOR shall notify DISTRICT and ARCHITECT in writing and replace said Superintendent with one acceptable to the DISTRICT. Superintendent shall represent CONTRACTOR and all directions given to Superintendent shall be as binding as if given to CONTRACTOR.

(b) CONTRACTOR shall supervise and direct the work competently and efficiently, devoting such attention thereto and applying such skills as may be necessary to perform the work in accordance with the Project Documents. CONTRACTOR shall carefully study and compare all plans, drawings, specifications, and other instructions and shall at once report to ARCHITECT any error, inconsistency or omission which CONTRACTOR or its employees may discover. The CONTRACTOR represents itself to DISTRICT as a skilled, knowledgeable, and experienced CONTRACTOR. The CONTRACTOR shall carefully study and compare the Project Documents with each other, and shall at once report to the ARCHITECT any errors, inconsistencies, or omissions discovered. The CONTRACTOR shall be liable to the DISTRICT for damage resulting from errors, inconsistencies, or omissions in the Project Documents that the CONTRACTOR recognized and which CONTRACTOR knowingly failed to report and which a similarly skilled, knowledgeable, and experienced contractor would have discovered.

(c) The CONTRACTOR shall verify all indicated dimensions before ordering materials or equipment, or before performing work. The CONTRACTOR shall take field measurements, verify field conditions, and shall carefully compare such field measurements and conditions and other information known to the CONTRACTOR with the Project Documents before commencing work. Errors, inconsistencies or omissions discovered shall be reported to the DISTRICT at once. Upon commencement of any item of work, the CONTRACTOR shall be responsible for dimensions related to such item of work and shall make any corrections necessary to make work properly fit at no additional cost to DISTRICT. This responsibility for verification of dimensions is a non-delegable duty and may not be delegated to subcontractors or agents.

(d) Omissions from the plans, drawings or specifications, or the misdescription of details of work which are manifestly necessary to carry out the intent of the plans, drawings and specifications, or which are customarily performed, shall not relieve the CONTRACTOR from performing such omitted or misdescribed work, but they shall be performed as if fully and correctly set forth and described in the plans, drawings and specifications.
(e) The CONTRACTOR shall be solely responsible for the means, methods, techniques, sequences, and procedures of construction. The CONTRACTOR shall be responsible to see that the finished work complies accurately with the Project Documents.

(f) All construction equipment with a high noise generating potential, including all equipment powered by internal combustion engines, shall be muffled or controlled. All stationary noise generating equipment, such as compressors, shall be located as far as possible from existing classroom buildings. Machinery, including motors, shall be turned off when not in use; mobile equipment shall not be allowed to run idle near existing classroom buildings.

ARTICLE 5. SUBCONTRACTORS

(a) CONTRACTOR agrees to bind every subcontractor by terms of the Project Documents as far as such terms are applicable to subcontractor's work. If CONTRACTOR shall subcontract any part of the work, CONTRACTOR shall be as fully responsible to DISTRICT for acts and omissions of any subcontractor and of persons either directly or indirectly employed by any subcontractor, as it is for acts and omissions of persons directly employed by CONTRACTOR. Nothing contained in Project Documents shall create any contractual relation between any subcontractor and DISTRICT, nor shall the contract documents be construed to be for the benefit of any subcontractor.

(b) DISTRICT's consent to any subcontractor shall not in any way relieve CONTRACTOR of any obligations under the Project Documents and no such consent shall be deemed to waive any provision of any Project Document.

(c) CONTRACTOR must submit with its bid, a Designation of Subcontractors pursuant to the Subletting and Subcontracting Fair Practices Act. If CONTRACTOR specifies more than one subcontractor for the same portion of work or fails to specify a subcontractor, and such portion of the work exceeds one-half of one percent of the total bid, CONTRACTOR agrees that it is fully qualified to perform and shall perform such work itself, unless CONTRACTOR provides for substitution or addition of subcontractors. Substitution or addition of subcontractors shall be permitted only as authorized under the Subletting and Subcontracting Fair Practices Act, Public Contract Code Section 4100, et. seq.

(d) In accordance with Business and Professions Code Section 7059, if CONTRACTOR is designated as a "specialty contractor" (as defined in Section 7058 of the Public Contract Code), all of the work to be performed outside of the CONTRACTOR's license specialty shall be performed by a licensed subcontractor in compliance with the Subletting and Subcontracting Fair Practices Act, Public Contract Code Section 4100, et seq.

(e) A copy of each subcontract, if in writing, or, if not in writing, then a written statement signed by the CONTRACTOR giving the name of the subcontractor and the terms and conditions of such subcontract, shall be filed with the DISTRICT before the subcontractor begins work. Each subcontract shall contain a reference to the Agreement between the DISTRICT and the CONTRACTOR and the terms of that Agreement and all parts of the Project Documents shall be made a part of such subcontract insofar as applicable to the work covered.
thereby. Each subcontract will provide for termination in accordance with Article 13 of these General Conditions. Each subcontract shall provide for its annulment by the CONTRACTOR at the order of the ARCHITECT if in the ARCHITECT's opinion the subcontractor fails to comply with the requirements of the Project Documents insofar as the same may be applicable to this work. Nothing herein contained shall relieve the CONTRACTOR of any liability or obligation hereunder.

ARTICLE 6. PROHIBITED INTERESTS

No official of DISTRICT who is authorized in such capacity and on behalf of 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 any subcontract in connection with construction of the Project, shall become directly or indirectly interested financially in this Project or in any part thereof. No officer, employee, architect, attorney, engineer or inspector of or for DISTRICT who is authorized in such capacity and on behalf of DISTRICT to exercise any executive, supervisory or other similar functions in connection with construction of Project shall become directly or indirectly interested financially in this Project or in any part thereof. CONTRACTOR shall receive no compensation and shall repay DISTRICT for any compensation received by CONTRACTOR hereunder, should CONTRACTOR aid, abet or knowingly participate in violation of this Article 6.

ARTICLE 7. DISTRICT'S INSPECTOR

(a) One or more Inspector(s), including special inspectors, as required, will be employed by DISTRICT and will be assigned to the Project.

(b) No work shall be performed by the CONTRACTOR solely upon the instructions or comments by the Inspector. The Inspector has no authority to interpret the Project Documents or order extra work and any extra work performed without the written instruction of the DISTRICT shall be at CONTRACTOR’s sole cost and expense and there will be no delay damages incurred by DISTRICT for such work.

(c) No work shall be carried on except with the knowledge and under the inspection of said Inspector(s). He/she shall have free access to any or all parts of work at any time. CONTRACTOR shall furnish Inspector reasonable opportunities for obtaining such information as may be necessary to keep Inspector fully informed respecting progress and manner of work and character of materials. Inspection of work shall not relieve CONTRACTOR from any obligation to fulfill the Project Documents. Inspector or ARCHITECT shall have authority to stop work whenever provisions of Project Documents are not being complied with and such noncompliance is discovered. CONTRACTOR shall instruct its employees accordingly.

(d) CONTRACTOR understands and agrees that the Inspector for the Project may also serve concurrently as inspector for other DISTRICT projects and may not therefore be available on site during the entire work day. It shall be the responsibility of CONTRACTOR to notify the Inspector not less than twenty-four (24) hours in advance of materials and equipment deliveries and required inspections.


ARTICLE 8. ARCHITECT’S STATUS

(a) The ARCHITECT shall be the DISTRICT’s representative during construction and shall observe the progress and quality of the work on behalf of the DISTRICT. ARCHITECT shall have the authority to act on behalf of DISTRICT only to the extent expressly provided in the Project Documents. ARCHITECT shall have authority to stop work whenever such stoppage may be necessary in ARCHITECT’S reasonable opinion to ensure the proper execution of the Project Documents.

(b) The ARCHITECT shall be, in the first instance, the judge of the performance of the work. ARCHITECT shall exercise authority under the Project Documents to enforce CONTRACTOR’s faithful performance.

(c) The ARCHITECT shall have all authority and responsibility established by law. The ARCHITECT has the authority to enforce compliance with the Project Documents and the CONTRACTOR shall promptly comply with instructions from the ARCHITECT or an authorized representative of the ARCHITECT.

(d) On all questions related to the quantities, the acceptability of material, equipment or workmanship, the execution, progress or sequence of work, the interpretation of plans, specifications or drawings, and the acceptable performance of the CONTRACTOR pursuant to the decision of the ARCHITECT shall govern and shall be precedent to any payment unless otherwise ordered by the Governing Board. The progress and completion of the work shall not be impaired or delayed by virtue of any question or dispute arising out of or related to the foregoing matters and the instructions of the ARCHITECT relating thereto.

(e) General supervision and direction of the work by the ARCHITECT shall in no way imply that the ARCHITECT or his or her representatives are in any way responsible for the safety of the CONTRACTOR or its employees or that the ARCHITECT or his or her representatives will maintain supervision over the CONTRACTOR’s construction methods or personnel other than to ensure that the quality of the finished work is in accordance with the Project Documents.

ARTICLE 9. NOTICE OF TAXABLE POSSESSORY INTEREST

The terms of the Agreement may result in the creation of a possessory interest. If such a possessory interest is vested in a private party to the Agreement, the private party may be subjected to the payment of property taxes levied on such interest.

ARTICLE 10. ASSIGNMENT OF ANTITRUST ACTIONS

Public Contract Code Section 7103.5 provides:

In entering into a public works contract or a subcontract to supply goods, services, or materials pursuant to a public works contract, the contractor or subcontractor offers and agrees to assign to the awarding body (DISTRICT) all rights, title, and
interest in and to all causes of action it may have under Section 4 of the Clayton Act (15 U.S.C. Section 15) or under the Cartwright Act (Chapter 2 (commencing with Section 16700) of Part 2 of Division 7 of the Business and Professions Code), arising from purchases of goods, services, or materials pursuant to the public works contract or the subcontract. This assignment shall be made and become effective at the time the awarding body tenders final payment to the contractor, without further acknowledgment by the parties.

CONTRACTOR, for itself and all subcontractors, agrees to assign to DISTRICT all rights, title, and interest in and to all such causes of action CONTRACTOR and all subcontractors may have under the Agreement. This assignment shall become effective at the time DISTRICT tenders final payment to the CONTRACTOR and CONTRACTOR shall require assignments from all subcontractors to comply herewith.

ARTICLE 11. OTHER CONTRACTS

(a) DISTRICT reserves the right to let other contracts in connection with this work. CONTRACTOR shall afford other contractors reasonable opportunity for introduction and storage of their materials and execution of their work and shall properly connect and coordinate its work with such other contractors.

(b) If any part of CONTRACTOR’s work depends for proper execution or results upon work of any other contractor, the CONTRACTOR shall inspect and promptly report to ARCHITECT in writing any defects in such work that render it unsuitable for such proper execution and results. CONTRACTOR will be held accountable for damages to DISTRICT for that work which it failed to inspect or should have inspected. CONTRACTOR’s failure to inspect and report shall constitute its acceptance of other contractor’s work as fit and proper for reception of its work, except as to defects which may develop in other contractors’ work after execution of CONTRACTOR’s work.

(c) To ensure proper execution of its subsequent work, CONTRACTOR shall measure and inspect work already in place and shall at once report to the ARCHITECT in writing any discrepancy between executed work and Project Documents.

(d) CONTRACTOR shall ascertain to its own satisfaction the scope of the Project and nature of any other contracts that have been or may be awarded by DISTRICT in prosecution of the Project to the end that CONTRACTOR may perform this Agreement in the light of such other contracts, if any.

(e) Nothing herein contained shall be interpreted as granting to CONTRACTOR exclusive occupancy at site of Project. CONTRACTOR shall not cause any unnecessary hindrance or delay to any other contractor working on Project. If simultaneous execution of any contract for Project is likely to cause interference with performance of some other contract or contracts, DISTRICT shall decide which contractor shall cease work temporarily and which contractor shall continue or whether work can be coordinated so that contractors may proceed simultaneously.
(f) DISTRICT shall not be responsible for any damages suffered or extra costs incurred by CONTRACTOR resulting directly or indirectly from award or performance or attempted performance of any other contract or contracts on Project, or caused by any decision or omission of DISTRICT respecting the order of precedence in performance of contracts.

ARTICLE 12. OCCUPANCY

DISTRICT reserves the right to occupy buildings and/or portions of the site at any time before completion, and such occupancy shall not constitute final acceptance of any part of work covered by this Agreement, nor shall such occupancy extend the date specified for completion of the work. Beneficial occupancy of building(s) does not commence any warranty period nor shall it entitle CONTRACTOR to any additional compensation due to such occupancy.

ARTICLE 13. DISTRICT’S RIGHT TO TERMINATE AGREEMENT

(a) **Termination for Cause.** If the CONTRACTOR refuses or fails to complete the work or any separable part thereof with such diligence as will insure its completion within the time specified or any extension thereof, or fails to complete said work within such time, or if the CONTRACTOR should file a petition for relief as a debtor, or should relief be ordered against CONTRACTOR as a debtor under Title 11 of the United States Code, or if CONTRACTOR should make a general assignment for the benefit of its creditors, or if a receiver should be appointed on account of its insolvency, or if it should refuse or should fail to supply enough properly skilled workers or proper equipment, tools, and materials in the necessary quantity and quality to complete the work in the time specified, or if CONTRACTOR should fail to make prompt payment to subcontractors for materials or labor, or disregard laws or ordinances or instructions of DISTRICT, or if CONTRACTOR or its subcontractors should otherwise be guilty of a violation of any provision of this Agreement, then CONTRACTOR shall be deemed to be in default of the Agreement and DISTRICT may, without prejudice to any other right or remedy, serve written notice upon CONTRACTOR and its surety of DISTRICT’s intention to terminate this Agreement, such notice to contain the reasons for such intention to terminate, and unless within ten (10) calendar days after the service of such notice such condition shall cease or such violation shall cease, or arrangements satisfactory to DISTRICT for the correction thereof be made and corrective action commenced in a diligent and workmanlike manner and pursued to satisfactory completion, this Agreement shall upon the expiration of said ten (10) calendar days, cease and terminate. In such case, CONTRACTOR shall be excluded from the worksite and not be entitled to receive any further payment until work is finished to DISTRICT’s satisfaction.

(b) In the event of any such termination, surety shall have the right to take over and perform this Agreement, provided, however, that if surety within five (5) calendar days after service upon it of said notice of termination does not give DISTRICT written notice of its intention to take over and perform this Agreement or does not commence performance thereof within ten (10) calendar days after date of serving such notice of termination by DISTRICT on surety, DISTRICT may take over the work and prosecute same to completion by any means determined by DISTRICT including hiring another contractor for the account and at the expense of CONTRACTOR, and CONTRACTOR and its surety shall be liable to DISTRICT for any excess cost or other damages occasioned by the DISTRICT thereby. Time is of the essence in this Agreement. If the DISTRICT takes over the work as hereinabove provided, the DISTRICT may, without liability for so doing, take possession.
of and utilize in completing the work such materials, supplies, equipment and other property belonging to the CONTRACTOR as may be on the site of the work and necessary therefore.

(c) The expense of finishing the work, including compensation for additional architectural, managerial, and administrative services, shall be a charge against CONTRACTOR and CONTRACTOR agrees that the charge may be deducted from any money due or becoming due to CONTRACTOR from DISTRICT or CONTRACTOR shall pay the charge to the DISTRICT. Expense incurred by DISTRICT as herein provided, and damage incurred through CONTRACTOR’s default, shall be certified to DISTRICT by ARCHITECT. The surety shall become liable for payment should CONTRACTOR fail to pay in full any cost incurred by the DISTRICT.

(d) Nonappropriation of Funds/Insufficient Funds. In the event that sufficient funds are not appropriated to complete the Project or the DISTRICT determines that sufficient funds are not available to complete the Project, DISTRICT may terminate or suspend the completion of the Project at any time by giving written notice to the CONTRACTOR. In the event that the DISTRICT exercises this option, the DISTRICT shall pay for any and all work and materials completed or delivered onto the site, and the value of any and all work then in progress and orders actually placed which cannot be canceled up to the date of notice of termination. The value of work and materials paid for shall include a factor of fifteen percent (15%) for the CONTRACTOR’s overhead and profit and there shall be no other costs or expenses paid to CONTRACTOR. All work, materials and orders paid for pursuant to this provision shall become the property of the DISTRICT. DISTRICT may, without cause, order CONTRACTOR in writing to suspend, delay or interrupt the Project in whole or in part for such period of time as DISTRICT may determine. Adjustment shall be made for increases in the cost of performance of the Agreement caused by suspense, delay or interruption.

(e) The foregoing provisions are in addition to and not a limitation of any other rights or remedies available to the DISTRICT.

ARTICLE 14. BONDS

Unless otherwise specified in Special Conditions, CONTRACTOR shall furnish a surety bond in an amount equal to one hundred percent (100%) of contract price as security for faithful performance of this Agreement and shall furnish a separate bond in an amount of one hundred percent (100%) of the contract price as security for payment to persons performing labor and furnishing materials in connection with this Project. Bonds shall be in the form set forth in these Project Documents.

ARTICLE 15. SUBSTITUTION OF SECURITIES

(a) Pursuant to the requirements of Public Contract Code Section 22300, upon CONTRACTOR’s request, DISTRICT will make payment to CONTRACTOR of any earned retention funds withheld from payments under this Agreement if CONTRACTOR deposits with the DISTRICT or in escrow with a California or federally chartered bank acceptable to DISTRICT, securities eligible for the investment pursuant to Government Code Section 16430 or bank or savings and loan certificates of deposit, upon the following conditions:
(1) CONTRACTOR shall be the beneficial owner of any securities substituted for retention funds withheld and shall receive any interest thereon.

(2) All expenses relating to the substitution of securities under said Section 22300 and under this Article 15, including, but not limited to DISTRICT's overhead and administrative expenses, and expenses of escrow agent shall be the responsibility of the CONTRACTOR.

(3) If CONTRACTOR shall choose to enter into an escrow agreement, such agreement shall be in the form as set forth in Public Contract Code section 22300(f) attached hereto as part of the Project Documents and which shall allow for the conversion to cash to provide funds to meet defaults by the CONTRACTOR including, but not limited to, termination of the CONTRACTOR's control over the work, stop notices filed pursuant to law, assessment of liquidated damages or amount to be kept or retained under the provisions of the Project Documents.

(4) Securities, if any, shall be returned to CONTRACTOR only upon satisfactory completion of the Agreement.

(b) To minimize the expense caused by such substitution of securities, CONTRACTOR shall, prior to or at the time CONTRACTOR requests to substitute security, deposit sufficient security to cover the entire amount to be then withheld and to be withheld under the General Conditions of this Agreement. Should the value of such substituted security at any time fall below the amount for which it was substituted, or any other amount which the DISTRICT determines to withhold, CONTRACTOR shall immediately, and at CONTRACTOR's expense, deposit additional security qualifying under said Section 22300 until the total security deposited is no less than equivalent to the amount subject to withholding under the Agreement.

(c) In the alternative, under Section 22300, CONTRACTOR, at its own expense, may request DISTRICT to make payment of earned retention funds directly to the escrow agent. Also at the expense of CONTRACTOR, CONTRACTOR may direct investment of the payments into securities, and CONTRACTOR shall receive the interest earned on the investment upon the same conditions as shown in paragraph (a) for securities deposited by CONTRACTOR. Upon satisfactory completion of the Agreement, CONTRACTOR shall receive from the escrow agent all securities, interest and payments received by the escrow agent from DISTRICT, pursuant to the terms of Section 22300.

(d) If any provision of this Article 15 shall be found to be illegal or unenforceable, then, notwithstanding, this Article 15 shall remain in full force and effect, and such provision shall be deemed stricken.

ARTICLE 16. FIRE INSURANCE

CONTRACTOR will procure at CONTRACTOR's own expense, and before commencement of any work under this Agreement, fire insurance on the Project. Amount of fire insurance shall be sufficient to protect against loss or damage in full until work is accepted by DISTRICT. CONTRACTOR shall submit proof of insurance and shall provide endorsements on forms provided by the DISTRICT or on forms approved by the DISTRICT.
ARTICLE 17. PUBLIC LIABILITY AND PROPERTY DAMAGE INSURANCE

(a) CONTRACTOR shall take out and maintain during the life of this Agreement such public liability and property damage insurance as shall protect CONTRACTOR and DISTRICT from all claims for personal injury, including accidental death, to any person (including, as to DISTRICT, injury or death to CONTRACTOR's or subcontractor's employees), as well as from all claims for property damage arising from operations under this Agreement, in amounts as set forth in the Agreement.

(b) CONTRACTOR shall require its subcontractors, if any, to take out and maintain similar public liability and property damage insurance in like amounts or insure the activities of its subcontractors in CONTRACTOR's own policy.

(c) CONTRACTOR, during the progress of the work and until final acceptance of the work by DISTRICT upon completion of the entire Agreement, shall maintain Builder’s Risk/"All Risk," course-of-construction insurance in an amount not less than as set forth in the Agreement. Coverage is to provide extended coverage and insurance against vandalism, malicious mischief, perils of fire, sprinkler leakage, civil authority, sonic boom, earthquake, collapse, flood, wind, lightning, smoke, riot, debris removal (including demolition), and reasonable compensation for ARCHITECT's services and expenses required as a result of such insured loss upon the entire work which is the subject of the Project Documents, including completed work, work in progress to the full insurable amount thereof, and temporary field offices placed at the project site by the Contractor or District Consultants in conjunction with the Project. The risk of damage to the work due to the perils covered by the Builder’s Risk/"All Risk" Insurance, as well as any other hazards which might result in damage to the work, is that of CONTRACTOR and the surety, and no claims for such loss or damage shall be recognized by DISTRICT nor will such loss or damage excuse the complete and satisfactory performance of the Agreement by CONTRACTOR.

(d) CONTRACTOR shall submit proof of insurance and shall provide endorsements on the forms provided by the DISTRICT or on forms approved by the DISTRICT. Such insurance shall be issued by admitted surety insurers under the same conditions as required for bonds on the Project.

ARTICLE 18. WORKERS’ COMPENSATION INSURANCE

(a) In accordance with the provisions of Section 3700 of the Labor Code, the CONTRACTOR and every subcontractor shall be required to secure the payment of compensation to its employees.

(b) The CONTRACTOR shall provide, during the life of the Agreement, workers' compensation insurance for all of its employees engaged in work under this Agreement, on or at the site of the Project, and, in case any of its work is sublet, the CONTRACTOR shall require the subcontractor similarly to provide workers' compensation insurance for all the latter's employees. Any class of employee or employees not covered by a subcontractor's insurance shall be covered by the CONTRACTOR's insurance. In case any class of employees engaged in work under this Agreement, on or at the site of the Project, is not protected under the workers' compensation statute, the CONTRACTOR shall provide or shall cause a subcontractor to provide, adequate insurance coverage for the protection of such employees not otherwise protected before subcontractor...
commences work. The CONTRACTOR shall file with the DISTRICT certificates of its insurance protecting workers and a thirty (30) day notice shall be provided to DISTRICT before the cancellation or reduction of any policy of CONTRACTOR or subcontractor. CONTRACTOR shall submit proof of insurance and shall provide endorsements on the forms provided by the DISTRICT or on forms approved by the DISTRICT. Such endorsements shall be submitted concurrently with the Project Documents.

ARTICLE 19. PROOF OF CARRIAGE OF INSURANCE

(a) CONTRACTOR shall not commence work nor shall it allow any subcontractor to commence work under this Agreement until all required insurance certificates and endorsements from admitted surety insurers have been obtained and delivered in duplicate to and approved by DISTRICT. Such insurance shall be issued by admitted surety insurers under the same conditions as required for bonds on the Project. CONTRACTOR shall provide proof of insurance on DISTRICT approved forms without revisions.

(b) Certificates and insurance policies shall include the following:

(1) A clause stating:

"This policy shall not be canceled or reduced in required limits of liability or amount of insurance until notice has been mailed to DISTRICT stating date of cancellation or reduction. Date of cancellation or reduction may not be less than thirty (30) days after date of mailing notice."

(2) Language stating in particular those insured, extent of insurance, location and operation to which insurance applies, expiration date, to whom cancellation and reduction notice will be sent, and length of notice period.

(3) Statement that the DISTRICT is an additional insured under the policy described and that such insurance policy shall be primary to any insurance or self-insurance maintained by the DISTRICT.

(c) In case of CONTRACTOR's failure to provide insurance as required by the Agreement, the DISTRICT may, at DISTRICT's option, take out and maintain at the expense of the CONTRACTOR, such insurance in the name of CONTRACTOR, or subcontractor, as the DISTRICT may deem proper and may deduct the cost of taking out and maintaining such insurance from any sums which are due or to become due to the CONTRACTOR under this Agreement.

ARTICLE 20. DRAWINGS AND SPECIFICATIONS

(a) Drawings and Specifications are intended to delineate and describe the Project and its component parts to such a degree as will enable skilled and competent contractors to intelligently bid upon the work, and to carry said work to a successful conclusion.
(b) Drawings and Specifications are intended to comply with all laws, ordinances, rules and regulations of constituted authorities having jurisdiction, and where referred to in the Project Documents, said laws, ordinances, rules and regulations shall be considered as a part of the Agreement within the limits specified. The CONTRACTOR shall bear all expenses of correcting work done contrary to said laws, ordinances, rules and regulations and if the CONTRACTOR performed same (1) without first consulting the ARCHITECT for further instructions regarding said work, or (2) disregarded the ARCHITECT'S instructions regarding said work.

(c) Questions regarding interpretation of drawings and specifications shall be clarified by the ARCHITECT. Before commencing any portion of the work, CONTRACTOR shall carefully examine all drawings and specifications and other information given to CONTRACTOR. CONTRACTOR shall immediately notify ARCHITECT and DISTRICT in writing of any perceived or alleged error, inconsistency, ambiguity, or lack of detail or explanation in the drawings and specifications. If CONTRACTOR or its subcontractors, material or equipment suppliers, or any of their officers, agents, and employees performs, permits, or causes the performance of any work under the Project Documents, which it knows or should have known to be in error, inconsistent, or ambiguous, or not sufficiently detailed or explained, CONTRACTOR shall bear any and all costs arising therefrom including, without limitation, the cost of correction thereof. In the event ARCHITECT determines that CONTRACTOR's requests for clarification or interpretation are not justified or do not reflect adequate competent supervision or knowledge by the CONTRACTOR or his/her subcontractors, CONTRACTOR shall be required to pay ARCHITECT's reasonable and customary fees in processing and responding to such requests. Should the CONTRACTOR commence work or any part thereof without seeking clarification, CONTRACTOR waives any claim for extra work or damages as a result of any ambiguity, conflict or lack of information.

(d) Figured dimensions on drawings shall govern, but work not dimensioned shall be as directed. Work not particularly shown or specified shall be the same as similar parts that are shown or specified. Large-scale drawings shall take precedence over smaller scale drawings as to shape and details of construction. Specifications shall govern as to materials, workmanship, and installation procedures. Drawings and specifications are intended to be fully cooperative and to agree. If CONTRACTOR observes that drawings and specifications are in conflict, CONTRACTOR shall promptly notify the ARCHITECT in writing, and any necessary changes shall be adjusted as provided in the Article entitled "Changes and Extra Work," provided, however, that the specification calling for the higher quality material or workmanship shall prevail without additional cost to DISTRICT.

(e) Materials or work described in words which so applied has a well-known technical or trade meaning shall be deemed to refer to such recognized standards.

(f) It is not the intention of the Agreement to go into detailed descriptions of any materials and/or methods commonly known to the trade under "trade name" or "trade term." The mere mention or notation of such "trade name" or "trade term" shall be considered a sufficient notice to CONTRACTOR that it will be required to complete the work so named with all its incidental and accessory items according to the best practices of the trade.
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(g) The naming of any material and/or equipment shall mean furnishing and installing of same, including all incidental and accessory items thereto and/or labor necessary to achieve full and complete functioning of the material and/or equipment as per best practices of the trade(s) involved, unless specifically noted otherwise.

(h) ARCHITECT will furnish to CONTRACTOR one (1) complete set of blue-line prints for posting of changes. Additional blue-line prints shall be provided by ARCHITECT upon payment by CONTRACTOR. During the construction period, CONTRACTOR shall maintain the set of blue-line prints in a satisfactory record condition, and shall thoroughly and neatly post, as they occur, all additions, deletions, corrections and/or revisions in the actual construction of the Project. The record drawings must be posted monthly and be current prior to each submission of each certificate of payment.

ARTICLE 21. OWNERSHIP OF DRAWINGS

All plans, drawings, designs, specifications, and other incidental architectural and engineering work or materials and other Project Documents and copies thereof furnished by DISTRICT are DISTRICT's property. They are not to be used in other work and are to be returned to DISTRICT on request at completion of work, and may be used by DISTRICT as it may require, without any additional costs to DISTRICT.

ARTICLE 22. DETAIL DRAWINGS AND INSTRUCTIONS

(a) 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 work. All such drawings and instructions shall be consistent with Project Documents, true developments thereof, and reasonably inferable therefrom. Such additional instructions shall be furnished with reasonable promptness, provided that CONTRACTOR informs the ARCHITECT of the relationship of the request to the critical path of construction.

(b) Work shall be executed in conformity therewith and CONTRACTOR shall do no work without proper drawings and instructions.

(c) The ARCHITECT will furnish necessary additional details to more fully explain the work, which details shall be considered as part of the Project Documents.

(d) Should any details be more elaborate, in the opinion of the CONTRACTOR, than scale drawings and specifications warrant, CONTRACTOR shall give written notice thereof to the ARCHITECT within five (5) days of the receipt of same. In case no notice is given to the ARCHITECT within five (5) days, it will be assumed the details are reasonable development of the scale drawings. In case notice is given, then it will be considered, and if found justified, the ARCHITECT will either modify the drawings or shall recommend to DISTRICT a change order for the extra work involved.

(e) All parts of the described and shown construction shall be of the best quality of their respective kinds and the CONTRACTOR is hereby advised to use all diligence to become fully involved as to the required construction and finish, and in no case to proceed with the different parts of the work without obtaining first
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from the ARCHITECT such directions and/or drawings as may be necessary for the proper performance of the work.

(f) If it is found at any time, before or after completion of the work, that the CONTRACTOR has varied from the drawings and/or specifications, in materials, quality, form or finish, or in the amount or value of the materials and labor used, the ARCHITECT shall make a recommendation: (1) that all such improper work should be removed, remade and replaced, and all work disturbed by these changes be made good at the CONTRACTOR's expense; or (2) that the DISTRICT deduct from any amount due CONTRACTOR, the sum of money equivalent to the difference in value between the work performed and that called for by the drawings and specifications. ARCHITECT shall determine such difference in value. The DISTRICT, at its option, may pursue either recommendation made by the ARCHITECT.

ARTICLE 23. SHOP DRAWINGS

(a) CONTRACTOR shall check and verify all field measurements and shall submit to ARCHITECT, with sufficient advance time, six (6) copies, checked and approved by CONTRACTOR, of all shop or setting list drawings, schedules, and materials list required for the work of various trades. ARCHITECT shall review such drawings, schedules and materials list only for conformance with design concept of Project and compliance with information given in Project Documents, and return as approved or disapproved with guidance as to required corrections within fourteen (14) calendar days (and more than 14 calendar days for complex reviews). CONTRACTOR shall make any corrections required by ARCHITECT, file three (3) corrected copies with ARCHITECT, and furnish such other copies as may be needed for construction within fourteen (14) calendar days. ARCHITECT's approval of such drawings, schedules, or materials list shall not relieve CONTRACTOR from responsibility for deviations unless CONTRACTOR has in writing called ARCHITECT'S attention to such deviations at time of submission and secured ARCHITECT'S written approval, nor shall it relieve CONTRACTOR from responsibility for errors in shop drawings or schedules.

(b) All submittals of shop drawings, catalog cuts, data sheets, schedules and material lists shall be complete and shall conform to contract drawings and specifications.

(c) The term "shop drawing" as used herein shall be understood to include, but not be limited to, detail design calculations, fabrication and installation drawings, lists, graphs and operating instructions.

(d) Shop drawings shall be submitted at a time sufficiently early to allow review of same by the Division of State Architect (DSA) if required, and the ARCHITECT, and to accommodate the rate of construction progress required under the Project Documents. CONTRACTOR will be required to pay ARCHITECT'S reasonable and customary fees in order to expedite review of shop drawings which are not submitted in a timely fashion.

(e) All shop drawing submittals shall be accompanied by an accurately completed transmittal form using the format bound herein. Any shop drawing submittal not accompanied by such a form, or where all applicable items on the form are not completed, will be returned for re-submittal. The CONTRACTOR may authorize a material or equipment supplier to deal directly with the ARCHITECT with regard to shop drawings, however,
ultimate responsibility for the accuracy and completeness of the information contained in the submittal shall remain with the CONTRACTOR.

(f) Normally, a separate transmittal form shall be used for each specific item or class of material or equipment for which a submittal is required. Transmittal of shop drawings on various items using a single transmittal form will be permitted only when the items taken together constitute a manufacturer's "package" or are so functionally related that expediency indicates review of the group or package as a whole. At its option, the CONTRACTOR or Supplier may obtain from the ARCHITECT quantities of the shop drawing transmittal form at reproduction cost.

(g) CONTRACTOR's review and approval of shop drawings shall include the following stamp:

"The CONTRACTOR has reviewed and approved not only the field dimensions but the construction criteria and has also made written notation regarding any information in the shop drawings that does not conform to the Project Documents. This shop drawing has been coordinated with all other shop drawings received to date by CONTRACTOR and this duty of coordination has not been delegated to subcontractors, material suppliers, the ARCHITECT, or the engineers on this project.

______________________________
Signature of CONTRACTOR"

(h) Within fourteen (14) calendar days after receipt of shop drawings, the ARCHITECT will return one or more prints of each drawing to CONTRACTOR with his or her comments noted thereon. The CONTRACTOR shall make a complete and acceptable submittal to the ARCHITECT by the second submission of drawings. The DISTRICT shall withhold funds due the CONTRACTOR to cover additional costs of the ARCHITECT'S review beyond the second submission and any other costs incurred by DISTRICT.

(i) If prints of the shop drawing are returned to the CONTRACTOR marked "NO EXCEPTIONS TAKEN," formal revision of said drawing will not be required. If prints of the drawing are returned to the CONTRACTOR marked "MAKE CORRECTIONS NOTED," formal re-submittal of said drawings will not be required. If prints of the drawing are returned to the CONTRACTOR marked "REVISE AND RESUBMIT," the CONTRACTOR shall revise said drawing and shall resubmit six (6) copies of the revised drawing to the ARCHITECT. If prints of the drawing are returned to the CONTRACTOR marked "REJECTED RESUBMIT," the CONTRACTOR shall resubmit six (6) new copies of the drawing to the ARCHITECT.

(j) Fabrication of an item shall not be commenced before the ARCHITECT has reviewed the pertinent shop drawings and returned copies to the CONTRACTOR marked with "NO EXCEPTIONS TAKEN," or "MAKE CORRECTIONS NOTED." Revisions indicated on shop drawings shall be considered as changes necessary to meet the requirements of the Project Documents and shall not be taken as the basis of claims for
extra work. The review of such drawings by the ARCHITECT will be limited to checking for general agreement with the Project Documents, and shall in no way relieve the CONTRACTOR of responsibility for errors or omissions contained therein, nor shall such review operate to waive or modify any provision contained in the Project Documents. Fabricating dimensions, quantities of material, applicable code requirements, and other contract requirements shall be the CONTRACTOR's responsibility.

(k) No work represented by required shop drawings shall be purchased or commenced until the applicable submittal has been approved. The work shall conform to the approved shop drawings and all other requirements of the Project Documents. The CONTRACTOR shall not proceed with any related work which may be affected by the work covered under shop drawings until the applicable shop drawings have been approved, particularly where piping, machinery, and equipment and the required arrangements and clearances are involved.

(l) Except where the preparation of a shop drawing is dependent upon the approval of a prior shop drawing, all shop drawings pertaining to the same class or portion of the work shall be submitted simultaneously.

(m) Calculations of a structural nature must be approved by the Division of State Architect.

(n) The CONTRACTOR shall have no claim for damages or extensions of time due to any delay resulting from the contract having to make the required revisions to shop drawings unless review by the ARCHITECT of said drawings is delayed beyond the time provided herein before and the contractor can establish that the ARCHITECT's delay in review actually resulted in a delay in the CONTRACTOR construction schedule. CONTRACTOR shall not be entitled to any claim for damages resulting from DSA review extending beyond fifteen calendar days after submittal. However, DISTRICT may consider an extension of time due to any delay caused by DSA review.

ARTICLE 24. LAYOUT AND FIELD ENGINEERING

(a) Within fourteen (14) days after the date for commencement of the Work as set forth in the Notice to Proceed, the Contractor shall complete a review at the Site under the direction of the DISTRICT and ARCHITECT to verify that the Construction Documents are 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.

(b) In the course of conducting the review provided for in this Paragraph, the CONTRACTOR shall maintain a written log or other documentation of comments, recommendations or other notations generated in the course of its review, and all such materials with a copy provided to the DISTRICT for review.

(c) Upon completion of the review set forth in this Paragraph, CONTRACTOR shall execute and deliver to the DISTRICT a Site Verification Certification.

(d) The failure of the CONTRACTOR to execute and deliver the Site Verification Certification to the DISTRICT no later than fourteen (14) calendar days after the date for commencement of the Work
as set forth in the Notice to Proceed may be deemed acceptance of the site and contract documents as being adequate, feasible, and complete.

(e) All field engineering if required for laying out of work and establishing grades for earthwork operations shall be furnished by CONTRACTOR at its expense. Such work shall be done by a qualified civil engineer approved by the DISTRICT.

**ARTICLE 25. SOILS INVESTIGATION REPORT**

(a) When a soils investigation report has been obtained from test holes at the site, such report is available for the CONTRACTOR’S use for work under this Agreement. Such report shall not be part of the Agreement. Any information obtained from such report or any information given on the project documents as to surface and subsurface soil condition or to elevations of existing grades or elevations of underlying rock is approximate only, is not guaranteed and does not form a part of the Agreement. CONTRACTOR is required to make a visual examination of site and must make whatever test CONTRACTOR deems appropriate to determine surface and subsurface soil conditions. If, during the course of work under this Agreement, CONTRACTOR encounters subsurface or latent conditions which differ materially from those indicated in the soils investigation report, then CONTRACTOR shall notify the DISTRICT within five (5) working days of discovery of the condition.

**WARNING:** DISTRICT does not warrant the soils at the project site nor any information contained in any soils report. Soils investigation report is provided for CONTRACTOR’S information only. CONTRACTOR must conduct an independent investigation of the project site and the soils conditions of the site. DISTRICT does not warrant the soils conditions of the site and CONTRACTOR is fully responsible to ascertain site conditions for the purposes of determining construction means and methods prior to commencing construction.

(b) CONTRACTOR agrees that no claim against DISTRICT will be made by CONTRACTOR for damages and hereby waives any rights to damages in the event that during progress of work CONTRACTOR encounters subsurface or latent conditions at the worksite materially different from those shown on project documents.

**ARTICLE 26. TESTS AND INSPECTIONS**

(a) Tests and inspections will comply with California Code of Regulations and with all other laws, ordinances, rules, regulations, or orders of public authorities having jurisdiction over the Project.

(b) Within twenty-one (21) calendar days after the date of award of the Contract, the CONTRACTOR, the DISTRICT, and the ARCHITECT shall meet and confer to establish, by mutual agreement, the specific tests/inspections to be conducted by or on behalf of the DISTRICT and to establish limits on costs incurred by the DISTRICT to complete such test/inspections. If mutual agreement is not reached as to tests/inspections to be completed by or on behalf of the DISTRICT or the limitations on the DISTRICT’s costs to complete such tests/inspections, the ARCHITECT shall issue a final binding determination. The CONTRACTOR shall be responsible for all costs of tests/inspections exceeding those established pursuant to the forgoing.
(c) If the Agreement, DISTRICT's instructions, laws, ordinances, or any public authority require any work to be specially tested or approved, CONTRACTOR shall give notice in accordance with such authority of its readiness for observation or inspection at least two (2) working days prior to being tested or covered up. If inspection is by authority other than DISTRICT, CONTRACTOR shall inform the DISTRICT's Inspector of the date fixed for such inspection. Required certificates of inspection shall be secured by CONTRACTOR. Observations by DISTRICT's Inspector shall be promptly made, and where practicable, at source of supply. If any work should be covered up without approval or consent of DISTRICT's Inspector, it must be uncovered for examination and satisfactorily reconstructed at CONTRACTOR's expense in compliance with the Agreement. Costs of tests, inspections and any materials found to be not in compliance with the Agreement shall be paid for by CONTRACTOR. Other costs for test and inspection shall be paid by the DISTRICT.

ARTICLE 27. TRENCHES

(a) CONTRACTOR shall provide adequate sheeting, shoring, and bracing, or equivalent method, for the protection of life and limb in trenches and open excavation, which conform to applicable safety standards.

(b) If this Agreement involves the excavation of any trench or trenches five (5) feet or more in depth, and the Project cost is in excess of $25,000, the CONTRACTOR shall, in advance of excavation, submit to the DISTRICT for acceptance or to whomever DISTRICT designates which may include a registered civil or structural engineer employed by the DISTRICT to whom authority to accept has been delegated, a detailed plan showing the design of shoring, bracing, sloping or other provisions to be made for worker protection from the hazard of caving ground during the excavation of such trench or trenches. If such plan varies from the Shoring System Standards established by the Construction Safety Orders of the Division of Industrial Safety, the plan shall be prepared by a registered civil or structural engineer employed by the CONTRACTOR, and all costs therefore shall be included in the price named in the Agreement for completion of the work as set forth in the Project Documents. In no case shall such plan be less effective than that required by the Construction Safety Orders. No excavation of such trench or trenches shall be commenced until said plan has been accepted by CAL-OSHA and a CAL-OSHA permit for such plan delivered to the DISTRICT. Labor Code Section 6500 and 6705; Health and Safety Code Section 17922.5)

(c) If this Agreement involves the digging of trenches or excavations that extend deeper than four feet below the surface, the following shall apply pursuant to Public Contract Code section 7104:

(1) The CONTRACTOR shall promptly, and before the following conditions are disturbed, notify the DISTRICT, in writing, of any:

(i) Material that the CONTRACTOR believes may be material that is hazardous waste, as defined in Section 25117 of the Health and Safety Code that is required to be removed to a Class I, Class II, or Class III disposal site in accordance with provisions of existing law.

(ii) Subsurface or latent physical conditions at the site different from those indicated.
(iii) Unknown physical conditions at the site of any unusual nature, different materially from those ordinarily encountered and generally recognized as inherent in work of the character provided for in the contract.

(2) The DISTRICT shall promptly investigate the conditions, and if it finds that the conditions do materially so differ, or do involve hazardous waste, and cause a decrease or increase in the CONTRACTOR’s cost of, or the time required for, performance of any part of the work shall issue a change order under the procedures described in the Project Documents.

(3) In the event a dispute arises between the DISTRICT and the CONTRACTOR, whether the conditions materially differ or involve hazardous waste, or cause a decrease or increase in the CONTRACTOR’s cost of, or time required for, performance of any part of the work, the CONTRACTOR shall not be excused from any scheduled completion date provided for by the Project Documents, but shall proceed with all the work to be performed under the Project Documents. The CONTRACTOR shall retain any and all rights provided either by contract or by law which pertain to the resolution of disputes and protests between the contracting parties.

ARTICLE 28. DOCUMENTS ON WORK

CONTRACTOR shall keep on the job site at all times one legible copy of all Project Documents, including addenda and change orders, and all approved drawings, plans, schedules and specifications. Said Documents shall be kept in good order and available to ARCHITECT, ARCHITECT’s representatives, and all authorities having jurisdiction. CONTRACTOR shall be acquainted with and comply with all California Code of Regulations provisions relating to conditions on this Project.

ARTICLE 29. STATE AUDIT

Pursuant to and in accordance with the provisions of Government Code Section 8546.7, or any amendments thereto, all books, records and files of the DISTRICT, the CONTRACTOR, or any subcontractor connected with the performance of this Agreement involving the expenditure of public funds in excess of Ten Thousand Dollars ($10,000.00), including, but not limited to, the costs of administration of the Agreement, shall be subject to the examination and audit of the State Auditor at the request of the DISTRICT or as part of any audit of the DISTRICT for a period of three (3) years after final payment is made under this Agreement.

ARTICLE 30. SUBSTITUTIONS

(a) Prior to Bid Opening. Should the bidder wish to request prior to bid opening, any substitution for the materials, process, service or equipment specified, the bidder shall submit a written request at least ten (10) working days before the bid opening date and hour. If the substituted item is acceptable, the DISTRICT will approve it in an Addendum issued to all bidders of record. Requests received less than ten (10) working days prior to bid opening will not be considered. DISTRICT shall only consider substitution requests from the bidder submitting the bid for the project.
(b) **After Bid Opening and Prior to Award of Contract.** If the bidder clearly indicates in its bid that it is proposing to use an “equal” product, the brand name or trade name, if any, of a proposed substitute item shall be inserted in the spaces provided on the **SUBSTITUTION REQUEST FORM.** Any submittal provided after the aforementioned deadline will not be considered. If the bidder fails to indicate an “equal” product, its bid shall be considered as offering the material, process, service or equipment referred to by the brand name or trade name specified. It is expressly understood and agreed to by the bidder that the DISTRICT reserves the right to reject any such proposed substituted item. It is further expressly understood and agreed by bidder that in the event the DISTRICT rejects a proposed “equal” item, the bidder will then supply the material; process, service or equipment designated by brand name or trade name or a substitute therefore which meets with the approval of the DISTRICT.

The **SUBSTITUTION REQUEST FORM.** Requests for substitutions of products, materials, or processes in place of a Specified Item must in writing on the District’s Substitution Request Form (“Request Form”) at the time of submitting bids to the District. The **SUBSTITUTION REQUEST FORM** must be accompanied by evidence as to whether the proposed substitution:

1. Is equal in quality/service/ability to the Specified Item;
2. Will entail no changes in detail, construction, and scheduling of related work;
3. Will be acceptable in consideration of the required design and artistic effect;
4. Will provide no cost disadvantage to the District;
5. Will require no excessive or more expensive maintenance, including adequacy and availability of replacement parts; and
6. Will required no change of the construction schedule.

In completing the **SUBSTITUTION REQUEST FORM,** the bidder must state, with respect to each requested substitution, whether the bidder will agree to provide the Specified Item in the event that the District denies the bidder’s request for such requested substitution. In the event that the bidder has agreed in the Request Form to provide the Specified Item and the District denies the bidder’s requested substitution for a Specified Item, the bidder shall provide the Specified Item without any additional cost or charge to the District.

With respect to all proposed substitutions of “equal” items, the bidder shall submit all pertinent and appropriate data substantiating its request for substitutions within fifteen (15) days prior to the award of the contract. DISTRICT shall only consider substitution requests from the bidder submitting the bid for the Project. The DISTRICT is not responsible for locating or securing any information which is not included in such substantiating data. The burden of proof as to the quality or suitability of proposed substituted items shall be borne by the bidder. The DISTRICT shall be the sole judge as to the quality and suitability of proposed substituted items, and decisions of the DISTRICT shall be final and conclusive. Unless extended by the mutual agreement of the parties, the DISTRICT shall notify the successful bidder of the decision concerning the proposed substitution of “equal” items prior to the award of the contract. Also such decisions by the DISTRICT shall be in writing, and no proposed substituted item shall be deemed approved unless the DISTRICT has so indicated in writing. These time limitations shall be complied with strictly, and in no case will an extension of time for completion be granted because of the bidder’s failure to request the substitution of an item at the times and in the manner set forth herein.

(c) **Whenever in specifications any materials, process, service or equipment is indicated or specified by brand name, trade name, proprietary name or by name of manufacturer, such specification shall be deemed to be**
used for the purpose of facilitating description of material, process, service or equipment desired and shall be
deemed to be followed by the words "or equal," and CONTRACTOR may, unless otherwise stated, offer any
material, process, service, or equipment which shall be substantially equal or better in every respect to that so
indicated or specified subject to DISTRICT or ARCHITECT approval.

(d) If material, process, service, or equipment offered by CONTRACTOR is not, in opinion of
ARCHITECT, or DISTRICT, substantially equal or better in every respect to that specified, then
CONTRACTOR shall furnish the material, process, service, or equipment specified. Burden of proof as to
equality of any material, process, service, or equipment shall rest with CONTRACTOR. Provision authorizing
submission of "or equal" substantiating data shall not in any way authorize an extension of time for performance
of this Agreement.

(e) In the event CONTRACTOR furnishes material, process, service or equipment other than what was
specified by the DISTRICT and which has been accepted by the DISTRICT and which later is defective, then
CONTRACTOR at its sole cost and expense shall furnish the DISTRICT specified material, process, service or
equipment or fully replace with new the defective material process, service or equipment at DISTRICT’s
discretion.

(f) In the event CONTRACTOR furnishes material, process service, or equipment more expensive than
that specified, difference in cost of such material, process, service, or equipment so furnished shall be borne by
CONTRACTOR. Any engineering, design fees, or approval agencies’ fees required to make adjustments in
material or work of all trades directly or indirectly affected by the approved substituted items shall be borne
entirely by CONTRACTOR. Any difference in cost between an approved substitution which is lower in cost
than the originally specified item shall be refunded or credited by CONTRACTOR to DISTRICT.

(g) Price, fitness and quality being equal with regard to supplies, the District may prefer supplies grown,
manufactured, or produced in California and next prefer supplies partially manufactured grown, or produced in
California provided the bids of said suppliers or the prices quoted by them do not exceed by more than 5% of
the lowest bids/prices quoted by out of state suppliers, the major portion of the manufacture of the supplies is
not done outside of California and the public good will be served thereby. (Government Code section 4330-
4334)

ARTICLE 31. SAMPLES

(a) CONTRACTOR shall furnish for approval, within thirty-five (35) calendar days following award of
contract, all samples as required in specifications together with catalogs and supporting data required by
ARCHITECT. This provision shall not authorize any extension of time for performance of the work.
ARCHITECT shall review such samples, as to conformance with design concept of work and for compliance
with information given in Project Documents and approve or disapprove same within ten (10) working days
from receipt of same.

(b) Unless specified otherwise, sampling, preparation of samples and tests shall be in accordance with the
(c) Samples shall, upon demand of ARCHITECT or DISTRICT, be submitted for tests or examinations and considered before incorporation of same into the work. CONTRACTOR shall be solely responsible for delays due to samples not being submitted in time to allow for tests. Acceptance or rejection will be expressed in writing. Work shall be equal to approved samples in every respect. Samples which are of value after testing will remain the property of the CONTRACTOR.

**ARTICLE 32. PROGRESS SCHEDULE**

(a) Within five (5) calendar days after Board approval of contract, CONTRACTOR shall submit a preliminary schedule that describes the work sequence planned in the first 30 days of construction. Within 21 calendar days following Board approval of contract, CONTRACTOR shall prepare and submit for DISTRICT’s acceptance the Initial Construction Schedule. The schedule shall indicate the beginning and completion dates of all phases of construction and shall use the "critical path method" (commonly called CPM) or equivalent scheduling methodology for the value reporting, planning and scheduling, of all work required under the Project Documents. The schedule will separately identify those milestones or events that must be completed before other portions of the work can be accomplished.

(b) The scheduling is necessary for the DISTRICT’s adequate monitoring of the progress of the work and shall be prepared in accordance with the time frame described in Article 4 of the Agreement. The DISTRICT may reject such a schedule and require modification to it if, in the opinion of the ARCHITECT or DISTRICT, adherence to the progress schedule will cause the work not to be completed in accordance with the Agreement. CONTRACTOR shall adhere to any such modifications required by the DISTRICT.

(c) CONTRACTOR will exchange scheduling information with subcontractors and suppliers. CONTRACTOR will order work, equipment and materials with sufficient lead time to avoid interruption of the work.

(d) The CONTRACTOR shall submit to DISTRICT a monthly schedule to reflect the actual sequence of the work which shall be totally separate and apart from the original progress schedule.

(e) The CONTRACTOR shall also, if requested by the ARCHITECT or DISTRICT, provide revised schedules within ten (10) calendar days if, at any time, the ARCHITECT or DISTRICT, consider the completion date to be in jeopardy. The revised schedule shall be designed to show how the CONTRACTOR intends to accomplish the work to meet the original completion date. The form and method employed by the CONTRACTOR shall be the same as for the original progress schedule. The CONTRACTOR shall modify any portions of the schedule that become infeasible because of "activities behind schedule" or for any other valid reason. CONTRACTOR will provide documents and justification for any schedule changes. An activity that cannot be completed by its original completion date shall be deemed to be behind schedule.

(f) CONTRACTOR shall submit a revised schedule within ten (10) consecutive calendar days of CONTRACTOR’s request for any extension of time. Failure to submit such schedule will result in CONTRACTOR waiving his/her right to obtain any extension of time.
(g) It is agreed that the DISTRICT owns the "float" on this project. If CONTRACTOR submits a revised schedule showing an earlier completion date for the project, DISTRICT's acceptance of this revised schedule shall not entitle CONTRACTOR to any delay claim or disruption damages or any other damages due to any such revised schedule. Nothing provided herein shall be construed as a direct indirect or implicit acceleration order to the CONTRACTOR.

(h) CONTRACTOR agrees that failure to timely submit the progress schedule, the monthly schedule or any revised progress schedule requested by the ARCHITECT or the DISTRICT may result in delay in payment to CONTRACTOR.

(i) In addition to the requirement to update the baseline schedule, CONTRACTOR is responsible to provide a four week rolling schedule at each progress meeting. This Schedule will include activities that are 1 week behind the Data Date and 3 weeks ahead of the Data Date. The Data Date shall be the date of the progress meeting. Schedule shall include information for all trades on-site. Schedule will identify any work that is proposed outside the regular working hours.

ARTICLE 33. TIME ALLOWANCES

(a) DISTRICT will serve a Notice to Proceed upon Contractor by hand delivery, facsimile, email or delivery to Contractor at legal address.

(b) Start date for Contract Times shall be on the date indicated in the Notice to Proceed. If no date is indicated, then the start date for contract time shall be the 5th calendar day from date that Contractor receives DISTRICT's written Notice to Proceed, unless the Notice to Proceed is served by mail only, then the Start Date under the Contract shall be the tenth (10th) calendar day following the date of mailing. The Contractor shall commence work on such day, and shall prosecute the Work diligently to completion thereafter. No work shall commence before contract bonds and insurance certificates have been filed with the DISTRICT and the contract has been signed by the DISTRICT.

(c) CHANGE OF CONTRACT TIMES

(1) The contract times may only be changed by change order or written amendment and time is of this essence in this Agreement.

(2) The Contract Times will be adjusted in an amount equal to the time lost as shown on a critical path schedule due to the following:

(i) Changes in the Work ordered by DISTRICT;

(ii) Acts or neglect by DISTRICT's consultants, acts or neglect of utility districts, acts or neglect of other Contractors performing other Work, provided Contractor has fully and completely
performed its responsibilities under the Contract Documents, including but not limited to, its cooperation and coordination responsibilities required by the Contract Documents;

Fires, floods, abnormal weather conditions, earthquakes, civil disturbances, or acts of God, provided damage resulting from same is not the result of Contractor's failure to properly protect the Work as required by the Contract Documents. Notwithstanding the foregoing, the contract times shall not be extended unless Contractor has actually been prevented from completing any part of the Work within the contract time due to delay which is (i) beyond the control of Contractor and (ii) due to reasons for which Contractor is not responsible and (iii) a claim for delay is made as provided for herein. Delays attributable to and within the control of a Subcontractor, or its subcontractors, or supplier shall be deemed to be delays within the control of Contractor.

Contractor shall have no right to an adjustment in the time of completion due to weather conditions which are normal for the locality of the site. The time period for completion of the project has been determined with consideration given to the average climatic range prevailing in the locality of the site.

(3) Where Contractor is prevented from completing any part of the Work within the contract due to delay beyond the control of both DISTRICT and Contractor, an extension of contract times in an amount equal to the time loss due to such delay shall be the Contractor's sole and exclusive remedy for such delay. DISTRICT shall not be liable to Contractor, any Subcontractor, any supplier, or any other person or organization, or to any surety for or employee or agent of any of them, for damages arising out of or resulting from (i) delays caused by or within the control of Contractor, or (ii) delays beyond the control of both parties including but not limited to fires, floods, epidemics, abnormal weather conditions, acts of God or acts or neglect by utility districts.

(4) Delays due to adverse weather conditions will not be allowed for weather conditions which do not directly impact the performance of the critical path. Whenever the Contractor has undertaken an exterior critical path activity which is directly impacted by adverse weather conditions, the Contractor shall immediately notify the DISTRICT of the potential delay to such activity. The DISTRICT shall inspect the site, meet with the Contractor and confirm that the exterior critical path activity is impacted and grant an extension of the Contract Times sufficient to allow the Contractor to perform the impacted activity.

(5) If delays acceptable for evaluation 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.

(6) Delay in completion of the Work beyond the expiration of the contract time resulting from causes other than those listed as acceptable for evaluation are considered inexcusable delays and shall not entitle the Contractor to an extension of the contract time or an adjustment of the Contract amount.
If an inexcusable delay occurs concurrently with acceptable delays for evaluation, the maximum extension of the Contract Time shall be the number of days, if any, by which the duration of a delay exceeds the inexcusable delay. The duration of concurrence is non-compensable.

(d) NOTICE OF DELAY

(1) Notice shall constitute application for extension of time only if notice requests extension and sets forth the impact of the delay on the critical path and Contractor's estimate of additional time required together with full recital of causes of unavoidable delays relied upon.

(2) After receipt of a request for a time extension, with verifiable documents and justifications included, DISTRICT will make decision thereon, and will advise Contractor in writing.

(3) No time extensions shall be considered without related documents and justifications necessary for DISTRICT to make determination.

(4) No time extensions shall be granted for delays for which Contractor fails to give timely notice and Contractor hereby waives any and all damages for delay for which timely notice is not given.

(5) Any request for extension of time shall be accompanied by the claimant's written statement that the adjustment claimed is the entire adjustment to which the claimant is entitled as a result of the occurrence of said event. All claims and adjustments in the contract times shall be determined by DISTRICT. No claim for an adjustment in the contract times will be valid and such claim will be waived if not submitted in accordance with the requirements of this paragraph.

(6) The Contractor's failure to perform in accordance with the construction schedule shall not be excused because the Contractor has submitted time extension requests, unless and until such requests are approved by DISTRICT.

(e) NO DAMAGE FOR CONTRACTOR CAUSED DELAY

Contractor shall not be entitled to any compensation, including but not limited to extended field or home office overhead, field supervision, costs of capital, interest, escalation charges, acceleration costs or other impacts for any delays caused in whole or in part by Contractor's failure to perform its obligations under this Contract, or during periods of delay concurrently caused by Contractor and either DISTRICT or others. Contractor may be compensated for delays caused directly and solely by DISTRICT except that Contractor shall not be entitled to damages for delay to the Work caused by the following reasons:

(1) DISTRICT's right to sequence Work in manner which would avoid disruption to the DISTRICT's tenants and their contractors or other prime contractors and their respective subcontractors, exercised
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as a result of Contractor's failure to perform its cooperation and coordination responsibilities required by this Contract;

(2) DISTRICT's enforcement of government act or regulation, or the provisions of the Contract Documents; and

(3) Extensive requests for clarifications to construction documents or modifications to contract, provided such clarifications or modifications are processed by DISTRICT or its consultants in a reasonable time commensurate with provisions of Contract requirements.

(f) EXTENSION OF TIME DOES NOT WAIVE DISTRICT'S RIGHTS

Granting of time extension for any reason shall in no way operate as waiver on part of DISTRICT, of right to collect liquidated damages for other delays or of right to collect other damages or other rights to which DISTRICT is entitled.

ARTICLE 34. MATERIALS AND WORK

(a) Except as otherwise specifically stated in this Agreement, CONTRACTOR shall provide and pay for all materials, supplies, tools, equipment, labor transportation, superintendence, temporary constructions of every nature, and all other services and facilities of every nature whatsoever necessary to execute and complete the Project within specified time.

(b) Unless otherwise specified, all materials shall be new and the best of their respective kinds and grades as noted or specified, and workmanship shall be of good quality.

(c) Materials shall be furnished in ample quantities and at such times as to insure uninterrupted progress of work and shall be stored properly and protected as required. DISTRICT has no obligation to pay for any prefabricated material stored offsite until delivered and installed to the jobsite and inspected and approved by the inspector of record.

(d) CONTRACTOR shall, after issuance of the Notice to Proceed by DISTRICT, place orders for materials and/or equipment as specified so that delivery of same may be made without delays to the work. CONTRACTOR shall, upon demand from the ARCHITECT, furnish to the ARCHITECT documentary evidence showing that orders have been placed.

(e) DISTRICT reserves the right, for any neglect in not complying with the above instructions, to place orders for such materials and/or equipment as it may deem advisable in order that the work may be completed at the date specified in the Agreement, and all expenses incidental to the procuring of said materials and/or equipment shall be paid for by the CONTRACTOR.
(f) No materials, supplies, or equipment for work under this Agreement shall be purchased subject to any chattel mortgage or under a conditional sale or other agreement by which an interest therein or in 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 premises, together with all improvements and appurtenances constructed or placed thereon by it, to DISTRICT free from any claims, liens, or charges. CONTRACTOR further agrees that neither it nor any person, firm, or corporation furnishing any materials or labor for any work covered by this Agreement shall have any right to lien upon premises or any improvement or appurtenance thereon, except that CONTRACTOR may install metering devices or other equipment of utility companies or of political subdivisions, title to which is commonly retained by utility company or political subdivision. In the event of installation of any such metering device or equipment, CONTRACTOR shall advise DISTRICT as to owner thereof.

(g) Nothing contained in this Article 33, however, shall defeat or impair the rights of persons furnishing material or labor under any bond given by CONTRACTOR for their protection or any rights under any law permitting such persons to look to funds due CONTRACTOR in hand of DISTRICT, and this provision shall be inserted in all subcontracts and material contracts and notice of its provisions shall be given to all persons furnishing materials or labor when no formal contract is entered into for such materials or labor.

(h) The title to new materials and/or equipment and attendant liability for its protection and safety, shall remain in the CONTRACTOR until incorporated in the work and accepted by the DISTRICT; no part of said materials and/or equipment shall be removed from its place of onsite/offsite storage except for immediate installation in the work; and CONTRACTOR shall keep an accurate inventory of all said materials and/or equipment in a manner satisfactory to the DISTRICT or its authorized representative.

ARTICLE 35. INTEGRATION OF WORK

(a) CONTRACTOR shall do all cutting, fitting, patching, and preparation of work as required to make its several parts come together properly, and fit it to receive or be received by work of other contractors or existing conditions showing upon, or reasonably implied by, the drawings and specifications, and shall follow all directions given by the Architect.

(b) All costs caused by defective or ill-timed work shall be borne by CONTRACTOR.

(c) CONTRACTOR shall not endanger any work by cutting, excavating, or otherwise altering work and shall not cut or alter work of any other contractor without the written consent of the ARCHITECT. CONTRACTOR shall be solely responsible for protecting existing work on adjacent properties and shall obtain all required permits for shoring and excavations near property lines.

(d) When modifying existing work or installing new work adjacent to existing work, CONTRACTOR shall match, as closely as conditions of site and materials will allow, the finishes, textures, and colors of the original work, refinishing existing work as required, at no additional cost to DISTRICT.
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(e) CONTRACTOR is aware that this Project may be split into several phases. If the Project is split into phases then CONTRACTOR has made allowances for any delays or damages which may arise from coordination with contractors for other phases. If any delays should arise from a contractor working on a different phase, CONTRACTOR's sole remedy for damages, including delay damages, shall be against the contractor who caused such damage and not the DISTRICT. CONTRACTOR shall provide access to contractors for other phases as necessary to prevent delays and damages to contractors working on other phases of construction.

ARTICLE 36. OBTAINING OF PERMITS, LICENSES AND EASEMENTS

(a) Permits, licenses, and certificates necessary for prosecution of work, shall be secured and paid for by CONTRACTOR, unless otherwise specified. All such permits, licenses, and certificates shall be delivered to the ARCHITECT before demand is made for the certificate of final payment. CONTRACTOR shall, and shall require subcontractors to, maintain contractors' licenses in effect as required by law.

(b) Easements for permanent structures or permanent changes in existing facilities shall be secured and paid for by DISTRICT, unless otherwise specified.

(c) Permits and charges for installation, and inspection thereof, of utility services by serving utilities shall be secured and paid for by DISTRICT.

ARTICLE 37. SURVEYS

Surveys to determine location of property lines and corners will be supplied by DISTRICT. Surveys to determine locations of construction, grading, and site work, shall be provided by CONTRACTOR.

ARTICLE 38. EXISTING UTILITY LINES; REMOVAL, RESTORATION

(a) Pursuant to Government Code Section 4215, the DISTRICT assumes the responsibility for removal, relocation, and protection of utilities located on the construction site at the time of commencement of construction under this Agreement with respect to any such utility facilities which are not identified in the plans and specifications. The CONTRACTOR shall not be assessed for liquidated damages for delay in completion of the Project caused by failure of the DISTRICT to provide for removal or relocation of such utility facilities. If the CONTRACTOR, while performing work under this Agreement, discovers utility facilities not identified by the DISTRICT in the plans or specifications, CONTRACTOR shall immediately notify the DISTRICT and the utility in writing. CONTRACTOR shall be compensated according to the provisions governing changes in the work.

(b) This Article 37 shall not be construed to preclude assessment against the CONTRACTOR for any other delays in completion of the work. Nothing in this Article 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
construction site can be inferred from the presence of other visible facilities, such as buildings, meter junction boxes, on or adjacent to the site of the construction.

(c) As part of the work to be performed, CONTRACTOR shall provide the notices and proceed in accordance with Government Code Sections 4216.2, 4216.3 and 4216.4, and pay all fees charged pursuant to Government Code Section 4216, et seq.

ARTICLE 39. WORK TO COMPLY WITH APPLICABLE LAWS AND REGULATIONS

(a) CONTRACTOR shall give all notices and comply with all laws, ordinances, rules, and regulations applicable to the work as indicated and specified.

(b) If CONTRACTOR observes that drawings or specifications are at variance therewith, CONTRACTOR shall promptly notify ARCHITECT in writing and any changes deemed necessary by the ARCHITECT shall be adjusted as provided for changes in work. If CONTRACTOR performs any work which it knew, or through exercise of reasonable care should have known, to be contrary to such laws, ordinances, rules or regulations, and without such notice to ARCHITECT, CONTRACTOR shall bear all costs arising therefrom. Where plans, drawings or specifications state that materials, processes, or procedures must be approved by the Division of State Architect, State Fire Marshall, or other body or agency, CONTRACTOR shall be responsible for satisfying requirements of such bodies or agencies.

ARTICLE 40. ACCESS TO WORK

(a) DISTRICT and its representatives shall at all times have access to work wherever it is in preparation or progress. CONTRACTOR shall provide safe and proper facilities for such access so that DISTRICT’s representatives may perform their functions.

(b) CONTRACTOR to maintain appropriate, safe and adequate access and egress of the building project area under construction as well as all surrounding buildings in and around the area of construction at all times except as otherwise allowed by the Agreement.

ARTICLE 41. PAYMENTS BY CONTRACTOR

CONTRACTOR shall pay:

(1) For all transportation and utility services not later than the 20th day of the calendar month following that in which such services are rendered;

(2) For all materials, tools, and other expendable equipment to the extent of ninety percent (90%) of cost thereof, not later than the 20th day of the calendar month following that in which such materials, tools, and equipment are delivered at site of Project and balance of cost thereof not later
than the 30th day following completion of that part of work in or on which such materials, tools, and equipment are incorporated or used; and

(3) To each of its subcontractors, not later than the 5th day following each payment to CONTRACTOR the respective amounts allowed CONTRACTOR on account of work performed by respective subcontractor to the extent of such subcontractor's interest therein.

(4) Within seven (7) days from the time that all or any portion of the retentions are received by CONTRACTOR from DISTRICT, to each of its subcontractors from whom retention has been withheld, each subcontractor's share of the retention received. However, if a retention payment received by CONTRACTOR is specifically designated for a particular subcontractor, payment of the retention shall be made to the designated subcontractor, if the payment is consistent with the terms of the subcontract. CONTRACTOR may withhold from a subcontractor its portion of the retentions if a bona fide dispute exists between the subcontractor and the CONTRACTOR. The amount withheld from the retention shall not exceed one hundred fifty percent (150%) of the estimated value of the disputed amount.

**ARTICLE 42. FIELD OFFICE**

(a) The CONTRACTOR shall provide within its construction trailer or separate facilities on site, a conference room, table, and chairs that will accommodate 12 persons, a telephone with speaker phone capabilities and an updated, current set of Contract Documents.

(b) The CONTRACTOR shall provide for the exclusive use of Inspector a temporary field office of not less than 96 square feet of floor area (8' x 12') to be located as directed by Inspector and to be maintained until removal is authorized by DISTRICT. Office shall be of substantial waterproof construction with adequate natural light and ventilation by means of stock design windows. Door shall have a key-type lock or padlock hasp. A table satisfactory for study of plans and two chairs shall be provided by CONTRACTOR. CONTRACTOR shall provide and pay for adequate electric lights, telephone service (not a pay phone), and adequate heat for the field office until authorized removal.

**ARTICLE 43. UTILITIES**

(a) All utilities, including but not limited to electricity, water, gas, and telephone used on work shall be furnished and paid for by CONTRACTOR. CONTRACTOR shall furnish and install necessary temporary distribution systems, including meters, if necessary, from distribution points to points on site where utility is necessary to carry on the work. When it is necessary to interrupt any existing utility service to make connections, a minimum of forty-eight (48) hours advance notice shall be given to the DISTRICT and ARCHITECT. Interruptions in utility services shall be of the shortest possible duration for the work at hand and shall be approved by the DISTRICT and the ARCHITECT. In the event any utility service is interrupted without the required forty-eight (48) hours notice, then CONTRACTOR shall be liable for all damage suffered by DISTRICT due to the interruption. Upon completion of work, CONTRACTOR shall remove all temporary distribution systems.
(b) CONTRACTOR may, with written permission of DISTRICT, use DISTRICT’s existing utilities by making prearranged payments to DISTRICT for utilities used by CONTRACTOR for the Project.

**ARTICLE 44. SANITARY FACILITIES**

The CONTRACTOR shall provide sanitary temporary toilet and wash facilities in no fewer numbers than required by law and such additional facilities as may be directed by the Inspector for the use of all workers. The toilet facilities shall be maintained in a sanitary condition at all times and shall be left at the site until removal is directed by the Inspector. Use of toilet and wash facilities in the work under construction shall not be permitted.

**ARTICLE 45. CLEANING UP**

(a) CONTRACTOR at all times shall keep work site free from debris such as waste, rubbish, and excess materials and equipment caused by this work. CONTRACTOR shall not leave debris under, in, or about the work site, but shall promptly remove same.

(b) The CONTRACTOR shall provide site dust control at intervals sufficient to prevent contamination outside the site and shall clean up all construction-related dirt and debris from pavement and sidewalks to and from the site daily. A street sweeper shall be used if deemed necessary by the DISTRICT.

(c) The CONTRACTOR shall provide dumpsters as needed. At the completion of the CONTRACTOR’s Work, the CONTRACTOR shall leave the project clean as defined by the project documents, all debris placed in dumpsters, all dumpsters lawfully removed offsite, and all storage bins/materials removed from the Project Site.

(d) Upon completion of work, CONTRACTOR shall clean interior and/or exterior of building project, including fixtures, equipment, walls, floors, ceilings, roofs, window sills and ledges, horizontal projections, and any areas where debris has collected. CONTRACTOR shall clean and polish all glass, plumbing fixtures, and finish hardware and similar finish surfaces and equipment and remove temporary fencing, barricades, planking, sanitary facilities and similar temporary facilities from site. If CONTRACTOR fails to clean up, the DISTRICT shall do so and the cost thereof shall be charged to the CONTRACTOR and deducted from any progress payment due.

**ARTICLE 46. PATENTS, ROYALTIES, AND INDEMNITIES**

The CONTRACTOR shall hold and save the DISTRICT and its governing board, officers, agents, and employees harmless from liability of any nature or kind, including cost and expense, for or on account of any patented or unpatented invention, process, article, or appliance manufactured or used in the performance of this Agreement, including its use by the DISTRICT, unless otherwise specifically provided in the Project Documents, and unless such liability arises from the sole negligence, or active negligence, or willful misconduct of the DISTRICT.
ARTICLE 47. GUARANTEE

(a) CONTRACTOR warrants that the work (which includes any equipment furnished by CONTRACTOR as part of the materials) shall: (a) be free from defects in workmanship and material; (b) be free from defects in any design performed by CONTRACTOR; (c) be new, and conform and perform to the requirements stated in the specifications and where detail requirements are not so stated, shall conform to applicable industry standards; and (d) be suitable for the use stated in the specifications.

(b) The warranty period for discovery of defective work shall commence on the date stamped on the Notice of Completion verifying County recordation and continue for the period set forth in the specifications or for one year if not so specified. If, during the warranty period, the work is not available for use due to defective work, such time of unavailability shall not be counted as part of the warranty period. The warranty period for corrected defective work shall continue for a duration equivalent to the original warranty period.

(c) District shall give CONTRACTOR prompt written notice after discovery of any defective work. CONTRACTOR shall correct any such defective work, as well as any damage to any other part of the work resulting from such defective work, and provide repair, replacement, or reimbursement, at its sole expense, in a manner approved by the DISTRICT and with due diligence and dispatch as required to make the work ready for use by DISTRICT, ordinary wear and tear, unusual abuse or neglect excepted. Such corrections shall include, but not be limited to, any necessary adjustments, modifications, changes of design (unless of DISTRICT’s design), removal, repair, replacement or reinstallation, and shall include all necessary parts, materials, tools, equipment, transportation charges and labor as may be necessary, and cost of removal and replacement of work shall be performed at a time and in such a manner so as to minimize the disruption to DISTRICT’s use of the work.

(d) In the event of failure of CONTRACTOR or Surety to commence and pursue with diligence said repairs or replacements within ten (10) calendar days after being notified in writing, DISTRICT is hereby authorized to proceed to have defects repaired or replaced and made good at expense of CONTRACTOR and Surety who hereby agree to pay costs and charges therefore immediately on demand.

(e) If, in the opinion of the DISTRICT, defective work creates a dangerous condition or requires immediate correction or attention to prevent further loss to the DISTRICT or to prevent interruption of operations of the DISTRICT, the DISTRICT will attempt to give the written notice required by this Article. If the CONTRACTOR or Surety cannot be contacted or neither complies with the DISTRICT’s requirements for correction within a reasonable time as determined by the DISTRICT, the DISTRICT may, notwithstanding the provisions of this Article, proceed to make such correction or provide such attention and the costs of such correction or attention shall be charged against the CONTRACTOR and Surety. Such action by the DISTRICT will not relieve the CONTRACTOR and Surety of the guarantees provided in this Article or elsewhere in the Project Documents.

(f) This Article does not in any way limit the guarantees on any items for which a longer guarantee is specified or on any items for which a manufacturer gives a guarantee for a longer period. CONTRACTOR shall furnish to DISTRICT all appropriate guarantee or warranty certificates upon completion of the Project or upon request by DISTRICT.
(g) All guarantees required under this Article shall be in writing on the Guarantee form included in the Project Documents.

(h) CONTRACTOR shall provide to DISTRICT instruction manuals for all items which require same.

(i) Nothing herein shall limit any other rights or remedies available to DISTRICT.

(j) The DISTRICT may collect its reasonable costs and attorneys’ fees in any action to enforce this Article.

**ARTICLE 48. DUTY TO PROVIDE FIT WORKERS**

(a) CONTRACTOR and subcontractors shall at all times enforce strict discipline and good order among their employees and shall not employ on work any unfit person or anyone not skilled in work assigned to such person. It shall be the responsibility of CONTRACTOR to ensure compliance with this Article.

(b) Any person in the employ of the CONTRACTOR or subcontractors whom DISTRICT or ARCHITECT may deem incompetent, unfit, troublesome or otherwise undesirable shall be excluded from the work site and shall not again be employed on it except with written consent of DISTRICT.

(c) No unlawful activity is permitted at the Site. The sale, use, or consumption of alcoholic beverages is not permitted at the Site. The use of any tobacco products will be limited to designated areas of the site only and never inside any buildings.

**ARTICLE 49. WAGE RATES, TRAVEL AND SUBSISTENCE**

(a) Pursuant to the provisions of Article 2 (commencing at Section 1770), Chapter 1, Part 7, Division 2 of the Labor Code, the governing board of DISTRICT has obtained the general prevailing rate of per diem wages and the general prevailing rate for holiday and overtime work in the locality in which this public work is to be performed for each craft, classification or type of worker needed for this Project from the Director of the Department of Industrial Relations ("Director.") These rates are on file with the Clerk of the DISTRICT's governing board and copies will be made available to any interested party on request. CONTRACTOR shall post a copy of such wage rates at the work site. Labor Code Section 1773.2. The rates are available on the Internet at www.dir.ca.gov “Statistics & Research.”

(b) Holiday and overtime work, when permitted by law, shall be paid for at a rate of at least one and one-half times the above specified rate of per diem wages, unless otherwise specified. Holidays shall be defined in the Collective Bargaining Agreement applicable to each particular craft, classification or type of worker employed.
(c) CONTRACTOR shall pay and shall cause to be paid each worker engaged in work on the Project not less than the general prevailing rate of per diem wages determined by the Director, regardless of any contractual relationship which may be alleged to exist between the CONTRACTOR or any subcontractor and such workers.

(d) CONTRACTOR shall pay and shall cause to be paid to each worker needed to execute the work on the Project travel and subsistence payments, as such travel and subsistence payments are defined in the applicable collective bargaining agreements filed with the Department of Industrial Relations in accordance with Labor Code Section 1773.8.

(e) If during the period this bid is required to remain open, the Director of Industrial Relations determines that there has been a change in any prevailing rate of per diem wages in the locality in which this public work is to be performed, such change shall not alter the wage rates in the Notice Calling for Bids or the contract subsequently awarded.

(f) Pursuant to Labor Code Section 1775, CONTRACTOR shall as a penalty to the DISTRICT, forfeit fifty dollars ($50) for each calendar day, or portion thereof, for each worker paid less than the prevailing rate of per diem wages, determined by the Director, for such craft or classification in which such worker is employed for any public work done under the Agreement by CONTRACTOR or by any subcontractor under it. The amount of the penalty shall be determined by the Labor Commission and shall be based on consideration of the CONTRACTOR's mistake, inadvertence or neglect in failing to pay the correct prevailing rate of per diem wage, or the previous record of the CONTRACTOR in meeting his or her prevailing rate of per diem wage obligations, or the CONTRACTOR's willful failure to pay the correct prevailing rate of per diem wages. A mistake, inadvertence or neglect in failing to pay the correct prevailing rate of per diem wage is not excusable if the CONTRACTOR had knowledge of his or her obligations under this part. The difference between such prevailing rate of per diem wage and the amount paid to each worker for each calendar day or portion thereof for which each worker was paid less than the prevailing rate of per diem wage shall be paid to each worker by the CONTRACTOR.

(g) Any worker employed to perform work on the Project, which work is not covered by any craft or classification listed in the general prevailing rate of per diem wages determined by the Director shall be paid not less than the minimum rate of wages specified therein for the craft or classification which most nearly corresponds to work to be performed by them, and such minimum wage rate shall be retroactive to time of initial employment of such person in such craft or classification.

(h) Pursuant to Labor Code Section 1773.1, per diem wages are deemed to include employer payments for health and welfare, pension, vacation, travel time, and subsistence pay as provided for in Labor Code Section 1773.8.

(i) CONTRACTOR shall post at appropriate conspicuous points on the site of the Project, a schedule showing all determined minimum wage rates and all authorized deductions, if any, from unpaid wages actually earned.

(j) CONTRACTOR shall prepare Labor Compliance documents in accordance with the DISTRICT
ARTICLE 50. HOURS OF WORK

(a) As provided in Article 3, (commencing at Section 1810), Chapter 1, Part 7, Division 2 of the Labor Code, eight (8) hours of labor shall constitute a legal day's work. The time of service of any worker employed at any time by the CONTRACTOR or by any subcontractor on any subcontract under this Agreement upon the work or upon any part of the work contemplated by this Agreement shall be limited and restricted by the Agreement to eight (8) hours per day, and forty (40) hours during any one week, except as hereinafter provided. Notwithstanding the provisions hereinafore set forth, work performed by employees of CONTRACTOR in excess of eight (8) hours per day and forty (40) hours during any one week, shall be permitted upon this public work upon compensation for all hours worked in excess of eight (8) hours per day at not less than one and one-half times the basic rate of pay.

(b) The CONTRACTOR shall keep and shall cause each subcontractor to keep an accurate record showing the name of and actual hours worked each calendar day and each calendar week by each worker employed by CONTRACTOR in connection with the work or any part of the work contemplated by this Agreement. The record shall be kept open at all reasonable hours to the inspection of the DISTRICT and to the Division of Labor Standards Enforcement, Department of Industrial Relations.

(c) Pursuant to Labor Code Section 1813, the CONTRACTOR shall pay to the DISTRICT a penalty of Twenty-Five Dollars ($25) for each worker employed in the execution of this Contract by the CONTRACTOR or by any subcontractor for each calendar day during which such worker is required or permitted to work more than eight (8) hours in any one calendar day and 40 hours in any one calendar week in violation of the provisions of Article 3 (commencing at Section 1810), Chapter 1, Part 7, Division 2 of the Labor Code.

(d) Construction work on the Project shall be limited to the hours of 7:00 a.m. to 3:30 p.m. Monday through Friday, unless the written consent of the District is obtained to perform the Work on other days or at other times. Contractor is to provide a minimum of 48-hours notification to the District of intent to extend the standard hours of work.

(e) Any work necessary to be performed after regular working hours, or on Sundays or other holidays shall be performed without additional expense to DISTRICT.

ARTICLE 51. PAYROLL RECORDS

(a) Pursuant to the provisions of Labor Code Section 1776, the CONTRACTOR shall keep and shall cause each subcontractor performing any portion of the work under this Agreement to 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 journeyman, apprentice, worker, or other employee employed by CONTRACTOR in connection with the work.

(b) The payroll records enumerated under subdivision (a) shall be certified and shall be available for inspection at all reasonable hours at the principal office of the CONTRACTOR on the following basis:
(1) A certified copy of an employee's payroll record shall be made available for inspection or furnished to the employee or his or her authorized representative on request.

(2) A certified copy of all payroll records enumerated in subdivision (a) shall be made available for inspection or furnished upon request to a representative of the DISTRICT, the Division of Labor Standards Enforcement, and the Division of Apprenticeship Standards of the Department of Industrial Relations.

(3) A certified copy of all payroll records enumerated in subdivision (a) shall be made available for inspection upon request by the public 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 pursuant to paragraph (2), the requesting party shall, prior to being provided the records, reimburse the costs of preparation by the CONTRACTOR, subcontractors, and the entity through which the request was made. The public shall not be given access to the records at the principal office of the CONTRACTOR.

(4) The form of certification shall be as follows:

I, _______________ (Name-print), the undersigned, am _______________ (position in business) with the authority to act for and on behalf of

________________________________________________________________________

(Name of business and/or CONTRACTOR),
certify under penalty of perjury that the records or copies thereof submitted and consisting of

________________________________________________________________________

description, number of pages) are the originals or true, full and correct copies of the originals which depict the payroll record(s) of the actual disbursements by way of cash, check, or whatever form to the individual or individuals named.

Dated: __________ Signature: ____________________________________________

(c) Contractor shall file a certified copy of the payroll records enumerated in subdivision (a) with the entity that requested the records within ten (10) days after receipt of a written request. In the event that the CONTRACTOR fails to comply within the 10-day period, the CONTRACTOR shall, as a penalty to the DISTRICT, forfeit Twenty-Five Dollars ($25) 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, these penalties shall be withheld from progress payments then due.

(d) Any copy of payroll records made available for inspection as copies and furnished upon request to the public 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 shall not be marked or obliterated.

(e) The CONTRACTOR shall inform the DISTRICT of the location of the payroll records enumerated under subdivision (a), including the street address, city and county, and shall, within five (5) working days, provide a written notice of a change of location and address.

(f) It shall be the responsibility of the CONTRACTOR to ensure compliance with the provisions of this Article 50 and the provisions of Labor Code Section 1776.

**ARTICLE 52. APPRENTICES**

(a) The CONTRACTOR acknowledges and agrees that, if this Agreement involves a dollar amount greater than or a number of working days greater than that specified in Labor Code Section 1777.5, this Agreement is governed by the provisions of Labor Code Section 1777.5. It shall be the responsibility of the CONTRACTOR to ensure compliance with this Article 51 and with Labor Code Section 1777.5 for all apprenticing occupations.

(b) Apprentices of any crafts or trades may be employed and, when required by Labor Code Section 1777.5, shall be employed provided they are properly registered in full compliance with the provisions of the Labor Code.

(c) Every such apprentice shall be paid the standard wage paid to apprentices under the regulations of the craft or trade at which he or she is employed, and shall be employed only at the work of the craft or trade to which he or she is registered.

(d) Only apprentices, as defined in Section 3077, who are in training under apprenticeship standards and written apprentice agreements under Chapter 4 (commencing at Section 3070), Division 3 of the Labor Code, are eligible to be employed on public works. The employment and training of each apprenticeship shall be in accordance with the provisions of the apprenticeship standards and apprentice agreements under which he or she is training.

(e) Pursuant to Labor Code Section 1777.5, the CONTRACTOR and any subcontractors employing workers in any apprenticeship craft or trade in performing any work under this Agreement shall employ apprentices in at least the ratio set forth in Section 1777.5 and apply to the applicable joint apprenticeship committee for a certificate approving the CONTRACTOR or subcontractor under the applicable apprenticeship standards for the employment and training of apprentices.

(f) Every contractor and subcontractor shall submit contract award information to the applicable joint apprenticeship committee which shall include an estimate of journeyman hours to be performed under the Agreement, the number of apprentices to be employed and the approximate dates the apprentices will be employed.
(g) If the CONTRACTOR or subcontractor willfully fails to comply with Labor Code Section 1777.5, then, upon a determination of noncompliance by the Chief of the Division of Apprenticeship Standards, the CONTRACTOR or subcontractor shall be subject to the penalties imposed under Labor Code Section 1777.7. Interpretation and enforcement of these provisions shall be in accordance with the rules and procedures of the California Apprenticeship Council.

(h) The CONTRACTOR and all subcontractors shall comply with Labor Code Section 1777.6, which section forbids certain discriminatory practices in the employment of apprentices.

(i) CONTRACTOR shall become fully acquainted with the law regarding apprentices prior to commencement of the work. Special attention is directed to Sections 1777.5, 1777.6, and 1777.7 of the Labor Code, and Title 8, California Code of Regulations, Section 200, et seq. Questions may be directed to the State Division of Apprenticeship Standards, 455 Golden Gate Avenue, 8th Floor, San Francisco, California 94102, (415) 703-4920.

**ARTICLE 53. LABOR - FIRST AID**

The CONTRACTOR shall maintain emergency first aid treatment for CONTRACTOR's workers on the Project which complies with the Federal Occupational Safety and Health Act of 1970 (29 U.S.C.A., Sec. 651, et seq.).

**ARTICLE 54. PROTECTION OF PERSONS AND PROPERTY**

(a) The CONTRACTOR shall be responsible for all damages to persons or property that occur as a result of its fault or negligence in connection with the prosecution of this Agreement and shall take all necessary measures and be responsible for the proper care and protection of all materials delivered and work performed until completion and final acceptance by the DISTRICT. CONTRACTOR shall provide such heat, covering, and enclosures as are necessary to protect all work, materials, equipment, appliances, and tools against damage by weather conditions. All work shall be solely at the CONTRACTOR's risk with the exception of damage to the work caused by "acts of God" as defined in Public Contract Code Section 7105.

(b) CONTRACTOR shall take, and require subcontractors to take, all necessary precautions for safety of workers and shall comply with all applicable federal, state, local and other safety laws, standards, orders, rules, regulations, and building codes to prevent accidents or injury to persons on, about, or adjacent to the work site and to provide a safe and healthful place of employment. CONTRACTOR shall furnish, erect and properly maintain at all times, as directed by DISTRICT or ARCHITECT or required by conditions and progress of work, all necessary safety devices, safeguards, construction canopies, signs audible devices for protection of the blind, safety rails, belts and nets, barriers, lights, and watchmen for protection of workers and the public and shall post danger signs warning against hazards created by such features in the course of construction. CONTRACTOR shall designate a responsible employee, whose duty shall be to post information regarding protection and obligations of workers and other notices required under occupational safety and health laws, to comply with reporting and other occupational safety requirements, and to protect the life, safety and health of workers. Name and position of person so designated shall be reported in writing to DISTRICT by CONTRACTOR. CONTRACTOR shall correct any violations of safety laws, standards, orders, rules, or
regulations. Upon the issuance of a citation or notice of violation by the Division of Occupational Safety and Health, such violation shall be corrected immediately by the CONTRACTOR at CONTRACTOR's expense.

(c) In an emergency affecting safety of person or of work or of adjoining property, CONTRACTOR, without special instruction or authorization from ARCHITECT or DISTRICT, is hereby permitted to act, at its discretion, to prevent such threatened loss or injury; and CONTRACTOR shall so act if so authorized or instructed by Architect or DISTRICT. Any compensation claimed by CONTRACTOR on account of emergency work shall be determined by written agreement with the DISTRICT.

(d) CONTRACTOR shall take adequate precautions to protect existing roads, sidewalks, curbs, pavements, utilities, adjoining property and structures (including, without limitation, protection from settlement or loss of lateral support), and to avoid damage thereto, and repair any damage thereto caused by construction operations. The CONTRACTOR is to provide vehicular and pedestrian traffic control as required to facilitate on-campus safety at all times. Roadways, sidewalks, etc. are to remain clear and unobstructed during the course of construction and during off-hours. Limited blockage will only be allowable with a 48-hour notification to the District and subsequent approval and then only with the proper and safe procedures in place and are followed.

(e) CONTRACTOR shall (unless waived by the DISTRICT in writing):

(1) When performing new construction on existing sites, become informed and take into specific account the maturity of the students on the site; perform work which may interfere with school routine before or after school hours; enclose working area with a substantial barricade; not allow any unauthorized individuals on the site; require all workers on the Project to be conspicuously identified either by a firm logo on their clothing or prominent identification badge and arrange work to cause a minimum amount of inconvenience and danger to students and faculty in their regular school activities.

(2) Provide substantial barricades around any shrubs or trees indicated to be preserved.

(3) Deliver materials to building area over route designated by ARCHITECT.

(4) When directed by DISTRICT, take preventive measures to eliminate objectionable dust.

(5) Enforce all instructions of DISTRICT and ARCHITECT regarding signs, advertising, fires, and smoking and require that all workers comply with all regulations while on construction site.

(6) Take care to prevent disturbing or covering any survey markers, monuments, or other devices marking property boundaries or corners. If such markers are disturbed by accident, they shall be replaced by an approved civil engineer at no cost to the DISTRICT.

**ARTICLE 55. NON-DISCRIMINATION**
In the performance of the terms of this Agreement, CONTRACTOR agrees that it will not engage in nor permit such subcontractors as it may employ to engage in unlawful discrimination in employment of persons because of the race, religious creed, color, national origin, ancestry, physical handicap, medical condition, marital status, age or sex of such persons.

**ARTICLE 56. SCHEDULE OF VALUES AND PERIODICAL ESTIMATES**

(a) CONTRACTOR shall furnish on form(s) approved by DISTRICT:

1. Within ten (10) calendar days of award of contract a detailed schedule of values giving complete breakdown of contract price for each component of the Project or site. Line items must be less than 5% of the overall project value unless an exception is allowed. Submittal shall include all subcontractor/supplier agreements showing dollar amounts of these agreements to justify the schedule of values; and

2. A periodical itemized estimate of work done for purpose of making partial payments thereon. Change order work shall be clearly identified on a separate schedule of values.

3. Within ten (10) calendar days of request of DISTRICT, a schedule of estimated monthly payments which shall be due CONTRACTOR under the Agreement.

(b) Values employed in making up any of these schedules are subject to the ARCHITECT’s written approval and will be used only for determining basis of partial payments and will not be considered as fixing a basis for additions to or deductions from contract price.

**ARTICLE 57. CONTRACTOR CLAIMS**

If the CONTRACTOR shall claim compensation for any damage sustained by reason of the acts of the DISTRICT or its agents, CONTRACTOR shall, within five (5) calendar days after sustaining of such damage, make to the ARCHITECT a written statement of the damage sustained. On or before the 15th day of the month succeeding that in which such damage shall have been sustained the CONTRACTOR shall file with the DISTRICT an itemized statement of the details and amount of such damage, and unless such statement shall be made as thus required, CONTRACTOR’s claims for compensation shall be forfeited and invalidated and it shall not be entitled to consideration for payment on account of any such damage.

**ARTICLE 58. DISPUTES - ARCHITECT’S DECISIONS**

(a) The ARCHITECT shall, within a reasonable time, make decisions on all matters relating to the CONTRACTOR’s execution and progress of the work. The decisions of the ARCHITECT shall not be binding, but shall be advisory only on the CONTRACTOR for the purpose of CONTRACTOR’s obligation to proceed with the work.
Division 00700

(b) Except for tort claims, all claims by the CONTRACTOR for a time extension, payment of money or damages arising from work done by, or on behalf of, the CONTRACTOR pursuant to the Agreement and payment of which is not otherwise expressly provided for or the claimant is not otherwise entitled to, or as to the amount of payment which is disputed by the DISTRICT of Three Hundred Seventy Five Thousand Dollars ($375,000) or less shall be subject to the settlement procedures set forth in Public Contract Code Section 20104, et seq. which provisions are incorporated herein by reference.

(c) In the event of a dispute between the parties as to performance of the work, the interpretation of this Agreement or payment or nonpayment for work performed or not performed, the parties shall attempt to resolve the dispute. Pending resolution of the dispute, CONTRACTOR agrees to continue the work diligently to completion. If the dispute is not resolved, CONTRACTOR agrees it will neither rescind the Agreement nor stop the progress of the work, but CONTRACTOR's sole remedy shall be to submit such controversy to determination by a court of the State of California, in Orange County, having competent jurisdiction of the dispute, after the Project has been completed, and not before.

ARTICLE 59. PAYMENTS

(a) Unless otherwise specified in writing, each month within thirty (30) days after receipt by the DISTRICT of the monthly progress schedule and an undisputed, properly submitted payment request from CONTRACTOR which has been certified for payment by the Architect, there shall be paid to CONTRACTOR a sum equal to ninety percent (90%) of value of work performed and of materials delivered to the jobsite and inspected and approved by the inspector of record and subject to or under the control of the DISTRICT and unused up to the last day of the previous month, less aggregate previous payments. Public Contract Code Section 20104.50 Monthly payments shall be made only on the basis of monthly estimates which shall be prepared by CONTRACTOR on a form approved by DISTRICT and filed before the fifth day of the month during which payment is to be made. Work completed as estimated shall be an estimate only and no inaccuracy or error in said estimate shall operate to release CONTRACTOR or Surety from any damages arising from such work or from enforcing each and every provision of this Agreement, and DISTRICT shall have the right subsequently to correct any error made in any estimate for payment. CONTRACTOR SHALL NOT BE ENTITLED TO HAVE ANY PAYMENT ESTIMATES PROCESSED OR BE ENTITLED TO HAVE ANY PAYMENT FOR WORK PERFORMED SO LONG AS ANY LAWFUL OR PROPER DIRECTION CONCERNING WORK, OR ANY PORTION THEREOF, GIVEN BY THE DISTRICT OR ARCHITECT SHALL REMAIN UNCOMPLIED WITH BY THE CONTRACTOR. CONTRACTOR AGREES TO THE TEN PERCENT (10%) RETENTION ON ALL PROGRESS PAYMENTS. Public Contract Code Section 9203.

(b) DISTRICT has discretion to require from the CONTRACTOR any of the following information with the application for payment: (i) certified payroll covering the period of the prior application for payment; (ii) unconditional waivers and releases from all subcontractors/suppliers for which payment was requested under the prior application for payment; and/or (iii) receipts or bills of sale for any items. CONTRACTOR agrees that payment may be contingent upon District receiving any one or more of these documents.

(c) Before payment is made hereunder, a certificate in writing shall be obtained from the ARCHITECT stating that the work for which the payment is demanded has been performed in accordance with the terms of
the Project Documents and that the amount stated in the certificate is due under the terms of the Project Documents, which certificate shall be attached to and made a part of the claim made and filed with the DISTRICT, provided that if the ARCHITECT shall, within three (3) days after written demand therefore, fail to deliver such certificate to the DISTRICT, the CONTRACTOR may file its claim with the DISTRICT without said certificate, but together with such claim shall be filed a statement that demand was made for such certificate and that the same was refused. Thereupon, the DISTRICT will either allow said claim as presented or shall, by an order entered on the minutes of said DISTRICT state the reasons for refusing to allow said claim. It is understood, moreover, that the certificate of the ARCHITECT shall not be conclusive upon the DISTRICT, but advisory only.

(d) Upon receipt of CONTRACTOR’s payment request, DISTRICT shall review the payment request as soon as practicable after receipt for the purpose of determining that the payment request is proper. Any payment request determined not to be proper shall be returned to the CONTRACTOR as soon as practicable but not later than seven (7) days after receipt and shall be accompanied by a document setting forth in writing the reasons(s) why the payment request was not proper. Public Contract Code Section 20104.50

(e) NO PAYMENT BY DISTRICT HEREUNDER SHALL BE INTERPRETED SO AS TO IMPLY THAT DISTRICT HAS INSPECTED, APPROVED, OR ACCEPTED ANY PART OF THE WORK.

(f) Unless otherwise provided, on or before making request for final payment of the undisputed amount due under the Agreement, CONTRACTOR shall submit to DISTRICT, in writing a summary of all claims for compensation under or arising out of this Agreement which were timely filed. The acceptance by CONTRACTOR of the payment of the final amount shall constitute a waiver of all claims against DISTRICT under or arising out of this Agreement, except those previously made, in a timely manner and in writing, and identified by CONTRACTOR as unsettled at the time of CONTRACTOR’s final request for payment.

(g) CONTRACTOR shall pay each of its subcontractors from whom retention has been withheld each subcontractor’s share of the retention received within seven (7) days from the time that all or any portion of the retention are received by the CONTRACTOR subject to any limitations set forth in Public Contract Code Section 7107(e).

(h) The final payment of the ten percent (10%) retention of the value of the work done under this Agreement, if unencumbered, shall be made thirty-five (35) days after recording by the DISTRICT of the Notice of Completion at the County Recorder’s Office. APPROVAL OF COMPLETION OF THE PROJECT WILL BE MADE ONLY BY ACTION OF THE GOVERNING BOARD OF DISTRICT. Public Contract Code Section 7107.

**ARTICLE 60. CHANGES AND EXTRA WORK**

(a) DISTRICT may, as provided by law and without affecting the validity of this Agreement, order changes, modifications, deletions and extra work by issuance of written change orders from time to time during the progress of the Project, contract sum being adjusted accordingly. All such work shall be executed under conditions of the original Agreement except that any extension of time caused thereby shall be adjusted at time
of ordering such change. DISTRICT has discretion to order changes on a “time and material” basis with adjustments to time made after CONTRACTOR has justified through documentation the impact on the critical path of the Project.

(b) If the Bid Proposal for the Work includes proposal(s) for Unit Price Item(s), during Contractor's performance of the Work, the District may elect to add or delete any such Unit Price Item(s). If the District elects to add or delete any such Unit Price Item(s) pursuant to the foregoing, the debit or credit for such Unit Price Item(s) shall be in accordance with the amount(s) set forth in the Contractor’s Unit Price Item(s) Proposal.

(c) Notwithstanding any other provision in the Project Documents, the adjustment in the contract sum, if any, and the adjustment in the contract time, if any, set out in a change order shall constitute the entire compensation and/or adjustment in the contract time due CONTRACTOR arising out of the change in the work covered by the change order unless otherwise provided in the change order. The amount of the compensation due CONTRACTOR shall be calculated pursuant to subparagraph (e) of this Article 59. The entire compensation shall not include any additional charges not set forth in subparagraph (e) and shall not include delay damages (due to processing of a change order, refusal to sign a change order) indirect, consequential, and incidental costs, including any project management costs, extended home office and field office overhead, administrative costs and profit other than those amounts authorized under subparagraph (e) of this Article 59.

(d) In giving instructions, ARCHITECT shall have authority to make minor changes in work, not involving change in cost, and not inconsistent with purposes of the Project. Otherwise, except in an emergency endangering life or property, no extra work or change shall be made unless in pursuance of a written order from DISTRICT, authorized by action of the governing board, and no claim for addition to contract sum shall be valid unless so ordered.

(e) If the ARCHITECT determines that work required to be done constitutes extra work outside the scope of the Agreement, the ARCHITECT shall send a request for a detailed proposal to the CONTRACTOR. CONTRACTOR will respond with a detailed proposal within five (5) calendar days of receipt of the Request for Proposal which shall include a complete itemized cost breakdown of all labor and materials showing actual quantities, hours, unit prices, and the wage rates required for the change. If the change order involves a change in construction time, a request for the time change shall accompany the change order cost breakdown. All such requests for time shall be specified by CONTRACTOR as either “work days” or “calendar days.” Any request for time received with only the designation of “days” shall be considered calendar days. The term “work days” as used in this paragraph shall mean Monday through Friday, excluding Saturdays, Sundays and federal/State of California observed holidays. If the work is to be performed by a subcontractor, CONTRACTOR must include a bid from the subcontractor containing the same detailed information as required for CONTRACTOR. No extensions of time will be granted for change orders that, in the opinion of the ARCHITECT, do not affect the critical path of the Project.

(f) Value of any such extra work, change, or deduction shall be determined at the discretion of DISTRICT in one or more of the following ways:
(1) By mutual written acceptance of a lump sum proposal from CONTRACTOR properly itemized and supported by sufficient substantiating data to permit evaluation by DISTRICT and ARCHITECT.

(2) By unit prices contained in CONTRACTOR's original bid and incorporated in the Project Documents or fixed by subsequent agreement between DISTRICT and CONTRACTOR.

(3) By cost of material and labor and percentage for overhead and profit ("time and material"). If the value is determined by this method the following requirements shall apply:

(A) Daily Reports by Contractor.

(i) General. At the close of each working day, the CONTRACTOR shall submit a daily report to the ARCHITECT and the Inspector, on forms approved by the DISTRICT, together with applicable delivery tickets, listing all labor, materials, and equipment involved for that day, and for other services and expenditures when authorized concerning extra work items. An attempt shall be made to reconcile the report daily, and it shall be signed by the ARCHITECT and the CONTRACTOR. In the event of disagreement, pertinent notes shall be entered by each party to explain points which cannot be resolved immediately. Each party shall retain a signed copy of the report. Reports by Subcontractors or others shall be submitted through the CONTRACTOR.

(ii) Labor. The report shall show names of workers, classifications, and hours worked and hourly rate. Project Superintendent expenses are not allowed.

(iii) Materials. The report shall describe and list quantities of materials used and unit cost.

(iv) Equipment. The report shall show type of equipment, size, identification number, and hours of operation, including loading and transportation, if applicable, and hourly/daily cost.

(v) Other Services and Expenditures. Other services and expenditures shall be described in such detail as the DISTRICT may require.

(B) Basis for Establishing Costs

(i) Labor. The costs of labor will be the actual cost for wages prevailing locally for each craft classification or type of workers at the time the extra work is done, plus employer payments of payroll taxes and insurance, health and welfare, pension, vacation, apprenticeship funds, and other direct costs resulting from federal, state or local laws, as well
as assessments or benefits required by lawful collective bargaining agreements. The use of labor classification which would increase the extra work cost will not be permitted unless the CONTRACTOR establishes the necessity for such additional costs. Labor costs for equipment operators and helpers shall be reported only when such costs are not included in the invoice for equipment rental.

(ii) Materials. The cost of materials reported shall be at invoice or lowest current price at which such materials are locally available and delivered to the work site in the quantities involved, plus sales tax, freight and delivery. The DISTRICT reserves the right to approve materials and sources of supply, or to supply materials to the CONTRACTOR if necessary for the progress of the work. No markup shall be applied to any material provided by the DISTRICT.

(iii) Tool and Equipment Rental. No payment will be made for the use of tools which have a replacement value of $500 or less or where an invoice is not provided.

Regardless of ownership, the rates to be used in determining equipment rental costs shall not exceed listed rates prevailing locally at equipment rental source, or distributors, at the time the work is performed. The rental rates paid shall include the cost of fuel, oil, lubrication, supplies, small tools, necessary attachments, repairs and maintenance of any kind, depreciation, storage, insurance, and all incidentals. Necessary loading and transportation costs for equipment used on the extra work shall be included.

If equipment is used intermittently and, when not in use, could be returned to its rental source at less expense to the DISTRICT than holding it at the work site, it shall be returned, unless the CONTRACTOR elects to keep it at the work site at no expense to the DISTRICT.

All equipment shall be acceptable to the ARCHITECT, in good working condition, and suitable for the purpose for which it is to be used. Manufacturer’s ratings and manufacturer’s approved modifications shall be used to classify equipment and it shall be powered by a unit of at least the minimum rating recommended by the manufacturer.

(iv) Other Items. The DISTRICT may authorize other items which may be required on the extra work. Such items include labor, services, material and equipment which are different in their nature from those required by the work and which are of a type not ordinarily available from the CONTRACTOR or any of the subcontractors. Invoices covering all such items in detail shall be submitted with the request for payment.

(v) Invoices. Vendors’ invoices for material, equipment rental, and other expenditures, shall be submitted with the request for payment. If the request for payment is not substantiated by invoices or other documentation, the DISTRICT may establish the cost of the item involved at the lowest price which was current at the time of the report.
(C) The following form shall be used as applicable by the DISTRICT and CONTRACTOR to communicate proposed additions and deductions to the Agreement.

i. Material/Equipment (attach itemized quantity and unit cost plus sales tax)

ii. Labor (attach itemized hours and rates)

iii. Subtotal

iv. If subcontractor performed work, add Subcontractor's overhead and profit to portions performed by it, not to exceed 15% of Item iii. above

v. Subtotal

vi. General Contractor's Overhead and Profit, not to exceed 15% of Item v if Contractor performed the work. If subcontractor performed the work, not to exceed 5% of Item v. Of portions performed by Contractor and subcontractors, portions performed by Contractor shall not exceed 15% of Item V, and portions performed by Subcontractor shall not exceed 5% of Item v.

vii. Subtotal

viii. Bond and Liability Insurance Premium, if in fact additional bonds or insurance were actually purchased, not to exceed 1% of Item vii.

ix. Total

(4) It is expressly understood that the value of such extra work or changes, as determined by any of the aforementioned methods, expressly includes any and all of CONTRACTOR's costs and expenses, both direct and indirect resulting from additional time required on the project, or resulting from delays to the project. Any costs or expense not included are deemed waived. For purposes of
determining the cost, if any extra work, change, addition or omission hereunder, all trade discounts, rebates, refunds, and all returns from the sale of surplus materials and equipment shall accrue and be credited to CONTRACTOR, and CONTRACTOR shall ensure that such discounts, rebates, refunds and returns may be secured, and the amount thereof shall be allowed as a reduction of CONTRACTOR’S cost in determining the actual cost of construction for purposes of any extra work, change, addition or omissions in the work as provided herein.

(f) If the CONTRACTOR should claim that any instruction, request, drawing, specification, action, condition, omission, default, or other situation obligates the DISTRICT to pay additional compensation to CONTRACTOR or to grant an extension of time, or constitutes a waiver of any provision in the Agreement, CONTRACTOR shall notify the DISTRICT, in writing, of such claim within five (5) calendar days from the date CONTRACTOR has actual or constructive notice of the factual basis supporting the claim. The notice shall state the factual bases for the claim and cite in detail the Project Documents (including plans and specifications) upon which the claim is based. The CONTRACTOR’s failure to notify the DISTRICT within such five (5) day period shall be deemed a waiver and relinquishment of such a claim. If such notice be given within the specified time, the procedure for its consideration shall be as stated above in these General Conditions.

(g) "PROHIBITED USAGE OF CONTRACTOR QUALIFYING LANGUAGE STAMPS ON DISTRICT DRAWINGS OR CONTRACT FORMS." Contractor shall not countersign or endorse any form, drawing, change order, contract or other documents with any conditions not mutually agreed to in advance by the DISTRICT and the CONTRACTOR. Endorsement of a contract, change order, specification, drawing or form with the following: "This change order is being executed without waiver of the right to seek additional compensation for such services," shall be of no legal force or effect.

ARTICLE 61. COMPLETION

(a) The DISTRICT shall accept completion of the Project and have the Notice of Completion recorded within ten (10) days of acceptance of completion of the Project when the entire work including punch list items shall have been completed to the satisfaction of the DISTRICT. Civil Code Section 3093. The work may only be accepted as complete by action of the DISTRICT’s Governing Board.

(b) However, the DISTRICT, at its sole option, may accept completion of the Project and have the Notice of Completion recorded when the entire work including individual portions of the work shall have been completed to the satisfaction of the DISTRICT, except for minor corrective items, as distinguished from incomplete items.

(c) A final walk through of the Project to determine completion and to record the Notice of Completion shall occur only upon a valid claim by CONTRACTOR that the Project is complete except for minor corrective items. Any erroneous claims of completion by CONTRACTOR resulting in a premature walk through shall be at CONTRACTOR’s sole cost and expense and DISTRICT shall make adjustments to the contract price by reducing the amount thereof to pay for any costs incurred by the DISTRICT due to the erroneous claims by the
CONTRACTOR that the Project is complete. Minor corrective items shall be identified in the final walk through of the Project.

(d) If the CONTRACTOR fails to complete the minor corrective items prior to the expiration of the thirty-five (35) day period immediately following recording of the Notice of Completion, the DISTRICT shall withhold from the final payment an amount equal to one hundred fifty percent (150%), as determined by the DISTRICT, of the amount of each item until such time as the item is completed. Public Contract Code Section 7107. At the end of such 35-day period, if there are items remaining to be corrected, the DISTRICT may elect to proceed as provided in Article 61(b) entitled "Adjustments to Contract Price."

ARTICLE 62. ADJUSTMENTS TO CONTRACT PRICE

(a) If CONTRACTOR defaults or neglects to carry out the work in accordance with the Project Documents or fails to perform any provision thereof, DISTRICT may, after ten (10) days written notice to the CONTRACTOR and without prejudice to any other remedy it may have, make good such deficiencies.

(b) The DISTRICT shall adjust the total contract price by reducing the amount thereof by the cost of making good such deficiencies. If DISTRICT deems it inexpedient to correct work not done in accordance with the Project Documents, an equitable reduction in the contract price shall be made therefore.

ARTICLE 63. CORRECTION OF WORK

(a) CONTRACTOR shall promptly remove all work identified by DISTRICT as failing to conform to the Project Documents, whether incorporated or not. CONTRACTOR shall promptly replace and re-execute its own work to comply with Project Documents without additional expense to DISTRICT and shall bear the expense of making good all work of other contractors destroyed or damaged by such removal or replacement.

(b) If CONTRACTOR does not remove such work within a reasonable time, fixed by written notice, DISTRICT may remove it and may store the material at CONTRACTOR's expense. If CONTRACTOR does not pay expenses of such removal within ten (10) days' time thereafter, DISTRICT may, upon ten (10) days written notice, sell such materials at auction or at private sale and shall account for net proceeds thereof, after deducting all costs and expenses that should have been borne by CONTRACTOR.

ARTICLE 64. EXTENSION OF TIME - LIQUIDATED DAMAGES

(a) The CONTRACTOR and DISTRICT hereby agree that the exact amount of damages for failure to complete the work within the time specified is extremely difficult or impossible to determine. CONTRACTOR shall be assessed liquidated damages for each and every day the work required under the Project Documents remains unfinished past the time for completion, as set forth in the Agreement, and any extensions of time granted by the DISTRICT to the CONTRACTOR under the terms of the Project Documents. The CONTRACTOR will pay to the DISTRICT or DISTRICT may retain from amounts otherwise payable to the CONTRACTOR, said amount for each day after failure to meet the requirements of the contract completion as
scheduled in the Agreement. Government Code Section 53069.85 For purposes of this article, the work shall be considered "complete" in accordance with the provisions of Article 60, "COMPLETION", except that the work may be considered complete without formal acceptance by the DISTRICT Governing Board so long as the Governing Board, at its next regularly scheduled meeting, accepts the work.

(b) CONTRACTOR shall not be charged for liquidated damages, as set forth above, because of any delays in completion of work which are not the fault or negligence of CONTRACTOR, including but not restricted to acts of God. CONTRACTOR shall within ten (10) days of beginning of any such delay, notify DISTRICT in writing of causes of delay. CONTRACTOR shall provide documentation and justification to substantiate the delay and its relation to the Project's critical path. DISTRICT shall ascertain the facts and extent of delay and grant extension of time for completing work when, in its judgment, the findings of fact justify such an extension. The DISTRICT's finding of fact thereon shall be final and conclusive on the parties hereto. Extension of time shall apply only to that portion of work affected by the delay, and shall not apply to other portions of work not so affected.

ARTICLE 65. PAYMENTS WITHHELD

(a) In addition to amount which DISTRICT may retain under Article entitled "COMPLETION" and Article entitled "PAYMENTS," DISTRICT may withhold a sufficient amount or amounts of any payment or payments otherwise due to CONTRACTOR, as in its judgment may be necessary to cover:

(1) Payments which may be past due and payable for just claims against CONTRACTOR or any subcontractors, or against and about the performance of work on the Project, including, without limitation, payments made pursuant to the Article entitled "PAYMENTS BY CONTRACTOR."

(2) The cost of defective work which CONTRACTOR has not remedied.

(3) Liquidated damages assessed against CONTRACTOR.

(4) Penalties for violation of labor laws.

(5) The cost of materials ordered by the DISTRICT pursuant to Article 33 entitled "MATERIALS AND WORK."

(6) The cost of completion of this Agreement if there exists a reasonable doubt that this Agreement can be completed for the balance then unpaid to CONTRACTOR.

(7) Damage to DISTRICT, another contractor, or subcontractor.

(8) Site clean-up as provided in Article 44 entitled "CLEANING UP."
(9) Payments to indemnify, defend, or hold harmless the DISTRICT.

(10) Any payments due to the District including but not limited to payments for failed tests, utilities or imperfections.

(11) Extra services for ARCHITECT.

(12) Extra services for the INSPECTOR including but not limited to reinspection required due to CONTRACTOR's failed tests or installation of unapproved or defective materials and CONTRACTOR's requests for inspection and CONTRACTOR's failure to attend the inspection.

(13) Failure of CONTRACTOR to submit on a timely basis, proper and sufficient documentation required by the Project Documents, including without limitation, monthly progress schedules, shop drawings, submittal schedules, schedule of values, product data and samples, proposed product lists, executed change orders and verified reports.

(14) Any other obligation(s) of the DISTRICT which the DISTRICT is authorized and/or compelled by law to perform.

(b) If the above grounds are in the opinion of the DISTRICT removed by or at the expense of CONTRACTOR, payment shall be made for amounts withheld because of them.

(c) DISTRICT may apply such withheld amount or amounts to payment of such claims or obligations at its discretion. In so doing, DISTRICT shall make such payments on behalf of CONTRACTOR. If any payment is so made by DISTRICT, then such amount shall be considered as a payment made under contract by DISTRICT to CONTRACTOR and DISTRICT shall not be liable to CONTRACTOR for such payments made in good faith. Such payments may be made without prior judicial determination of claim or obligations. DISTRICT will render CONTRACTOR an accounting of such funds disbursed on behalf of CONTRACTOR.

(d) As an alternative to payment of such claims or obligations, DISTRICT, in its sole discretion, may reduce the total contract price as provided in Article 61 entitled "ADJUSTMENTS TO CONTRACT PRICE."

**ARTICLE 66. TAXES**

(a) CONTRACTOR will pay all applicable federal, state and local taxes on all materials, labor, or services furnished by it, and all taxes arising out of its operations under the Project Documents.

(b) If under federal excise tax law any transaction hereunder constitutes a sale on which a federal excise tax is imposed and the sale is exempt from such excise tax because it is a sale to a state or local government for its exclusive use, the DISTRICT, upon request, will execute documents necessary to show (1) that the
DISTRICT is a political subdivision of the State for the purposes of such exemption and (2) that the sale is for the exclusive use of the DISTRICT. No excise tax for such materials shall be included in any bid price.

ARTICLE 67. NO ASSIGNMENT

The CONTRACTOR shall not assign, transfer, convey, sublet or otherwise dispose of this Agreement or of its rights, title or interest in or to the same or any part thereof. If the CONTRACTOR shall assign, transfer, convey, sublet or otherwise dispose of the Agreement or its right, title or interest therein, or any part thereof, such attempted or purported assignment, transfer, conveyance, sublease or other disposition shall be null, void and of no legal effect whatsoever; and the Agreement may, at the option of the DISTRICT, be terminated, revoked and annulled, and the DISTRICT shall thereupon be relieved and discharged from any and all liability and obligations growing out of the same to the CONTRACTOR, and to its purported assignee or transferee.

ARTICLE 68. NOTICE

Any notice from one party to the other or otherwise under the Agreement shall be in writing and shall be dated and signed by party giving such notice or by a duly authorized representative of such party. Any such notice shall not be effective for any purpose whatsoever unless served in one of the following manners:

(1) If notice is given to DISTRICT, by personal delivery thereof to DISTRICT, or by depositing same in United States mail, enclosed in a sealed envelope addressed to DISTRICT, and sent by registered or certified mail with postage prepaid;

(2) If notice is given to CONTRACTOR, by personal delivery thereof to said CONTRACTOR, or to CONTRACTOR’s superintendent at site of Project, or by depositing same in United States mail, enclosed in a sealed envelope addressed to said CONTRACTOR at its regular place of business or at such address as may have been established for the conduct of work under this Agreement, and sent by registered or certified mail with postage prepaid;

(3) If notice is given to surety or other persons, by personal delivery to such surety or other person, or by depositing same in United States mail, enclosed in a sealed envelope, addressed to such surety or person at the address of such surety or person last communicated by surety or other person to party giving notice, and sent by registered or certified mail with postage prepaid.

ARTICLE 69. NO WAIVER

The failure of the DISTRICT in any one or more instances to insist upon strict performance of any of the terms of this Agreement or to exercise any option herein conferred shall not be construed as a waiver or relinquishment to any extent of the right to assert or rely upon any such terms or option on any future occasion.

ARTICLE 70. NON-UTILIZATION OF ASBESTOS MATERIAL
(a) The CONTRACTOR will be required to execute and submit the Certificate Regarding Non-Asbestos Containing Materials.

(b) Should asbestos containing materials be installed by the CONTRACTOR in violation of this certification, or if removal of asbestos containing materials is part of the Project, decontaminations and removals will meet the following criteria:

1. Decontamination and removal of work found to contain asbestos or work installed with asbestos containing equipment shall be done only under the supervision of a qualified consultant, knowledgeable in the field of asbestos abatement and accredited by the Environmental Protection Agency (EPA).

2. The asbestos removal contractor shall be an EPA accredited contractor qualified in the removal of asbestos and shall be chosen and approved by the asbestos consultant who shall have sole discretion and final determination in this matter.

3. The asbestos consultant shall be chosen and approved by the DISTRICT who shall have sole discretion and final determination in this matter.

4. The work will not be accepted until asbestos contamination is reduced to levels deemed acceptable by the asbestos consultant.

(c) Cost of all asbestos removal, including, but not necessarily limited to the cost of the asbestos removal contractor, the cost of the asbestos consultant, analytical and laboratory fees, time delays and additional costs as may be incurred by the DISTRICT shall be borne entirely by the CONTRACTOR.

(d) Hold Harmless: Interface of work for the Project with work containing asbestos shall be executed by the CONTRACTOR at his/her risk and at his/her discretion with full knowledge of the currently accepted standards, hazards, risks and liabilities associated with asbestos work and asbestos containing products. By execution of the Agreement, the CONTRACTOR acknowledges the above and agrees to hold harmless the DISTRICT, its Governing Board, employees, agents, and ARCHITECT and assigns for all asbestos liability which may be associated with this work. The CONTRACTOR further agrees to instruct his/her employees with respect to the above mentioned standards, hazards, risks and liabilities.

**ARTICLE 71. LEAD**

Pursuant to the Lead-Safe Schools Protection Act (Education Code Sections 32240, et seq.) and other applicable law, the CONTRACTOR shall not use lead-based paint, lead plumbing and solders, or other potential sources of lead contamination in the construction of any new school facility or the modernization or renovation of any existing school facility.
ARTICLE 72. GOVERNING LAW

The laws of the State of California shall govern the Project and the Agreement.
PROJECT SPECIFICATIONS
SECTION 01200

PRICE AND PAYMENT PROCEDURES

1. PART 1 GENERAL

1.1 SECTION INCLUDES

1. Cash allowances.
2. Contingency allowances.
3. Schedule of Values.
4. Application for Payment.
5. Defect assessment.
6. Non-payment for rejected work.
7. Change procedures.
8. Alternates.
9. Unit prices.

1.2 CASH ALLOWANCES

1. Include in the contract sum all cash allowances stated herein.
2. Items covered by cash allowances shall be as the District may direct, but the Contractor shall not be required to employ persons or entities against which the Contractor makes reasonable objection.
3. Funds will be drawn from cash allowance amount only by written authorization of the District by change order.
4. At closeout of contract, funds remaining in cash allowance amount will be credited to District by change order.
1.3 APPLICATIONS FOR PAYMENT

1. Submit six (6) copies of each application on AIA Form G702 - Application and Certificate for Payment and AIA Form G703 Continuation Sheet.

2. Content and Format: Utilize Schedule of Values for listing items in Application for Payment.

3. Payment Application Times: The date for each progress payment is indicated in the General Conditions of the Contract.

4. Payment Application Periods: The period of construction covered by each application for payment is the period indicated in the General Conditions of the Contract.

5. Application Preparation: Complete every entry on form. Notarize and execute by a person authorized to sign legal documents. District will return incomplete applications without action.

6. Waiver of Stop Notices: With each application for payment, submit waivers of stop notices from subcontractors for construction period covered by previous application.

7. Final Payment: As specified in the General Conditions of the Contract and in Section 01770 - Closeout Procedures.

8. Refer to the General Conditions of the Contract for additional payment provisions.

1.4 DEFECT ASSESSMENT

1. Replace the Work, or portions of the Work, not conforming to specified requirements.

   If, in the opinion of District, it is not practical to remove and replace the Work, District will direct that the defective Work may remain or be partially repaired to the instruction and satisfaction of District, but contractor will be required to provide the District with a credit change order proposal for the District's review and approval.

1.5 NON-PAYMENT FOR REJECTED WORK

1. Payment will not be made for any of the following:

   1. Products determined to be unacceptable before or after placement.
2. Products not completely unloaded from the transporting vehicle.

3. Products placed beyond the lines and levels of the required work.

4. Products remaining on hand after completion of the work.

5. Loading, hauling and disposing of rejected products.

1.6 ALTERNATES

1. An alternate is an amount proposed by the bidder and stated on the Bid Form for certain work defined herein that may be added to the Base Bid amount if the District decides to accept the alternate as described in the Contract Documents.

2. The cost for each Alternate is the net addition to the Contract Sum to incorporate the Alternate into the Work.

3. Include as part of each Alternate, miscellaneous devices, accessory objects, and similar items incidental to or required for a complete installation whether or not specifically mentioned as part of the Alternate.

4. Alternates quoted on Bid Forms will be reviewed and accepted or rejected at the District's option. Accepted Alternates will be identified in District-Contractor Agreement.

5. Coordinate related work and modify surrounding work as required to integrate the Work of each Alternate.

6. Execute accepted alternates under the same conditions as other work of this Contract.

7. Schedule of Alternates:

1. Alternate No. 1: Provide Civil, Landscape and Irrigation improvements southwest of 'Great Lawn' area. See Plans and Specifications for Limit of Work and Scope to be provided.

2. Alternate No. 2: Construct (2) additional Concrete Seat Walls within 'Great Lawn' area. See Plans and Specifications for Limit of Work and Scope to be provided.

3. Alternate No. 3: Furnish and Install (15) – in-ground Luminaries along Pedestrian Concrete Paving at 'Great Lawn' area. See Plans and Specifications for Limit of Work and Scope to be provided.
1.7 UNIT PRICES

1. A unit price is an amount proposed by the bidder and stated on the Bid Form as a price per unit of measurement for materials or services that will be added to or deducted from the Contract Sum by change order in the event the estimated quantities of work required by the Contract Documents are increased or decreased.

2. Unit prices shall include all necessary material, labor, overhead, profit and applicable taxes required to furnish and install the subject construction element completed and in full as indicated on Plans and Specifications.

3. The District reserves the right to reject the Contractor's measurement of work-in-place that involves use of established prices, and to have this work measured by an independent surveyor acceptable to the Contractor at the District's expense.

4. Refer to individual specification sections for construction activities requiring the establishment of unit prices.

5. Specification sections referenced in the Schedule of Unit Prices contain requirements for materials and methods described under each unit price.

2. PART 2 PRODUCTS

Not Used

3. PART 3 EXECUTION

Not Used

END OF SECTION
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PROPOSAL

SOUTH ORANGE COUNTY
COMMUNITY COLLEGE DISTRICT
BID NO.
PROJECT NO.

TO THE SOUTH ORANGE COUNTY COLLEGE DISTRICT, AS DISTRICT:

In accordance with District's Notice Inviting Bids, the undersigned Bidder hereby proposes to furnish all materials, equipment, tools, labor, and incidentals required for the above-stated project as set forth in the plans, specifications, and contract documents therefore, and to perform all work in the manner and time prescribed therein.

Bidder declares that this proposal is based upon careful examination of the work site, plans, specifications, instructions to Bidders, and all other contract documents. If this proposal is accepted for award, Bidder agrees to enter into a contract with District at the unit and / or lump sum prices set forth in the following Bid Schedule. Bidder understands that failure to enter into a contract in the manner and time prescribed will result in forfeiture to District of the proposal guarantee accompanying this proposal.

If awarded the contract, the undersigned further agrees that in the event of the Bidder's default in executing the required contract and filing the necessary bonds and insurance certificates within ten working days after the date of the District's notice of award of contract to the Bidder, the proceeds of the security accompanying this bid shall become the property of the District and this bid and the acceptance hereof may, at the District's option, be considered null and void.

Bidder understands that a bid is required for the entire work; that the estimated quantities of work and materials to be performed, constructed, or furnished as set forth in the Bid Schedule are solely for the purpose of comparing bids; and that final compensation under the contract will be based upon the actual quantities of work satisfactorily completed. DISTRICT RESERVES THE RIGHT TO INCREASE OR DECREASE THE AMOUNT OF ANY QUANTITY SHOWN AND TO DELETE ANY ITEM FROM THE CONTRACT. It is agreed that the units and / or lump sum prices bid include all appurtenant expenses, taxes, royalties, and fees. In the case of discrepancies in the amounts bid, unit prices shall govern over extended amounts, and words shall govern over figures.

Bidder assures that the price bid for the project shall include all costs covering the performance of work, including the furnishing of labor, materials, tools, and equipments. Bidder further agrees that the cost of work necessary for the completion of a particular Bid Schedule item has been included in the price bid for that item unless the work is specifically included in another item; and if there is no bid item for a particular item of work, full compensation for such work shall be considered as included in the prices bid for other items of work.

Name of Bidder: ____________________________________________

Bidder's Address: __________________________________________

Bidder's Contractor License No.: ______________________________

Contractor License Classification: _____________________________

Price and Payment Procedures 01200-6
*The above categories may be subdivided and items added if the overall order remains the same and the subtotal cost for each category complies with the format as shown. Contractor's Overhead and Profit shall be a combined mark up and be included in the Unit Costs noted for each line item.
There shall be no additional compensation for Contractor's Overhead and Profit beyond what has been included in the unit prices noted in the Project Bid Schedule.

TOTAL BASE BID (IN NUMBERS): $____________________

TOTAL BASE BID (IN WORDS):

________________________________________________________________________

________________________________________________________________________
SECTION 01300

SUBMITTALS AND SUBSTITUTIONS

PART 1- GENERAL

1.1 SECTION INCLUDES:

A. Scope
B. General Requirements
C. Definitions
D. Submittals Schedule & Log
E. Form of Submittals
F. Submittal Procedures
G. Product Options
H. Substitutions After Award of Contract
I. Substitution Procedure
J. Substitution Transmittal and Warranty

1.2 RELATED REQUIREMENTS:

Section 01320 – Construction Progress Documentation

1.3 INCLUDED:

A. Scope

1. These provisions establish submittal procedures for shop drawings and samples required by the various Technical Sections of the Specifications and submittal procedures for the substitution of products.

B. General Requirements

1. Prior to submission all shop drawings, brochures, and other such construction data shall be checked for quantity, size and dimensions by Contractor's personnel especially assigned for this purpose. District will answer questions raised by the Contractor, and will make all determinations regarding quality of materials and equipment, design and arrangement decisions, and color selection, but will not be responsible for quantity, size, or dimensional errors on shop drawings.

2. The Contractor is responsible for carefully reviewing Subcontractor's submittals for completeness and correctness and stamping and acknowledging such review on submittals prior to transmitting them.

3. Close adherence to these requirements is necessary to avoid delay in the processing of the shop drawings by the District. Deviation from these requirements may result in rejection of the submittal. Contractor will be held responsible for delays resulting from improper submittals.

4. Specific submittals are described in individual sections.
5. Do not commence work that requires review of any submittals until receipt of returned submittals with appropriate final action.

6. Do not allow submittals without an appropriate final action marking to be used for the project.

7. Do not submit substitute items that have not been approved by means of the procedure specified in the general conditions.

8. Do not include requests for substitution (either direct or indirect) on submittals; comply with procedures for substitutions.

9. Submit the following as informational Submittals (which may not be formally reviewed by District):
   
   a. Certificates.
   b. Coordination drawings.
   c. Reports.
   d. Submittals for which procedures are not defined elsewhere.

C. Definitions

1. “Shop Drawings” are drawings, diagrams, schedules, and other data specially prepared for the work by the Contractor or any Subcontractor, manufacturer, supplier, or distributor to illustrate some portion of the work.

   a. Shop Drawings also include:

      1. Product data specifically prepared for this project.
      2. Shop or plant review and test reports, when made on specific materials, products, or systems to be used in the work.

2. “Product data submittals” are illustrations, standard schedules, performance charts, instruction, brochures, diagrams, and other information furnished by the Contractor to illustrate a material, product, or system for some portion of the work.

3. “Samples” are physical examples including mock-ups that illustrate materials, equipment, or workmanship and establish standards by which the work will be judged.

4. “Information Submittals”: Submittals identified in the Contract Documents as to be submitted for information only.

D. Submittal Schedule and Log

1. Before making the first product submittal, prepare and submit a typed Schedule of Submittals.
The **Schedule of Submittals** shall be based upon the Contractors review of all Sections of the Specifications and prepared as follows:

a. List all required submittals by Construction Specifications Institute (CSI) number, in the order of the Table of Contents of these specifications.

b. Indicate whether an item is to be submitted for review or as an informational Submittal.

c. Indicate date when review of submitted item must be complete in order not to adversely affect the project schedule.

E. **Form of Submittals**

1. **Sheets Larger Than 11 by 17 inches (11” x 17”):**

   a. Sheet size: 30 by 42 inches (30” x 42”), maximum.

      1. Exception: Full size pattern or template drawings.

   b. Number of copies:

      1. Submittals for Reviews:

         a. One (1) reproducible print, not folded and six (6) blue or black-line prints, bound in sequence.

         b. One (1) marked up reproducible and two (2) blue or black line will be returned to Contractor.

      2. Informational submittals:

         a. Two (2) copies, blue or black-line prints, or photocopies, bound in sequence.

         b. No copies will be returned.

   3. **Small Sheets or Pages (including Product Data):**


      b. Maximum sheet size for copies: 11 by 17 inches.

      c. Number of copies:

         1. Transparencies: One (1) reproducible and up to six (6) prints bound in sequence.
2. Copies:
   a. For review: Seven (7) copies. Three copies will be returned.
   b. Informational submittals: Two (2) copies.

3. Samples: Up to five (5) sets of each. Size not to exceed 10" x 10" maximum.
   a. One set will be returned.

4. Copies in excess of the number requested will not be returned.

F. Submittal Procedures

1. All submittals shall be identified with the job name, location, specification number and CSI specification section number, subsection number and product identification. They shall be reviewed, stamped with a Contractor-reviewed identification stamp, and have the signed approval of the Contractor, prior to submission to District. Each sheet of drawings, both prints and transparencies, shall be so identified and signed.

2. Bound sets of brochures, catalog sheets, specifications and material lists shall include an index sheet, completely identifying the entire contents of the submittal in sequential order.

3. District will return to the Contractor one copy of drawings stamped and signed with the correction, if any. Contractor shall make copies at own expense.

4. Handle re-submittals the same as original submittals, but identify as such and use the District's original shop drawing number with an R1, R2 etc. added.

5. Each submittal shall be accompanied by a letter of transmittal from the Contractor containing a complete itemized and numbered list of the submitted material, together with the Subcontractor's name. Separate letters of transmittal shall accompany each submittal from different Subcontractors and different categories (trade and building units).

6. Notations by District that increase Contract Cost or Time of completion shall be approved through the change order process before proceeding with work.

7. Coordination of Submittals
   a. Coordinate preparation and processing of submittals with performance of the Work. Coordinate each separate submittal with other submittals and related activities that require sequential performance.
   b. Coordinate submittal of different units of interrelated work so that no submittal will be delayed by the District's need to review a related
submittal. The District reserves the right to withhold action on any such submittal until the related submittals are received.

1. In particular, if colors or finishes are to be selected from submitted items, the District may make no selections until all items are submitted.

8. Timing of Submittals

a. Prepare and transmit each submittal requiring approval sufficiently in advance of scheduled performance of the work to which it relates to allow for adequate review and processing time, including time for resubmission if necessary.

b. Prepare and transmit each informational Submittal prior to start of the work involved, unless the submittal is of a type which cannot be prepared until after completion of the work; submit promptly.

c. No extension of time will be authorized because of the Contractor’s failure to transmit submittal sufficiently in advance of the work.

d. Transmittal of Submittals:

1. Submittals will be accepted from the Contractor only. Submittal received from other entities will be returned without action.

2. Transmit each submittal with a transmittal form. Submittals received without a transmittal form will be returned without action.

3. Transmittal form: Use a form acceptable to District.

4. Only one submittal (of related items) per transmittal.

5. Identify submittal by inclusion of CSI number on the transmittal.

6. Transmit to the District’s attention.

9. Shop Drawings

a. Content: include the following information:

1. Dimensions at accurate scale.

2. Specific notation of field measurements at accurate scale.

3. Identification of specific products and materials used.

5. Compliance with specified standards.

6. Coordination requirements; show relationship to adjacent or critical work.

7. Name or preparing firm, contact person, phone number.

b. Preparation:
   1. Do not reproduce Contract Documents as Shop Drawings.
   2. Identify as indicated for all submittals
   3. Allow space for District's action; marking shall be adjacent to the title block.

10. Product Data
   a. Submit all product data submittals for each system or unit of work as one submittal. Include with Shop Drawings when Shop Drawings are required.
   b. Where product data submittals must be prepared specifically for this project because standard printed information is not suitable for use, submit such information as Shop Drawings and not as product data submittals.
   c. Content:
      1. Submit manufacturer's standard printed data sheets.
      2. Identify the particular product being submitted; submit only pertinent pages.
      3. Show compliance with properties specified.
      4. Mark to show which options or accessories are applicable to the project.
      5. Include recommendations for application and use.
      6. Show compliance with specified standards.
      7. Show compliance with specified testing agency listing; show the limitations of their labels of seals, if any.
      8. Identify dimensions which have been verified by field measurement.
9. Show special coordination requirements for the product.

11. Samples
   a. Samples:
      1. Provide samples physically identical with proposed material or product.
      2. Where unavoidable variations must be expected, submit “range” samples, minimum of 3 units, and describe or identify variations among units of each set.
      3. Where selection is required, provide full set of all options.
      4. Where matching of a sample prepared by other entities is required, prepare sample to match.
   b. Mock Ups
      1. Mock-ups: Mock-ups required are specified in other Sections. Construct mock-ups as specified for actual work, with all components required for a complete installation. Erect specified mock-ups in locations indicated. Where mock-ups are to be removed, clear area after removal of mock-up and return to original or specified condition. Where mock-ups are to be approved by the District, obtain approval of the District prior to proceeding with installation.
   c. Preparation:
      1. Mount, display, or package samples in a manner to facilitate review.
      2. Attach a description to each sample.
      3. Attach a name of manufacturer or source to each sample.
      4. Provide minimum of 4" x 4" space for District’s review stamp.
      5. Where compliance with specified properties is required, attach documentation showing compliance.
      6. Where there are limitations in availability, delivery, or other similar characteristics, attach description of such limitations.
      7. Where samples are specified to be returned for incorporation into the work, indicate such requirements on transmittal form.
d. At the option of District, samples may be subject to testing. In such event, additional samples as may be required shall be supplied by the Contractor at no additional cost.

e. Maintain final sample set(s) at the Project Site, available for use during progress of the work.

f. Prepare and distribute additional sets to other entities involved in work represented by the samples, as required for proper performance of the work.

12. Review of Submittals

a. Submittals for approval will be reviewed, marked with appropriate action by the District and returned to the Contractor. The time required for review will be dependent on the size, complexity, and quality of the submittal as well as the number of other concurrent submittals but, generally should not exceed fourteen (14) calendar days.

b. Informational Submittals: Submittals may be informally reviewed; no data is returned.

13. Submittals not stamped by Contractor and submittals which, in District's opinion, are incomplete, contain numerous errors, or have not been checked or have only been checked superficially will be returned to Contractor unreviewed for re-submittal.

14. District shall be responsible for District's cost of reviewing and processing each submittal and the first resubmission. Contractor shall be responsible for District's cost of reviewing and processing required subsequent resubmissions of each submittal.

15. Return, Resubmittal, and Distribution

a. Submittals will be returned to the Contractor by mail unless Contractor makes other arrangements.

b. Perform resubmittals in the same manner as original submittals; indicate all changes other than those requested by the District.

1. Exception: Transmittal shall indicate that this is a resubmittal.

c. Distribution:

1. Make extra copies for District, Subcontractors and for operation and maintenance data submittals, as required.

2. Make one copy for project record documents.

G. Product Options
1. It is the Contractor's responsibility to select products which comply with the Contract Documents and which are compatible with one another.
   a. Verify that electrical characteristics of products are compatible with electrical system; notify District of all discrepancies.
   b. Where visual matching to an established physical sample is required, the District's decision will be final.

2. Do not use any substitute products which have not been approved in advance in accordance with the requirements of the Contract Documents.

3. Definition of Substitute Product: Any product which does not meet the requirements of the Contract Documents, whether in product characteristics, performance, quality, or manufacturer or brand names, is considered a substitute.

4. Product Options: Where products are specified using more than one method, such as description with a manufacturer list, use a product conforming to the requirements of both specification methods.


6. Product Specified by Description: Use any product conforming to the specification.

7. Products Specified by Performance Requirements: Use any product conforming to the specification.

8. Product Specified by Listing a Brand Name Product as the "Basis of Design": Provide a product equivalent to the product specified within the limits of variation specified; submit substitution request for any brand name product not listed.

9. Products Specified by Listing Brand Name(s): Provide a product at least equal to the brand name product, or products, listed; submit a substitution request for any brand name not listed.

10. Product Specified by Listing Manufacturer(s): Provide a product conforming to the specification; submit substitution request for any manufacturer not listed.

H. Substitutions Procedure

1. Catalog numbers and specific brands or trade names followed by the designation "or equal" are used in conjunction with material and equipment
required by the Specifications to establish the standards of quality, utility, and appearance required. Substitutions that are equal in quality, utility, and appearance to those specified may be accepted subject to the following provisions.

a. Prior to ordering, substitutions must be accepted in writing by District.

b. Such acceptance shall not relieve Contractor from complying with the requirements of the Contract Documents.

c. Contractor shall submit to the District a typed or NEATLY hand printed "Request for Substitution" form and a "Certification of Equal Quality, Capacity, and Serviceability and Assumption of Liability Therefore" form wet signed and dated for each product for substitution. The subcontractor requesting the substitution shall submit in accordance with Division 01, "Section 01300 Submittals and Substitutions".

d. The Contractor shall furnish SUPPORTING DATA FOR BOTH THE SPECIFIED PRODUCT AND THE PROPOSED SUBSTITUTION that clearly demonstrates both in appearance and physical character the substitution either matches and or exceeds the specified item(s). This comparison must include specifications references, ASTM information, and other tests that are specific to that type of product. When evaluating the substitution District may seek other opinions and specific information as to performance of similar products used elsewhere.

e. The Contractor shall be responsible for all costs of any changes resulting from Contractor's proposed substitutions that affect other parts of the work or the work of separate contractors.

f. The decision of District shall be final.

2. Requests for substitutions will only be considered if Contractor submits the supporting data specified in Division 01, "Submittal Procedures" and as noted above.

3. Wherever more than one manufacturer's product is specified, the first-named product is the basis for the design used in the work and the use of alternative-named manufacturers' products or substitutes may require modifications in that design. If such alternatives are proposed by Contractor and are approved by the District, Contractor shall assume all costs required to make necessary revisions, modifications and shop drawings of the design resulting from the substitutions requested by the Contractor.

4. When materials and equipment are specified by first manufacturer's name and product number, second manufacturer's name and "or equal," supporting data for the second product, if proposed by Contractor, shall be submitted in accordance with the requirements for substitutions.
5. If District, in reviewing proposed substitute materials and equipment, requires revisions or corrections to be made to previously accepted shop drawings and supplemental supporting data to be resubmitted, Contractor shall promptly do so. If any proposed substitution is judged by District to be unacceptable, the specified material or equipment shall be provided.

6. Samples may be required. Tests required by the District for the determination of quality and utility shall be made at the expense of Contractor, with acceptance of the test procedure first given by District.

7. In reviewing the supporting data submitted for substitutions, District will use for purposes of comparison all the characteristics of the specified material or equipment as they appear in the manufacturer’s published data even though all the characteristics may not have been particularly mentioned in the Specifications. If more than 2 submissions of supporting data are required, the cost of reviewing the additional supporting data shall be borne by Contractor, and the District will deduct the costs from the Contract price.

I. Submittals

1. Substitution Request Submittal: District (where applicable) will consider requests for substitution only with the requirements listed above.

   a. Present each Substitution individually using the “Request For Substitution” form at the end of this section.

   b. Identify the product or the fabrication or installation method to be replaced in each request. Include related Specification Section and Drawing numbers.

   c. Provide complete documentation showing compliance with the requirements for substitutions, and the following information, as appropriate:

      1. Coordination information, including a list of changes or modifications needed to other parts of the Work and to construction performed by the District and separate contractors that will be necessary to accommodate the proposed substitution. The contractor will coordinate use of accepted substitute and all necessary changes in surrounding and related work at no additional cost to the District.

      2. A detailed comparison of significant qualities of the proposed substitution with those of the Work specified. Significant qualities may include elements, such as performance, weight, size, durability, visual effect, and warranty.

      3. Product Data, including Drawings, and descriptions of products and fabrication and installation procedures.
4. Samples, where applicable or requested.

5. A statement indicating the substitution's effect on the Contractor's Construction Schedule compared to the schedule without approval of the substitution. Indicate the effect of the proposed substitution on overall Contract Time.

6. The Contractor's certification that the proposed substitution is equal to or superior to the specified product, conforms to requirements in the Contract Documents in every respect and is appropriate for the applications indicated.

7. The Contractor's waiver of rights to additional payment or time that may subsequently become necessary because of the failure of the substitution to perform adequately.

8. How does the substitution benefit the District?

J. Substitutions

1. Conditions: The District will receive and consider the Contractor's request for substitution when the following conditions are satisfied, as determined by the District. If the following conditions are not satisfied, the District will return the requests without action except to record noncompliance with these requirements.

   a. The requested substitution offers the District a substantial advantage, in cost, time, energy conservation, or other considerations, after deducting additional responsibilities the District must assume. District's additional responsibilities may include compensation to District (where applicable) for redesign and evaluation services, increased cost of other construction by the District, and similar considerations.

   b. Proposed changes are in keeping with the general intent of the Contract Documents.

   c. The request is timely, fully documented, and properly submitted.

2. Failure by the Contractor to order equipment in a timely manner will not constitute justification for substitution.

3. The Contractor's submittal and District's (where applicable) acceptance of Shop Drawings, Product Data, or Samples for construction activities not complying with the Contract Documents do not constitute an acceptable or valid request for substitution, nor do they constitute approval.

4. Do not make substitutions without written approval. Such approval shall not relieve the Contractor from complying with the Contract Documents. If a
substitution is not found to be acceptable, the specified item must be supplied.

K. Request for Substitution Form
   1. Complete the following form for each Substitution requested: (See attached form on next page.)

Following are:

- "REQUEST FOR SUBSTITUTION"
- "CERTIFICATION OF EQUAL QUALITY, CAPACITY, AND SERVICEABILITY AND ASSUMPTION OF LIABILITY THEREFORE"

**PROJECT NAME / TITLE**

**REQUEST FOR SUBSTITUTION**

Project Name: ___________________________  Substitution No.:__________

General Contractor: ________________________  Date:__________________

We hereby submit for consideration, the following material, equipment, or method substitution of the specified or indicated item:

<table>
<thead>
<tr>
<th>SPECIFICATION SECTION, PARAGRAPH or DRAWING AND / OR DETAIL NUMBER</th>
<th>SPECIFIED OR INDICATED ITEM</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Proposed substitution:

The following materials are attached where applicable:

1. Complete dimensional information and technical data, including laboratory tests.

2. Complete information on changes to drawings and/or specifications that are required for proper installation of the proposed substitution.

3. All samples and substantiating data necessary to substitute equal quality, capacity, and serviceability to the specified or indicated item. Clearly mark manufacturer's literature to indicate equality in performance. Differences in quality of materials and construction shall be indicated.
FILL IN THE BLANKS BELOW:

A. Reason(s) for the proposed substitution:
   ___ Availability    ___ Cost
   ___ Quality        ___ Previous Experience
   ___ Workability    ___ Schedule
   ___ Other, explain: ____________________________

Project Name: ____________________________  Substitution No.: ______
General Contractor: ________________________  Date: ______________

REQUEST FOR SUBSTITUTION
(continued)

PROJECT NAME / TITLE

B. Does the substitution affect dimensions shown on Drawings?
   Yes_______  No_______  If yes, clearly indicate changes.

C. The undersigned agrees to pay for changes to the building design, including
   engineering and detailing costs caused by the requested substitution:
   Yes_______  No_______

D. What effect does the substitution have on other trades?

E. What effect does this substitution have on applicable code requirements?

F. Differences between the proposed substitution and the specified or indicated item?

G. What is your previous experience with the proposed substitution?

H. The proposed substitution will provide a cost savings of: $______________

I. The proposed substitution will provide a schedule:
   1.) ________ Reduction of ________ calendar days.
      or
   2.) ________ Extension of ________ calendar days.

J. Manufacturer's guarantee of the proposed and specified items are:
Irvine Valley College Great Lawn
Specifications
Division 1
01300-15

1.) ________ the same.
   or

2.) ________ different, explain: ______________________________

Project Name: ______________________________  Substitution No.:_____
General Contractor: ____________________________  Date: ______________

Page: 2

PROJECT NAME / TITLE

CERTIFICATION OF EQUAL QUALITY, CAPACITY, AND SERVICEABILITY

AND

ASSUMPTION OF LIABILITY THEREFORE

Submitted By: ________________________________

__________________________________________  Date
Signature                                                

Name (print):                                          Title:__________________________
Firm:                                                  
Address:                                               
City:                                                  State:  Zip: ______________
Telephone:                                             Fax:__________

Signature must be by a person having the authority to legally bind his or her firm to the above terms. Failure to provide a legally binding signature will nullify approval.
Page: 1

END OF SECTION
SECTION 01310

PROJECT MANAGEMENT AND COORDINATION

1. PART 1 GENERAL

1.1 SECTION INCLUDES

1. Coordination.

2. Pre-construction conference.

3. Progress meetings.

4. Pre-installation conferences.

5. Commissioning.

6. Post construction dedication.

1.2 COORDINATION

1. Coordinate 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.

2. Coordinate construction operations of the different Sections of the Specifications to ensure efficient and orderly installation of each part of the Work.

3. Prior to commencement of a particular type or kind of work examine relevant information, contract documents and subsequent data issued to the project.

4. 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.

5. Coordinate space requirements and installation of electrical work, which are indicated diagrammatically on Drawings. Follow routing shown for pipes, ducts, and conduit, as closely as practicable; place runs parallel with line of building. Utilize spaces efficiently to maximize accessibility for other installations, for maintenance, and for repairs.

6. In finished areas except as otherwise indicated, conceal pipes, ducts, and wiring within the construction. Coordinate locations of fixtures and outlets with finish elements and center if appropriate. Coordinate final location with District approval.

7. In locations where several elements of electrical work must be sequenced and positioned with precision in order to fit into available space, prepare coordination drawings showing the actual conditions required for the installation. Prepare coordination drawings prior to purchasing, fabricating or installing any of the elements required to be coordinated.
8. Coordinate completion and clean up of Work of separate sections in preparation for Substantial Completion and for portions of Work designated for Owner's partial occupancy, if appropriate.

9. After Owner Occupancy of premises, coordinate access to site for correction of defective Work and Work not in accordance with Contract Documents, to minimize disruption of District's activities.

10. Coordinate all utility company work in accordance with the General Conditions.

11. Coordinate field engineering with the provisions of Section 01730.

1.3 PRE-CONSTRUCTION CONFERENCE

1. District will schedule a conference immediately after receipt of fully executed contract documents prior to project mobilization.

2. Mandatory Attendance: District, District's Resident Inspector, District's Testing Laboratory Representative, Architect, Contractor, Contractor's Project Manager and Contractor's Job Superintendent. Major subcontractors are encouraged to attend.


4. District will preside at conference, record minutes and distribute copies.

5. Agenda:

1. Issue Notice to Proceed.


3. Federal and State labor law requirements applicable to Contract.

4. Submission of list of Products, schedule of values, and progress schedule if not previously submitted.

5. Designation of responsible personnel representing the parties.

6. Procedures and processing of field decisions, submittals, substitutions, applications for payments, proposal request, Change Orders and Contract closeout procedures.

7. Procedures for testing and inspection.

8. Scheduling.

9. Critical work sequence and long lead items.

10. Work restrictions and working hours.
11. Use of site and premises.

12. District occupancy requirements.

13. Construction waste management.

14. SWPPP requirements.

15. Preparation of Record Drawings.


17. Parking availability.

1.4 PROGRESS MEETINGS

1. District will schedule and administer meetings throughout progress of the Work at one week intervals.

2. District will make arrangements for meetings, prepare agenda, preside at meetings, record minutes, and distribute copies.

3. Attendance Required: Job superintendent, major Subcontractors and suppliers, District, District's Inspector, and Architect, as appropriate to agenda topics for each meeting.

4. Agenda:

   1. Review minutes of previous meetings. (Field Reports)
   2. Review of Work progress.
   3. Field observations, problems, and decisions.
   4. Identification of problems, which impede planned progress.
   5. Review of submittals schedule and status of submittals.
   6. Requests For Information (RFI's).
   7. Status of Proposal Requests (PR's).
   8. Status of Change Order Requests (COR’s).
   10. Review of off-site fabrication and delivery schedules.
   12. Corrective measures to regain projected schedules.
13. Planned progress during succeeding work period.
14. Coordination of projected progress.
15. Maintenance of quality and work standards.
16. Effect of proposed changes on progress schedule and coordination.
17. Other business relating to Work.

1.5 POST-CONSTRUCTION DEDICATION

1. Attendance Required: Project superintendent, project manager, major subcontractors, District and Architect.

2. Preparation prior to Dedication:
   1. Verify operation and adjust controls for communication systems.
   2. Assist District in operation of lighting systems.

2. PART 2 PRODUCTS

Not Used

3. PART 3 EXECUTION

Not Used

END OF SECTION
SECTION 01320

CONSTRUCTION PROGRESS DOCUMENTATION

PART 1 – GENERAL

1.1 SECTION INCLUDES:

A. Contractor’s Qualifications
B. Preliminary Schedule
C. Proposed Contract Schedule

1.2 RELATED REQUIREMENTS:

General Conditions
Special Conditions
Division 1

1.3 SECTION INCLUDES:

A. Contractor’s Qualifications

1. The Contractor shall submit a statement of computerized CPM (Critical Path Method) capability to the District within ten days after the bid opening and shall verify that either the Contractor has in-house capability qualified to use CPM technique and the specified software or that the Contractor will arrange for the services of a CPM consultant so qualified. In either event the statement shall identify the individual who will perform the CPM scheduling. Capability shall be verified by description of construction projects on which the individual has successfully applied computerized CPM and shall include at least two projects of similar nature, scope and value not less than one-half the Total Bid Price of this project. The statement shall also identify the contact persons for the referenced projects with current telephone and address information.

B. Preliminary Schedule

a. The Preliminary Schedule shall show in complete detail all work to be performed within the first thirty (30) days of the Project. The Preliminary Schedule shall show all work beyond the first (30) days of the Project in sufficient detail to demonstrate preliminary planning for the Work and represent a practical plan to complete the Work within the Contract Time.

b. The Preliminary Schedule shall be presented in the format of a Time-Scaled Logic Diagram, showing all holidays and non-working days.

1. The Preliminary Schedule shall highlight and identify all work activities, which constitute the “critical path” for the Project.

C. Proposed Contract Schedule
1. Form:

a. The Contract Schedule shall be comprised of a computer-generated, logically networked schedule identifying all activities required to adequately plan and manage the Work to be accomplished. The Contract Schedule shall be a graphic depiction of the Construction plan which identifies all sequential elements required to complete the Work and shall be developed utilizing the Precedence Diagram Method format of Critical Path Method (CPM) Scheduling for identifying all interrelationships among the scheduled activities.

b. The Contract Schedule and all associated submittals shall be developed utilizing the most current version of Microsoft Project, SureTrak or Primavera Project Planner. The Contractor, at his cost, shall provide one (1) fully licensed copy of the approved Software, to District, including training sufficient to operate the Contractor's scheduling system for the duration of the Project.

c. The Contract Schedule shall detail all work activities, intermediate and major milestones required in executing, monitoring and evaluating progress of the Project. A Project/Work activity is defined as a schedule element that requires time and resources (manpower, equipment, materials, etc.) to complete in a continuous operation.

d. Identify all holidays and non-working days on the Contract Schedule.

e. All submissions of the Contract Schedule shall be in Timed-Scaled Logic Diagram format. A backup of the Schedule shall be provided on CD or thumbdrive.

2. Activities

a. Identify all Work activities required for the Completion of the Work. Work activities shall include the following:

   (1) Contract deliverables, including the submittal and approval of permit applications, samples of materials, shop drawings, inspection and test plans, safety and security plans, worksite control plans, utility point of connection installations and applications, punchlist and closeout activities. In addition, activities shall be included for the procurement of materials and equipment impacting the critical path, fabrication of special materials and equipment and their installation and testing, activities of District that may impact activities shall be reflected, as well as those of utilities and other similarly involved third parties.

      (a) A minimum of ten (10) working days shall be allotted for District to review each submittal

   (2) System test dates

   (3) Scheduled overtime, if required

   (4) Scheduled inspections as required by Codes, or as otherwise specified.
(5) Provide allowances for weather days typical of the season during which construction occurs.

b. Activity descriptions shall briefly cover the scope of Work indicated. Activities shall be discrete items of Work that must be accomplished under the Contract and constitute definable, recognizable entities within the Project.

c. All activities shall have a defined duration. All durations shall be in multiples of calendar days.

d. Activities shall have durations of thirty (30) calendar days or less. Should an activity require more than thirty (30) calendar days, it shall be subdivided to define appropriate activities. District may approve using longer durations on non-construction activities, including the procurement and fabrication of materials and equipment.

e. The critical path activities shall be identified, including critical paths for any Contract interim and final completion milestone dates. Critical Activities are defined as Work Activities which, if delayed, will delay the scheduled completion of the Work. All other Work Activities are defined as non-critical and are considered to have float. A zero (0) float schedule will not be acceptable.

f. Scheduled start or completion dates imposed on the schedule by Contractor shall be consistent with Contract milestones as identified in the Contract Documents. Milestone dates shall be defined as the interim and final completion milestone dates connected to the appropriate activities.

Float is defined as the time that a non-critical Work activity can be delayed or extended without delaying the scheduled completion of milestones or the scheduled completion of the Work, or both.

g. Delays of any non-critical Work shall not be the basis for an extension of Contract Time until the delays consume the float associated with that non-critical Work activity and causes the work activity to become critical.

h. The Contractor shall not sequester float through strategies including extending activity duration estimates to consume available associated with that non-critical Work activity and causes the Work activity to become critical.

i. A proposed Contract Schedule showing the Work completed in less time than the Contract Time, which is found practical by District, may be acceptable, however, the Contract Time will not be reduced and in no way shall District’s rights and privileges to a full Contractor Project Staff, General Conditions, and General Requirements for the entire duration of the Contract Time be lessened.

j. Contractor shall furnish cost estimates for each Work activity which cumulatively equal the total contract cost. Mobilization costs may be shown separately; however, other costs, i.e. profit and bonds etc., shall be pro-rated throughout all activities.
3. Updating:
   a. Prepare and submit to District for review and approval an undated Contract Schedule once each month.

      (1) The updated Contract Schedule shall accurately represent the as-built condition of all completed and in-progress Work activities as of the date of the updated Contract Schedule.

      (2) The updated Contract Schedule shall incorporate all changes mutually agreed upon by Contractor and District during preceding periodic reviews and all changes resulting from Change Orders and Field Orders.

      (3) Contractor shall perform the work in accordance with the updated Contract Schedule. Contractor may change the Contract Schedule to modify the order or method of accomplishing the Work only with prior agreement by District.

   b. Contractor shall submit the updated Contract Schedule, in the form acceptable to District, at least seven (7) days prior to submitting the Application for Payment, including a copy of the update on a CD.

   c. District will determine acceptability of the updated Contract Schedule within seven (7) days after its receipt.

   d. No Applications for Payment will be processed nor shall any progress payments become due until the updated Contract Schedule is received and accepted by District.

   e. The accepted, updated Contract Schedule shall be the Contract Schedule of record for the period for which it is current and shall be the basis for payment during that period.

D. Short Interval Schedule

The contractor shall prepare and submit a Short Interval Schedule (SIS) twenty four (24) hours prior to each weekly progress meeting. The SIS shall include a four (4) week period showing actual work performed during the previous week, activities scheduled for the current week, and projections of activities to be performed in the following two weeks. The SIS will be reviewed against the contract schedule each week to evaluate progress of the work.

E. In addition to requirements of the General Conditions, the time for completion of the Work will be adjusted in accordance with the following procedure:

1. When Change Orders or delays are experienced by the Contractor, and Contractor requests an extension of time, Contractor shall submit to District a written Time Impact Analysis illustrating the influence of each item of change or delay on the current Contract Schedule completion date. Each Time Impact Analysis shall include a fragnet demonstrating how Contractor proposes to incorporate the Change Order or delay into the Contract Schedule. A fragnet is defined as a
sequence of new activities and activity updates that are proposed to be added to the existing schedule to demonstrate the influence of delay and the method for incorporating delays and impacts into the schedule as they are encountered. Three (3) copies of the Time Impact Analysis shall be submitted to District with the Contractors request for an adjustment of the Contract Time no later than five (5) days after notice or direction for proceeding with a change. In cases where Contractor does not submit a Time Impact Analysis for a specific change order or delay within the specified period of time, it shall be deemed to have agreed that there is no impact and that it has irrevocable waived its rights to any additional time and or cost.

a. Each Time Impact Analysis shall demonstrate the estimated time impact based on the events of the delay, the date the change was given to the Contractor, the date the changed work began or is scheduled to begin, the status of the construction at that pint in time, and all activities affected by the change or delay. The Time Impact Analysis shall be based on the current update of the Project Schedule.

b. Approval or rejection of each Time Impact Analysis by District shall be made within fifteen (15) days after receipt of each Time Impact Analysis, unless subsequent meetings and negotiations are necessary in the sole judgement of District. Upon approval the Time Impact Analysis will be incorporated in the contract Schedule.

END OF SECTION
SECTION 01350

ALTERATION PROJECT PROCEDURES

1. PART 1 GENERAL

1.1 SECTION INCLUDES

1. Products and installation for altering, patching and extending Work.

2. Transition and adjustments.

3. Repair of damaged surfaces, finishes, and cleaning.

1.2 DEFINITIONS

1. Protect and Maintain: To remove deteriorating corrosion, reapply protective coatings, and install protective measures such as temporary guards; to provide the least degree of intervention.

2. Repair: To stabilize, consolidate, or conserve; to retain existing materials and features while employing as little new material as possible. Repair includes patching, piecing-in, splicing, consolidating, or otherwise reinforcing or upgrading materials. Repair also includes limited replacement to match existing, rehabilitation, and reconstruction, with compatible substitute materials for deteriorated or missing parts of features when there are surviving prototypes.

3. Replace: To duplicate and replace entire features with new material to match existing. Replacement includes the following conditions:

4. Duplication: Includes replacing elements damaged beyond repair or missing. Original material is indicated as the pattern for creating new duplicated elements.

5. Replacement with New Materials: Includes replacement with new material when original material is not available as patterns for creating new duplicated elements.

6. Replacement with Substitute Materials: Includes replacement with compatible substitute materials. Substitute materials are not allowed, unless otherwise indicated.

7. Remove: To detach items from existing construction and legally dispose of them off-site unless indicated to be removed and salvaged or removed and reinstalled.

8. Remove and Salvage: To detach items from existing construction and deliver them to District.
9. Remove and Reinstall: To detach items from existing construction, repair and clean them for reuse, and reinstall them where indicated.

10. Existing to Remain or Retain: Existing items of construction that are not to be removed and that are not otherwise indicated to be removed and salvaged, or removed and reinstalled.

11. Match Existing: Material that matches existing materials, as much as possible, in species, cut, color, grain, and finish.

1.3 SUBMITTALS

1. If alternate methods and materials to those indicated are proposed for any work, provide written description of proposed methods and comparable products.

2. Where existing conditions may be misconstrued as damage caused by alteration procedures submit evidence of adjacent construction before work begins.

2. PART 2 PRODUCTS

2.1 PRODUCTS FOR PATCHING AND EXTENDING WORK

1. New Materials: As specified in product Sections; match existing products and work for patching and extending work.

2. Type and Quality of Existing Products: Determine by inspection and testing products where necessary, referring to existing Work as a standard.

3. PART 3 EXECUTION

3.1 EXAMINATION

A. Verify that demolition is complete, and areas are ready for installation of new Work.

B. Beginning of alteration Work means acceptance of existing conditions.

3.2 PREPARATION

1. Cut, move, or remove items as necessary for access to alterations and renovation Work. Replace and restore at completion.

2. Remove unsuitable material not marked for salvage, such as rotted wood, corroded metals, and deteriorated masonry and concrete. Replace materials as specified for finished Work.
3. Remove debris and abandoned items from area and from concealed spaces.

4. Prepare surface and remove surface finishes to provide for proper installation of new work and finishes.

5. Close openings in exterior surfaces to protect existing work from weather and extremes of temperature and humidity.

3.3 INSTALLATION

1. Coordinate work of alterations and renovations to expedite completion and to accommodate District occupancy.

2. Remove, cut, and patch Work in a manner to minimize damage and to provide a means of restoring products and finishes to [original] [specified] condition.

3. Refinish visible existing surfaces to remain in renovated rooms and spaces, to specified condition for each material, with a neat transition to adjacent finishes.

4. Install products as specified in individual Sections.

3.4 TRANSITIONS

1. Where new Work abuts or aligns with existing, perform a smooth and even transition. Patched Work to match existing adjacent Work in texture and appearance.

2. When finished surfaces are cut so that a smooth transition with new work is not possible, request instructions from District.

3.5 ADJUSTMENTS

1. Where removal of partitions or walls results in adjacent spaces becoming one, rework floors, walls, and ceilings to a smooth plane without breaks, steps, or bulkheads.

2. Where a change of plane of 1/8 inch or more occurs, request instructions from District.

3. Trim existing doors as necessary to clear new floor finish. Refinish trim as required.

4. Fit work at penetrations of surfaces as specified in Section 01732.
3.6 REPAIR OF DAMAGED SURFACES

1. Patch or replace portions of existing surfaces which are damaged, lifted, discolored, or showing other imperfections.

2. Repair substrate prior to patching finish.

3.7 FINISHES

1. Finish surfaces as specified in individual Product Sections.

2. Finish patches to produce uniform finish and texture over entire area. When finish cannot be matched, refinish entire surface to nearest intersections.

3.8 CLEANING

1. Match samples of existing materials that have been cleaned and identified for acceptable cleaning levels.

2. Avoid over cleaning to prevent damage to existing materials.

END OF SECTION
SECTION 01423

REFERENCE STANDARDS

1. PART 1 GENERAL

1.1 SECTION INCLUDES

1. Definitions.

2. Specification format and content.

3. Industry standards.

4. Codes and standards.

5. Governing regulations/authorities.

1.2 DEFINITIONS

1. General: Basic contract definitions are included in the General Conditions.

2. Regulations: Includes laws, ordinances, statutes, and lawful orders issued by authorities having jurisdiction, as well as rules, conventions, and agreements within the construction industry that control performance of the work.

1.3 SPECIFICATION FORMAT AND CONTENT

1. Specifications are organized into Divisions and Sections based on the Construction Specifications Institute's 16-Division format and Masterformat numbering system.

2. The sections are placed in the Project Manual in numeric sequence; however, this sequence is not complete and the Table of Contents of the specifications must be consulted to determine the total listing of sections.

3. The section title is not intended to limit the meaning or content of the section, nor to be fully descriptive of the requirements specified therein.

4. The organization of the specifications shall not control the division of the work among subcontractors or establish the extent of work to be performed by any trade.

5. Specifications use certain conventions regarding style of language and the intended meaning of certain terms, words, and phrases when used in particular situations or circumstances. These conventions are:

Reference Standards
1. Language used in Specifications and other Contract Documents is abbreviated. Words and meanings shall be interpreted as appropriate. Words that are implied, but not stated, shall be interpolated as the sense requires. Singular words shall be interpreted as plural and plural words interpreted as singular where applicable to maintain the context of the Contract Document indicated.

2. Imperative and streamlined language is generally used in the Specifications. Requirements expressed in the imperative mood are to be performed by the Contractor. Subjective language is used for clarity to describe responsibilities that must be fulfilled indirectly by the Contractor, or by others when so noted.

3. The words "shall be" are implied wherever a colon (:) is used within a sentence or phrase.

1.4 INDUSTRY STANDARDS

1. Except where Contract Documents include more stringent requirements, applicable construction industry standards shall apply as if bound into the Contract Documents to the extent referenced. Such standards are made part of Contract Documents by reference.

2. Conform to reference standard by date of issue current on date for receiving bids except when a specific date is indicated.

3. Where compliance with 2 or more standards is specified and where standards may establish different or conflicting requirements for quantities or quality levels, the more stringent, higher quality and greater quantity of work shall apply.

4. The quantity or quality level shown or specified shall be the minimum provided or performed. Indicated numeric values are minimum or maximum, as appropriate, for the context of the requirements.

5. Each entity engaged in construction of the work is required to be familiar with industry standards applicable to its construction activity.

6. Copies of applicable standards are not bound with the Contract Documents. Where copies of standards are needed to perform a required activity, Contractor shall obtain copies directly from publication source.

7. Trade associations names and titles of general standards are frequently abbreviated. Where such abbreviations are used in the Specifications or other Contract Documents, they shall mean the recognized trade association, standards-generating organization, authority having jurisdiction, or other entity applicable to the content of the text provision. Refer to the "Encyclopedia of Associations", published by Gale Research Co., available in most libraries.
8. Refer to individual specification sections and related drawings for names and abbreviations of trade associations and standards applicable to specific portions of the work. In particular, refer to Division 15 for names and abbreviations applicable to mechanical work, and refer to Division 16 for names and abbreviations applicable to electrical work.

9. 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.

1.5 CODES AND STANDARDS

1. Latest edition of pertaining ordinances, laws, rules, codes, regulations, standards, and others of public agencies having jurisdiction of the work are intended wherever reference is made in either the singular or plural to Code or Building Code except as otherwise specified, including but not limited to latest edition of those in the following listing.

2001 Administrative Regulations
California Code of Regulations
(CCR), Title 24, Part 1

2001 California Building Code (CBC)
California Code of Regulations
(CCR) Title 24, Part 2

2001 California Electrical Code (CEC)
California Code of Regulations
(CCR) Title 24, Part 3

2001 California Plumbing Code (CPC)
California Code of Regulations
(CCR) Title 24, Part 5

2001 California Energy Code
California Code of Regulations
(CCR) Title 24, Part 6

2001 California Fire Code (CFC)
California Code of Regulations
(CCR) Title 24, Part 9

State Fire Marshal Regulations
California Code of Regulations
(CCR) Title 19
2001 California Code for Building Conservation
California Code of Regulations (CCR) Title 24, Part 10

2001 State Referenced Standards Code
California Code of Regulations (CCR) Title 24, Part 12

Americans with Disabilities Act (ADA) Accessibility Guidelines for Buildings and Facilities (ADAAG)

1.6 GOVERNING REGULATIONS/AUTHORITIES

1. Authorities having jurisdiction have been contacted where necessary to obtain information for preparation of Contract Documents. Contact authorities having jurisdiction directly for information having a bearing on the work.

2. Comply with all federal, state and local laws, ordinances, rules and regulations indicated and which bear on the conduct of the work.

2. PART 2 PRODUCTS

NOT USED

3. PART 3 EXECUTION

NOT USED

END OF SECTION
SECTION 01450

QUALITY CONTROL

1. PART 1 GENERAL

1.1 SECTION INCLUDES

1. Interpretation of requirements.

2. Quality assurance and control of installation.

3. Tolerances.

4. Field samples.

5. Mock-up.

6. Manufacturers' field services and reports.

1.2 INTERPRETATION OF REQUIREMENTS

1. If compliance with two or more standards is specified and the standards establish different or conflicting requirements for minimum quantities or quality levels, comply with the most stringent requirement.

2. The quantity or quality level shown or specified shall be the minimum provided or performed. The actual installation shall comply exactly with the minimum quantity or quality specified, or it may exceed the minimum within reasonable limits.

3. Where codes or specified standards indicate higher standards, more stringent tolerances or more precise workmanship than levels shown or specified, comply with most stringent requirements.

4. Refer uncertainties and requirements that are different, but apparently equal, to District for a decision before proceeding.

1.3 QUALITY ASSURANCE/CONTROL OF INSTALLATION

1. Installer Qualifications: A firm or individual experienced in installing, erecting, or assembling work similar in material, design, and extent to that indicated for this project, whose work has resulted in construction with a record of successful in-service performance.

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

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

4. Coordination: Coordinate sequence of activities to accommodate required quality-assurance and - control services with a minimum of delay and to avoid necessity of removing and replacing construction to accommodate testing and inspecting.

5. Monitor quality control over suppliers, manufacturers, products, services, site conditions, and workmanship, to produce Work of specified quality.

6. Comply fully with manufacturers' instructions, including each step in sequence.

7. Should manufacturers' instructions conflict with Contract Documents, request clarification from District before proceeding.

8. Secure Products in place with positive anchorage devices designed and sized to withstand stresses, vibration, physical distortion or disfigurement.

1.4 TOLERANCES

1. Monitor tolerance control of installed products to produce acceptable Work. Do not permit tolerances to accumulate.

2. Comply with manufacturer's tolerances. Should manufacturer's tolerance conflict with Contract Documents, request clarification from District before proceeding.

3. Adjust products to appropriate dimensions; position before securing products in place.

1.5 FIELD SAMPLES

1. Install field samples at the site as required by individual specifications sections for review.

2. Acceptable samples represent a quality level for the Work.

3. Where field sample is specified in individual sections to be removed, clear area after field sample has been reviewed by District.

1.6 MOCK-UP
1. Mock-up will be performed under provisions identified in this section and identified in the respective product specification sections.

2. Assemble and erect specified items, with specified attachment and anchorage devices, flashings, seals and finishes.

3. Maintain mockups during construction in an undisturbed condition as a standard for judging the completed Work.

4. Where mock-up is specified in individual Sections to be removed, clear area after mock-up has been reviewed by District.

1.7 MANUFACTURERS' FIELD SERVICES AND REPORTS

1. 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, start-up of equipment, test, adjust, and balance of equipment and other field services as applicable, and to initiate instructions when necessary.

2. Individuals to report observations and site decisions or instructions given to applicators or installers that are supplemental or contrary to manufacturers' written instructions.

3. Submit report in duplicate within 15 days of observation to District for review.

2. PART 2 PRODUCTS

Not Used

3. PART 3 EXECUTION

3.1 GENERAL INSTALLATION

1. Comply with requirements specified in Section 01730.

3.2 EXAMINATION

1. Verify that existing site conditions and substrate surfaces are acceptable for subsequent Work. Beginning new Work means acceptance of existing conditions.

2. Verify that existing substrate is capable of structural support or attachment of new Work being applied or attached.
3. Examine and verify specific conditions described in individual specification sections.

4. Verify that utility services are available, of the correct characteristics, and in the correct locations.

3.3 PREPARATION

1. Clean substrate surfaces prior to applying next material or substance.

2. Seal cracks or openings of substrate prior to applying next material or substance.

3. Apply manufacturer required or recommended substrate primer, sealer, or conditioner prior to applying any new material or substance in contact or bond.

END OF SECTION
SECTION 01500

TEMPORARY FACILITIES AND CONTROLS

1. PART 1 GENERAL

1.1 SECTION INCLUDES

1. Temporary Utilities: Electricity, lighting, heat, ventilation, telephone service, communication service, water, and sanitary facilities.

2. Temporary Controls: Barriers, enclosures and fencing. Water, erosion, pollution, noise and fire protection control.


1.2 TEMPORARY ELECTRICITY

1. Connect to existing power service at location as directed. Power consumption shall not disrupt District's need for continuous service. Use of Owner's existing electric power service will be permitted as long as equipment is maintained in a condition acceptable to Owner. Exercise measures to conserve energy.

2. Provide power outlets for construction operations, with branch wiring and distribution boxes. Provide flexible power cords as required.

3. Provide main service disconnect and over current protection at convenient location.

4. Comply with NECA, NEMA, and UL standards and regulations for temporary electric service.

5. Permanent convenience receptacles may not be utilized during construction.

6. At Substantial Completion, restore facilities to condition existing before initial use.

7. District reserves the right at their discretion to meter the Contractor's electric usage and charge the College’s cost to the Contractor.

1.3 TEMPORARY LIGHTING

1. Provide and maintain lighting for construction operations, observations, inspections, and traffic conditions.
2. Provide branch wiring from power source to distribution boxes with lighting conductors, pigtails, and lamps as required.

3. Maintain lighting and provide routine repairs.

4. Permanent building lighting may not be utilized during construction.

1.4 TEMPORARY HEAT

1. Do not use permanent equipment for temporary heating purposes.

1.5 TELEPHONE SERVICE

1. Provide, maintain and pay for telephone service to field office and District's/Inspector's field office at time of project mobilization. Inspector's office to have separate telephone line.

2. Provide, maintain and pay for Facsimile machine in field office. Provide separate dedicated telephone line for machine.

1.6 TEMPORARY WATER SERVICE

1. Connect to existing water source for construction operations. Water consumption shall not disrupt District's need for continuous service. Use of Owner's existing water service will be permitted as long as equipment is maintained in a condition acceptable to Owner. Exercise measures to conserve water.

2. Extend branch piping with outlets located so water is available by hoses with threaded connections.

3. At Substantial Completion, restore facilities to condition existing before initial use.

4. Where installation below an outlet might be damaged by spoilage or leakage, provide a drip pan of suitable size to minimize water damage. Drain accumulated water promptly from pans.

5. District reserves the right at their discretion to meter the Contractor's water usage and charge the College's cost to the Contractor.

1.7 TEMPORARY SANITARY FACILITIES

1. Provide temporary chemical type toilet facilities and enclosures.

2. Maintain temporary toilet facilities in a sanitary manner.

3. Existing facilities shall not be used.
1.8 BARRIERS

1. Provide barriers to prevent unauthorized entry to construction areas and to protect existing facilities and adjacent properties from damage from construction operations.

2. Provide protection for plant life and trees designated to remain and for soft and hardscape areas adjacent to work. Install temporary fencing located outside the drip line of trees to protect vegetation from damage from construction operations. Protect tree root systems from damage, flooding and erosion. Replace damaged materials in kind.

3. Protect non-owned vehicular traffic, stored materials, site and structures from damage.

1.9 FENCING

1. Construction: Commercial grade chain link fence.

2. Provide 6 foot high fence around construction site; equip with vehicular and pedestrian gates with locks. Post fences and gates with no trespassing signs.

1.10 WATER CONTROL

1. Grade site to drain. Maintain excavations free of water. Provide, operate, and maintain pumping equipment.

2. Provide water barriers as required to protect site from running water.

1.11 EROSION AND SEDIMENT CONTROL

1. Prior to the start of construction, the Contractor shall submit to the District for approval a Storm Water Prevention Pollution Plan (SWPPP) in accordance with the Contract Documents and all local and state jurisdictional requirements.


3. Plan and execute construction by methods to control surface drainage from cuts and fills, from borrow and waste disposal areas. Prevent erosion and sedimentation.

4. Minimize amount of bare soil exposed at one time.
5. Provide temporary measures such as berms, dikes, and drains, to prevent water flow.

6. Construct fill and waste areas by selective placement to avoid erosive surface silts or clays.

7. Coordinate construction activities with control procedures established in the Storm Water Pollution Prevention Plan (SWPPP).

1.12 TEMPORARY FIRE PROTECTION

1. Maintain temporary fire protection facilities of the types needed until permanent facilities are installed.


3. Fire safety during construction shall comply with CFC - California Fire Code (CCR) California Code of Regulations, Title 24, Part 9, Article 87.

4. Store combustible materials in containers in fire-safe locations.

5. Maintain unobstructed access to fire extinguishers, fire hydrants, temporary fire-protection facilities, stairways, and other access routes.

6. Provide supervision of welding operations, combustion-type temporary heating units, and similar sources of fire ignition.

1.13 NOISE CONTROL

1. Provide methods, means, and facilities to minimize noise produced by construction operations.

1.14 POLLUTION CONTROL

1. Provide methods, means, and facilities to prevent contamination of soil, water, and atmosphere from discharge of noxious, toxic substances, and pollutants produced by construction operations.

3. Coordinate construction activities with control procedures established in the Storm Water Pollution Prevention Plan (SWPPP).

1.15 SECURITY

1. Provide security and facilities to protect Work, and existing facilities and District's operations from unauthorized entry, vandalism, or theft.

2. Coordinate with District's security program.

1.16 ACCESS ROADS


2. Stabilize temporary vehicle transportation routes and construction entrances to prevent erosion and control dust immediately after grading in accordance with best management practice techniques defined in Section 3 of the Construction Activity Handbook published by the Storm Water Quality Association.

3. Maintain stabilization techniques as work progresses.

4. Provide and maintain access to fire hydrants, free of obstructions.

5. Designated existing on-site roads may be used for construction traffic.

1.17 PARKING

1. Arrange for temporary parking areas to accommodate construction personnel.

1.18 TRAFFIC CONTROL

1. Comply with requirements of authorities having jurisdiction.

2. Obtain all permits, provide all materials and maintain controls as required of authorities having jurisdiction.

3. Maintain access for fire-fighting equipment and access to hydrants.

1.19 PROGRESS CLEANING

1. Remove debris and rubbish from site no less than weekly.
1.20 WASTE DISPOSAL

1. Waste Management: In compliance with Section 01524 - Waste Management.

1.21 PROJECT IDENTIFICATION

1. Provide 8 x 4 foot project sign of exterior grade plywood and wood frame construction, painted, with exhibit lettering by professional sign painter to District's design and colors.

2. List title of Project, names and logos of College, District, Board Members, Architect and Contractor.

3. Erect on site at location established by District.

4. Sign to remain in place through construction period and shall be removed only after dedication of the project.

5. Provide temporary directional signs for construction personnel and visitors.

6. No other signs are allowed except those required by law.

1.22 FIELD OFFICES

1. Office: Weather-tight, with lighting, electrical outlets, heating, cooling and ventilating equipment, and equipped with sturdy furniture drawing rack and drawing display table.


3. Provide space for Project meetings, with table and chairs per general conditions to accommodate [12] persons.

4. Permanent facilities shall not be used for field offices.

1.23 STORAGE AREAS AND SHEDS

1. Size to storage requirements for products of individual Sections. Allow for access and orderly provision for maintenance and for inspection of products.

1.24 REMOVAL OF UTILITIES, FACILITIES, AND CONTROLS

1. Remove temporary above grade or buried utilities, equipment, facilities, materials, prior to Substantial Completion review.
2. Remove underground installations to a minimum depth of 2 feet. Grade site as indicated.

3. Clean and repair damage caused by installation or use of temporary work.

4. Materials and facilities that constitute temporary facilities are property of the Contractor.

5. Restore existing facilities used during construction to original condition.

6. Restore permanent facilities used during construction to specified condition.

7. Replace construction that cannot be satisfactorily restored.

2. PART 2 PRODUCTS

Not Used

3. PART 3 EXECUTION

3.1 INSTALLATION. GENERAL

1. Prepare a plan showing location or relocation of temporary facilities for the Owner's review. Owner shall approve location of all temporary facilities prior to installation.

2. Locate facilities where they will serve Project adequately and result in minimum interference with performance of the Work. Relocate and modify facilities as required by progress of the Work.

3. Provide each facility ready for use when needed to avoid delay. Do not remove until facilities are no longer needed or are replaced by authorized use of completed permanent facilities.

END OF SECTION
SECTION 01501

BURIED UTILITIES

PART 1 – GENERAL

1.1 SECTION INCLUDES:

A. Description

B. Protection of Existing Structures and Utilities

1.2 RELATED REQUIREMENTS:

A. Section 01500 - Construction Facilities and Temporary Controls

1.3 INCLUDED:

A. Description

1. Work included: Administrative requirements for cut over of utilities to adjacent facilities.

B. Protection of Existing Structures and Utilities

1. The Drawings show existing above and below grade structures, drainage lines, storm drains, sewers, water, gas, electrical, hot water, and other utilities which are known to the Agency.

2. Locate all existing installations before proceeding with construction operations which may cause damage to such installations. Existing installations which are to remain in place and in service shall be kept in service and damage to them shall be repaired with no adjustment of Contract Sum.

3. If any other structure or utilities are encountered, request Engineer to provide direction on how to proceed with the Work.

4. If any structure or utility is damaged, take appropriate action to ensure the safety of persons and property.

5. Locate drainage, sewer lines, water, gas, and other utility service lines or piping in the way of new work. Properly cap or plug, and make tight at the property line, such services which are not to be removed.

6. Utilities:

a. Send notices, make all necessary arrangements, and perform all other services required in care and maintenance of all utilities, District owned or otherwise. Assume all responsibility concerning same for which the Agency may be liable. Provide enclosing or boxing-in for protection of any utilities
equipment. Upon completion of Work, remove all enclosures, fill in all openings in concrete, grout same watertight, and leave in finished condition.

b. In case it should be necessary to move or temporarily maintain the property of any public utility or of any other property owner, the cost of which is not required to be borne by the Agency thereof, the Contractor shall bear all expenses incidental to the removal or temporary maintenance of such property in a manner satisfactory to the Agency thereof.

c. The right is reserved to the controlling governmental agencies and to the owners of public utilities and franchises to enter at any time upon any street, alley, right-of-way or easement for the purpose of making changes in their property made necessary by the work and for the purpose of maintaining and making repairs to their property.

d. When the proper completion of the Work requires their temporary or permanent removal, the Contractor shall, at his own expense, remove and, without unreasonable delay, temporarily or permanently replace or relocate, in a workman-like manner and to the satisfaction of the Architect, all water pipe, pipelines, conduits, culverts, roads, driveways, fences, wires, poles, retaining walls, curbs, gutters, concrete walks and all other improvements of whatever character, not required by law to be removed by the Agency thereof; and all such improvements temporarily removed shall be maintained until permanently replaced, all at the Contractor's expense.

END OF SECTION
SECTION 01524

CONSTRUCTION WASTE MANAGEMENT

1. PART 1 GENERAL

1.1 SECTION INCLUDES

1. Administrative and procedural requirements for the following:
   1. Salvaging non-hazardous demolition and construction waste.
   2. Recycling non-hazardous demolition and construction waste.
   3. Disposing of non-hazardous demolition and construction waste.

1.2 DEFINITIONS


2. Demolition Waste: Building and site improvement materials resulting from demolition or selective demolition operations.

3. Disposal: Removal off-site of demolition and construction waste and subsequent sale, recycling, reuse, or deposit in landfill or incinerator acceptable to authorities having jurisdiction.

4. Recycle: Recovery of demolition or construction waste for subsequent processing in preparation for reuse.

5. Salvage: Recovery of demolition or construction waste and subsequent sale or reuse in another facility.

6. Salvage and Reuse: Recovery of demolition or construction waste and subsequent incorporation into the Work.

1.3 PERFORMANCE REQUIREMENTS

1. General: Develop waste management plan that results in end-of-Project rates for salvage/recycling of 50 percent by weight of total waste generated by the Work.

2. Construction Waste:
   (1) Site-clearing waste.
   (2) Packaging: Regardless of salvage/recycle goal indicated above, salvage or recycle 100 percent of the following uncontaminated packaging materials:
(1) Paper.
(2) Cardboard.
(3) Boxes.
(4) Plastic sheet and film.
(5) Polystyrene packaging.
(6) Wood crates.
(7) Plastic pails.

1.4 SUBMITTALS

1. Waste Management Plan: Submit five copies of plan within [10] days of date established for the Notice to Proceed.

2. Waste Reduction Progress Reports: Concurrent with each Application for Payment, submit three copies of reports. Include separate reports for demolition and construction waste. Include the following information:

   1. Material category.
   2. Generation point of waste.
   3. Total quantity of waste in tons.
   4. Quantity of waste salvaged, both estimated and actual in tons.
   5. Quantity of waste recycled, both estimated and actual in tons.
   6. Total quantity of waste recovered (salvaged plus recycled) in tons.
   7. Total quantity of waste recovered (salvaged plus recycled) as a percentage of total waste.

3. Forms: Prepare waste reduction progress reports on forms included at end of Part 3.


5. Records of Donations: Indicate receipt and acceptance of salvageable waste donated to individuals and organizations. Indicate whether organization is tax exempt.

6. Records of Sales: Indicate receipt and acceptance of salvageable waste sold to individuals and organizations. Indicate whether organization is tax exempt.

7. Recycling and Processing Facility Records: Indicate receipt and acceptance of recyclable waste by recycling and processing facilities licensed to accept them. Include manifests, weight tickets, receipts, and invoices.
8. Landfill and Incinerator Disposal Records: Indicate receipt and acceptance of waste by landfills and incinerator facilities licensed to accept them. Include manifests, weight tickets, receipts, and invoices.

9. Qualification Data: For [Waste Management Coordinator] [and] [refrigerant recovery technician].

10. Statement of Refrigerant Recovery: Signed by refrigerant recovery technician responsible for recovering refrigerant, stating that all refrigerant that was present was recovered and that recovery was performed according to EPA regulations. Include name and address of technician and date refrigerant was recovered.

1.5 QUALITY ASSURANCE

1. Regulatory Requirements: Comply with hauling and disposal regulations of authorities having jurisdiction.

2. Waste Management Conference: Conduct conference at Project site to comply with requirements in Division 1 Section 01310 - Project Management and Coordination. Review methods and procedures related to waste management including, but not limited to, the following:

   1. Review and discuss waste management plan

   2. Review requirements for documenting quantities of each type of waste and its disposition.

   3. Review and finalize procedures for materials separation and verify availability of containers and bins needed to avoid delays.

   4. Review procedures for periodic waste collection and transportation to recycling and disposal facilities.

   5. Review waste management requirements for each trade.

1.6 WASTE MANAGEMENT PLAN

1. General: Develop plan consisting of waste identification, waste reduction work plan, and cost/revenue analysis. Indicate quantities by weight or volume, but use same units of measure throughout waste management plan.

2. Waste Identification: Indicate anticipated types and quantities of demolition, site-clearing and construction waste generated by the Work. Include estimated quantities and assumptions for estimates.

3. Waste Reduction Work Plan: List each type of waste and whether it will be salvaged, recycled, or disposed of in landfill or incinerator. Include points of waste generation, total quantity of each type of waste, quantity for each means of recovery, and handling and transportation procedures.
1. Salvaged Materials for Reuse: For materials that will be salvaged and reused in this Project, describe methods for preparing salvaged materials before incorporation into the Work.

2. Salvaged Materials for Sale: For materials that will be sold to individuals and organizations, include list of their names, addresses, and telephone numbers.

3. Salvaged Materials for Donation: For materials that will be donated to individuals and organizations, include list of their names, addresses, and telephone numbers.

4. Recycled Materials: Include list of local receivers and processors and type of recycled materials each will accept. Include names, addresses, and telephone numbers.

5. Disposed Materials: Indicate how and where materials will be disposed of. Include name, address, and telephone number of each landfill and incinerator facility.

6. Handling and Transportation Procedures: Include method that will be used for separating recyclable waste including sizes of containers, container labeling, and designated location on Project site where materials separation will be located.

4. Cost/Revenue Analysis: Indicate total cost of waste disposal as if there was no waste management plan and net additional cost or net savings resulting from implementing waste management plan. Include the following:

1. Total quantity of waste.

2. Estimated cost of disposal (cost per unit). Include hauling and tipping fees and cost of collection containers for each type of waste.

3. Total cost of disposal (with no waste management).

4. Revenue from salvaged materials.

5. Revenue from recycled materials.


7. Savings in hauling and tipping fees that are avoided.

8. Handling and transportation costs. Include cost of collection containers for each type of waste.

9. Net additional cost or net savings from waste management plan.

5. Forms: Prepare waste management plan on forms included at end of Part 3.
2. PART PRODUCTS

(NOT USED)

3. PART EXECUTION

3.1 PLAN IMPLEMENTATION

1. General: Provide handling, containers, storage, signage, transportation, and other items as required to implement waste management plan during the entire duration of the Contract.

2. Training: Train workers, subcontractors, and suppliers on proper waste management procedures, as appropriate for the Work occurring at Project site.
   1. Distribute waste management plan to everyone concerned within three days of submittal return.
   2. Distribute waste management plan to entities when they first begin work on-site. Review plan procedures and locations established for salvage, recycling, and disposal.

3. Site Access and Temporary Controls: Conduct waste management operations to ensure minimum interference with roads, streets, walks, walkways, and other adjacent occupied and used facilities.
   1. Designate and label specific areas on Project site necessary for separating materials that are to be salvaged, recycled, reused, donated, and sold.
   2. Comply with Division 1 Section 01500 - Temporary Facilities and Controls, for controlling dust and dirt, environmental protection, and noise control.

3.2 SALVAGING DEMOLITION WASTE

1. Salvaged Items for Reuse in the Work:
   1. Clean salvaged items.
   2. Pack or crate items after cleaning. Identify contents of containers.
   3. Store items in a secure area until installation.
   4. Protect items from damage during transport and storage.
   5. Install salvaged items to comply with installation requirements for new materials and equipment. Provide connections, supports, and miscellaneous materials necessary to make items functional for use indicated.

2. Salvaged Items for Sale: Not permitted to be sold on Project site.

4. Salvaged Items for District’s Use:
   1. Clean salvaged items.
   2. Pack or crate items after cleaning. Identify contents of containers.
   3. Store items in a secure area until delivery to District.
   4. Transport items to District's storage area [on-site] [off-site] [designated by District].
   5. Protect items from damage during transport and storage.
   5. Doors and Hardware: Brace open end of door frames. Except for removing door closers, leave door hardware attached to doors.

3.3 RECYCLING DEMOLITION AND CONSTRUCTION WASTE, GENERAL

1. General: Recycle paper and beverage containers used by on-site workers.

2. Recycling Receivers and Processors: Licensed entity normally engaged in the business of receiving, recycling, and processing waste materials with a minimum of 5 years of documented experience with the types of waste products to be processed under the provisions of this section.

3. Recycling Incentives: Revenues, savings, rebates, tax credits, and other incentives received for recycling waste materials shall be Contractor’s.

4. Procedures: Separate recyclable waste from other waste materials, trash, and debris. Separate recyclable waste by type at Project site to the maximum extent practical.
   1. Provide appropriately marked containers or bins for controlling recyclable waste until they are removed from Project site. Include list of acceptable and unacceptable materials at each container and bin.
   2. Inspect containers and bins for contamination and remove contaminated materials if found.
   3. Stockpile processed materials on-site without intermixing with other materials. Place, grade, and shape stockpiles to drain surface water. Cover to prevent windblown dust.
   4. Stockpile materials away from construction area. Do not store within drip line of remaining trees.
   5. Store components off the ground and protect from the weather.
   6. Remove recyclable waste off District’s property and transport to recycling receiver or processor.
3.4 RECYCLING DEMOLITION WASTE

1. Bituminous Concrete Paving: Crush bituminous concrete paving and screen to comply with requirements in Division 2 [Section 02300 - Earthwork, for use as general fill] [and] [or] [Section 02741 - Bituminous Concrete Paving] [and] [Section 02751 - Cement Concrete Pavement] [as granular base].

**** OR ****

2. Bituminous Concrete Paving: Break up and transport paving to asphalt-recycling facility.

3. Concrete Reinforcement: Remove reinforcement and other metals from concrete and sort with other metals.

4. Concrete: Break up and transport to concrete-recycling facility.

5. Concrete: Crush concrete and screen to comply with requirements in Division 2 [Section 02300 - Earthwork for use as satisfactory soil for fill] [and] [or] [Section 02741 - Bituminous Concrete Paving] [and] [Section 02751 - Cement Concrete Pavement] [as granular base].

6. Piping: Reduce piping to straight lengths and store by type and size. Separate supports, hangers, valves, sprinklers, and other components by type and size.

7. Lighting Fixtures: Separate lamps by type and protect from breakage.

8. Electrical Devices: Separate switches, receptacles, switchgear, transformers, meters, panelboards, circuit breakers, and other devices by type.

9. Conduit: Reduce conduit to straight lengths and store by type and size.

3.5 RECYCLING CONSTRUCTION WASTE

1. Packaging:

   1. Cardboard and Boxes: Break down packaging into flat sheets. Bundle and store in a dry location.


   3. Pallets: As much as possible, require deliveries using pallets to remove pallets from Project site. For pallets that remain on-site, break down pallets into component wood pieces and comply with requirements for recycling wood.

   4. Crates: Break down crates into component wood pieces and comply with requirements for recycling wood.
2. Site-Clearing Wastes: Chip brush, branches, and trees on-site.

3. Wood Materials:
   1. Clean Cut-Offs of Lumber: Grind or chip into small pieces.
   2. Clean Sawdust: Bag sawdust that does not contain painted or treated wood.

3.6 DISPOSAL OF WASTE

1. General: Except for items or materials to be salvaged, recycled, or otherwise reused, remove waste materials from Project site and legally dispose of them in a landfill or incinerator acceptable to authorities having jurisdiction.

2. Do not allow waste materials that are to be disposed of accumulate on-site. Remove and transport debris in a manner that will prevent spillage on adjacent surfaces and areas.


4. Disposal: Transport waste materials off District's property and legally dispose of them.

3.7 FORMS

1. Waste Management Plan Forms Attached:

END OF SECTION
<table>
<thead>
<tr>
<th>MATERIAL CATEGORY</th>
<th>GENERATION POINT</th>
<th>TOTAL QUANTITY OF WASTE TONS (A)</th>
<th>QUANTITY OF WASTE SALVAGED</th>
<th>QUANTITY OF WASTE RECYCLED</th>
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<tr>
<td>Packaging: Cardboard</td>
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<td>Packaging: Boxes</td>
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<td>Packaging: Plastic Sheet or Film</td>
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<td>Packaging: Polystyrene</td>
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<td>Packaging: Pallets or Skids</td>
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<td>Packaging: Crates</td>
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<td>Packaging: Paint Cans</td>
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<td>Packaging: Plastic Pails</td>
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<td>Wood Forms</td>
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<td>Switchgear and Panel boards</td>
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<td>Transformers</td>
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<td>Other:</td>
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* Insert units of measure.
SECTION 01573

STORM WATER POLLUTION PREVENTION PLAN

1. PART 1 GENERAL

1.1 SECTION INCLUDES

A. Preparation and implementation of the Storm Water Pollution Prevention Plan (SWPPP).

B. Plan administration, maintenance and updates.

C. Placement of erosion/pollution control devices.

D. Maintenance and monitoring of control devices.

E. Non-Storm Water Manager.

F. Miscellaneous related work necessary for plan compliance.

G. Reports and certificates.

1.2 REFERENCES


1.3 SUBMITTALS

A. Submit SWPPP under provisions of Section 01300.

B. Submit SWPPP for review within two weeks after Contract award.

C. Submit manufacturer's installation instructions for all products.

1.4 QUALITY ASSURANCE

A. Perform work in accordance with Storm Water Pollution Prevention Plan.

B. Maintain one copy of document on site.

1.5 REGULATORY REQUIREMENT

A. Prior to the beginning of construction on this site the District will file with the State of California, State Water Resources Control Board a Notice of Intent (N.O.I.)
that this project will comply with the terms of the State Water Resources Control Board’s Order No. 99-08-DWQ, Resolution No. 2001-46 and No. 2001-155 and the National Pollutant Discharge Elimination System (NPDES) General Permit No. CAS000002, Waste Discharge Requirements (WDRs) for discharge of storm water run-off associated with construction activity to include erosion and sediment control.

B. Comply with requirements of the State’s General Permit with regard to the implementation and maintenance of the SWPPP.

C. Coordinate the SWPPP with the requirements of the District’s Storm Water Management Plan (SWMP). A copy of the SWMP may be obtained from the District upon request.

1.6 PRE-INSTALLATION CONFERENCE

A. Convene a conference two weeks prior to commencing work at the site, under provisions of Section 01310.

B. Require attendance of parties directly affecting the work of this Section.

C. Review requirements of the SWPPP.

1.7 PERFORMANCE REQUIREMENTS

A. The Storm Water Pollution Prevention Plan is a minimum requirement. Revisions and modifications to the SWPPP are acceptable only if they maintain levels of protection equal to or greater than originally specified.

B. Read and be thoroughly familiar with all of the requirements of the SWPPP.

C. Inspect and monitor all work and storage areas for compliance with the SWPPP prior to any anticipated rain.

D. Complete any and all corrective measures as may be directed by the regulatory agency.

E. Penalties: Pay any fees and be liable for any other penalties that may be imposed by the regulatory agency for non-compliance with SWPPP during the course of work.

F. Costs: Pay all costs associated with the implementation of the requirements of the SWPPP in order to maintain compliance with the Permit. This includes installation of all Housekeeping BMPs, General Site and Material Management BMPs, Bi-weekly Inspection requirements, maintenance requirements, and all other requirements specified in the SWPPP.
2. PART 2 PRODUCTS

2.1 MATERIALS

A. All temporary and permanent storm water pollution prevention facilities, equipment, and materials as required by or as necessary to comply with the SWPPP as described in the BMP Handbook.

B. Substitutions: Under provisions of Section 01300.

3. PART 3 EXECUTION

3.1 PREPARATION AND APPROVAL

A. Prepare Storm Water Pollution Prevention Plan (SWPPP) as required to comply with storm water pollution regulations.


3.2 GENERAL IMPLEMENTATION REQUIREMENTS

A. All measures required by the SWPPP shall be implemented concurrent with the commencement of construction. Pollution practices and devices shall be followed or installed as early in the construction schedule as possible with frequent upgrading of devices as construction progresses.

B. Conduct an inspection of all erosion control and pollution prevention devices prior to any anticipated storm event to verify all SWPPP measures are in place and to identify and mitigate any new potential pollution sources brought by the ongoing construction.

C. After storm events, conduct an inspection of the project site to verify the performance of the erosion control and pollution prevention devices in reducing pollutant loading of the discharged storm water associated with the construction activity.

D. Eliminate or reduce to the extent feasible the discharge of materials other than storm water to the storm drain system and/or receiving waters as dictated by the State General Permit and SWPPP
3.3 IMPLEMENTATION REQUIREMENTS DURING THE NON-RAINY SEASON

A. The non-rainy season in the State of California is between April 1 and September 30.

B. All requirements of the SWPPP shall apply during the non-rainy season except for erosion control BMPs.

C. In the event of an unusual rain event during the non-rainy season, provide erosion control BMPs.

3.4 IMPLEMENTATION REQUIREMENTS DURING THE RAINY SEASON

A. The rainy season in the State of California is between October 1 and March 31.

B. All requirements of the SWPPP shall apply during the rainy season without exception.

3.5 REPORTING

A. Prepare all inspection records for each inspection done prior to and just after all storm events as required by the SWPPP with two copies forwarded to District.

B. Prepare the overall certification based upon the inspection reports for District's use in the certifying the project site's compliance with the SWPPP and the State's General Permit.

3.6 COMPLETION OF WORK

A. Clean-up shall be performed as each portion of the work progresses. All refuse, excess material, and possible pollutants shall be disposed of in a legal manner off-site and all temporary and permanent SWPPP devices shall be in place and maintained in good condition.

B. At completion of work, inspect installed SWPPP devices, and present the currently implemented SWPPP with all backup records to the District.

3.7 EROSION CONTROL PLAN

A. Refer to Erosion Control Plan that is included in the Contract Documents as a guide for site erosion and sediment control.

B. Include Erosion Control Plan as a part of the final SWPPP.
END OF SECTION
1. PART 1 GENERAL

1.1 SECTION INCLUDES

1. Products.
2. Transportation and handling.
3. Storage and protection.
4. Damage and restoration.

1.2 PRODUCTS

1. 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.

2. Products may also include existing materials or components required for reuse that were obtained from this project.

3. Products specified or recycled from other projects are not considered new products.

4. Provide interchangeable components of the same manufacturer, for similar components.

5. Provide products that comply with the Contract Documents that are undamaged and are unused at the time of installation.

6. Provide products complete with all accessories, trim, finish, safety guards and other devices and detail needed for a complete installation and for the intended use and effect.

7. Where a specific manufacturer's product is specified as the basis of design, the designation shall establish the qualities relating to type, function, dimension, in-service performance, physical properties, appearance and other characteristics for comparable products of other named manufacturers.

8. Where products are specified by name or by manufacturer provide the product or manufacturer specified. No substitutions will be permitted unless made under the provisions of Section 01300.
9. Where specifications only describe a product or assembly by listing exact characteristics required, provide a product or assembly that provides the characteristics.

10. Where specifications only require compliance with performance requirements, provide products that comply with those requirements.

11. Where the specifications only require compliance with an imposed code, standard or regulation, provide a product that complies with the standards, codes or regulations specified.

12. Where specifications require review and acceptance of a sample, District's decision will be final on whether a proposed product sample is acceptable or not.

13. Provide materials and products specified in the full range of color, texture and pattern for selection by District. Unless otherwise indicated in individual specification sections, District may select from any range at no additional cost to District.

14. Do not use materials and equipment removed from existing premises, except as specifically permitted by the Contract Documents.

1.3 TRANSPORTATION AND HANDLING

1. Transport and handle products in accordance with manufacturer's instructions.

2. Schedule delivery to minimize long-term storage at site to prevent overcrowding of construction spaces.

3. Coordinate delivery with installation time to ensure minimum holding time for items that are flammable, hazardous, easily damaged, or sensitive to deterioration, theft and other losses.

4. Deliver products in manufacturer's original sealed container or packaging system, complete with labels and instructions for handling, storing, unpacking, protecting, and installing.

5. Promptly inspect shipments to assure that products comply with requirements, quantities are correct, and products are undamaged.

6. Provide equipment and personnel to handle products by methods to prevent soiling, disfigurement, or damage.

1.4 STORAGE
1. Store products in accordance with manufacturer's instructions, with seals and labels intact and legible.

2. Store sensitive products in weather-tight, climate controlled enclosures.

3. Store products in a manner that will not damage or overload project structure.

4. For exterior storage of fabricated products, place on sloped supports, above ground.

5. Provide off-site storage when site does not permit on-site storage.

6. Cover products subject to deterioration with impervious sheet covering. Provide ventilation to avoid condensation.


8. Provide equipment and personnel to store products by methods to prevent soiling, disfigurement, or damage.

9. Arrange storage of products to permit access for inspection. Periodically inspect to assure products are undamaged and are maintained under specified conditions.


1.5 PROTECTION

1. Protect installed Work and provide special protection where specified in individual specification Sections.

2. Provide temporary and removable protection for installed Products. Control activity in immediate work area to minimize damage.

3. Provide protective coverings at walls, projections, jambs, sills, and soffits of openings.

4. Protect finished floors, stairs, and other surfaces from traffic, dirt, wear, damage, or movement of heavy objects.
5. Prohibit traffic or storage upon waterproofed or roofed surfaces. If traffic or activity is necessary, obtain recommendations for protection from waterproofing or roofing material manufacturer.

6. Provide humidity and temperature control for installed products as recommended by materials manufacturer.

7. Prohibit traffic from landscaped areas.

1.6 DAMAGE AND RESTORATIONS

1. Damage to existing or new work whether accidental or not shall be restored or replaced as specified or directed by District.

2. Restoration shall be equal to structural performance of original work.

3. Finish shall match appearance of existing adjacent work.

4. Work not properly restored or where not capable of being restored shall be removed and replaced.

1.7 PRODUCT WARRANTIES

1. Warranties specified in other Sections shall be in addition to, and run concurrent with, other warranties required by the Contract Documents. Manufacturer's disclaimers and limitations on product warranties do not relieve Contractor of obligations under requirements of the Contract Documents.

2.

2. PART 2 PRODUCTS

Not Used

3. PART 3 EXECUTION

Not Used

END OF SECTION
SECTION 01630

PRODUCT SUBSTITUTION PROCEDURES

1. PART 1 GENERAL

1.1 SECTION INCLUDES

1. Product options.

2. Substitution procedures.

1.2 DEFINITIONS

1. Requests for changes in products, materials, or equipment required by Contract Documents proposed by the Contractor prior to and after award of the Contract are considered requests for substitutions. The following are not considered substitutions:

   1. Revisions to Contract Documents requested by the District or Architect.
   2. Specified options of products, materials, and equipment included in Contract Documents.

1.3 PRODUCT OPTIONS

1. Products Specified by Reference Standards or by Description Only: Any product meeting those standards or description.

2. Products Specified by Naming One or More Manufacturers with Provision for Substitution: Products of manufacturers named and meeting specifications with substitution of products or manufacturer only when submitted under provisions of this section.

3. Products Specified by Naming One or More Manufacturers without Provision for Substitution: No substitution allowed.

1.4 LIMITATIONS ON SUBSTITUTIONS SUBMITTED PRIOR TO THE RECEIPT OF BIDS

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

2. District may consider requests for substitutions of specified equipment and/or materials only when requests are received by District prior to the date established for the receipt of bids as stipulated in Document 00100 - Information.
3. Consideration by District of a substitution request will be made only if request is made in strict conformance with provisions of this section.

4. Burden of proof of merit of requested substitution is the responsibility of the entity requesting the substitution.

5. It is the sole responsibility of the entity requesting the substitution to establish proper content of submittal for requests for substitutions. Incomplete submittals will be rejected.

6. District's decision on substitution requests are final and do not require documentation or justification.

7. When substitution is not accepted, provide specified product.

8. Substitute products shall not be included within the bid without written acceptance by Addendum.

1.5 LIMITATIONS ON SUBSTITUTIONS SUBMITTED AFTER THE AWARD OF THE CONTRACT

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

2. Consideration by District of substitution requests received after the established date of the receipt of bids or contract award will only be made when one or more of the following conditions are met and documented:

   1. Specified item fails to comply with regulatory requirements.

   2. Specified item has been discontinued.

   3. Specified item, through no fault of the Contractor, is unavailable in the time frame required to meet project schedule.

   4. Specified item, through subsequent information disclosure, will not perform properly or fit in designated space.

   5. Manufacturer declares specified product to be unsuitable for use intended or refuses to warrant installation of product.

   6. Substitution would be, in the sole judgment of District, a substantial benefit to the District in terms of cost, time, energy conservation, or other consideration of merit.
3. Notwithstanding the provisions of Article 1.4 of this section and the above, District may consider a substitution request after the date of the receipt of bids or contract award, if in the sole discretion of District, there appears to be just cause for such a request. The acceptance of such a late request does not waive any other requirement as stated herein.

4. Consideration by District of a substitution request will be made only if request is made in strict conformance with provisions of this section.

5. Substitutions will not be considered when they are indicated or implied on shop drawings or product data submittals without separate written request as required by provisions of this section.

6. Review of shop drawings does not constitute acceptance of substitutions indicated or implied on shop drawings.

7. Substitutions will not be considered when requested or submitted directly by subcontractor or supplier.

8. Substitutions will not be considered as a result of the failure to pursue the work promptly or coordinate activities properly.

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

10. It is the sole responsibility of the Contractor to establish proper content of submittal for requests for substitutions. Incomplete submittals will be rejected.

11. District shall receive full benefit of any cost reduction as a result of any request for substitution.

12. District's decision on substitution requests is final and does not require documentation or justification.

13. When substitution is not accepted, provide specified product.

14. Substitute products shall not be ordered or installed without written acceptance.

1.6 REGULATORY REQUIREMENTS

1. It shall be the responsibility of the entity requesting the substitution to obtain all regulatory approvals required for proposed substitutions.
2. All regulatory approvals shall be obtained for proposed substitutions prior to submittal of substitution request to District.

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

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

1.7 SUBSTITUTION REPRESENTATION

1. In submitting a request for substitution, the entity requesting the substitution makes the representation that he or she:

1. Has investigated the proposed substitution and has determined that it meets or exceeds the quality level of the specified product.

2. Will provide the same warranty or guarantee for the substitution as for the specified product.

3. Will coordinate installation and make changes to other work which may be required for the work to be completed with no additional cost to the District.

4. Waives claims for additional cost or time extension which may subsequently become apparent.

5. Will reimburse District for the cost of Architect’s review or redesign services associated with substitution request.

1.8 SUBMITTAL PROCEDURE

1. Submit six copies of each request.

2. Submit request with District’s Substitution Request Form. Substitution requests received without request form will be returned un-reviewed.

3. Limit each request to one proposed substitution.

4. Request to include sufficient data so that direct comparison of proposed substitution can be made.
5. Provide complete documentation for each request. Documentation shall include the following information, as appropriate, as a minimum:

1. Statement of cause for substitution request.

2. Identify product by specification section and article number.

3. Provide manufacturer's name, address, and phone number. List fabricators, suppliers, and installers as appropriate.

4. List similar projects where proposed substitution has been used, dates of installation and names of Architect and District.

5. List availability of maintenance services and replacement materials.

6. Documented or confirmation of regulatory approval.

7. Product data, including drawings and descriptions of products.

8. Fabrication and installation procedures.

9. Samples of proposed substitutions.

10. Itemized comparison of significant qualities of the proposed substitution with those of the product specified. Significant qualities may include size, weight, durability, performance requirements and visual effects.

11. Coordination information, including a list of changes or modifications needed to other items of work that will become necessary to accommodate proposed substitution.

12. Statement on the substitutions effect on the construction schedule.

13. Cost information including a proposal of the net change, if any, in the Contract sum if the substitution is submitted after the receipt of bids or contract award.

14. Certification that the substitution is equal to or better in every respect to that required by the Contract Documents and that substitution will perform adequately in the application intended.

15. Statement that substitution is in compliance with requirements needed to obtain LEED prerequisites and credits.
16. Waiver of right to additional payment or time that may subsequently become necessary because of failure of substitution to perform adequately.

6. Inadequate warranty, vagueness of submittal, failure to meet specified requirements, or submittal of insufficient data will be cause for rejection of substitution request.

1.9 DISTRICT'S REVIEW

1. Within 14 days of receipt of request for substitution, District will accept or reject proposed substitution.

2. If a decision on a substitution cannot be made within the time allocated, the product specified shall be used.

3. There shall be no claim for additional time for review of proposed substitutions.

4. Final acceptance of a substitution submitted prior to the date established for the receipt of bids will be in the form of an addendum.

5. Final acceptance of a substitution submitted after the award of the contract will be in the form of a Change Order.

2. PART 2 PRODUCTS

Not Used.

3. PART 3 EXECUTION

Not Used.

END OF SECTION
SECTION 01730

EXECUTION REQUIREMENTS

1. PART 1 GENERAL

1.1 SECTION INCLUDES

1. General procedural requirements governing execution of the Work.
   2. Field engineering and surveying.

1.2 SUBMITTALS

1. Certificates: Submit certificate signed by land surveyor certifying that location and elevation of improvements comply with requirements.

2. Certified Surveys: Submit two copies signed by land surveyor.

3. Final Property Survey: Submit 2 copies showing the Work performed and record survey data. Provide pdf copy via CD or thumbdrive.

2. PART 2 PRODUCTS

NOT USED

3. PART 3 EXECUTION

3.1 EXAMINATION

1. Existing Conditions: Existence and location of site improvements and other construction indicated as existing are not guaranteed. Before beginning work, investigate and verify existence and location of construction affecting the Work.

2. Existing Utilities: Existence and location of underground and other utilities indicated as existing are not guaranteed. Before beginning work, investigate and verify existence and location of underground utilities affecting the Work.

   1. Before construction, verify location and invert elevation at points of connection of sanitary sewer, storm sewer, and water-service piping; and electrical services.
2. Furnish location data for work related to Project that must be performed by public utilities serving Project site.

3. Acceptance of Conditions: Examine substrates, areas, and conditions, with Installer or Applicator present for compliance with requirements for installation tolerances and other conditions affecting performance. Record observations.

1. Written Report: Where conditions detrimental to performance of the Work are encountered, provide a written report listing the following:

   (1) Description of the Work.

   (2) List of detrimental conditions, including substrates.

   (3) List of unacceptable installation tolerances.

   (4) Recommended corrections.

2. Verify compatibility with and suitability of substrates, including compatibility of existing finishes or primers.

3. Examine roughing-in for electrical systems to verify actual locations of connections before equipment and fixture installation.

4. Examine walls, floors, and roofs for suitable conditions where products and systems are to be installed.

5. Proceed with installation only after unsatisfactory conditions have been corrected. Proceeding with the Work indicates acceptance of surfaces and conditions.

3.2 PREPARATION

1. Existing Utility Information: Furnish information to District that is necessary to adjust, move, or relocate existing utility structures, utility poles, lines, services, or other utility appurtenances located in or affected by construction. Coordinate with authorities having jurisdiction.

2. Field Measurements: Take field measurements as required to fit the Work properly. Recheck measurements before installing each product. Where portions of the Work are indicated to fit to other construction, verify dimensions of other construction by field measurements before fabrication. Coordinate fabrication schedule with construction progress to avoid delaying the Work.

3. Space Requirements: Verify space requirements and dimensions of items shown diagrammatically on Drawings.
4. Review of Contract Documents and Field Conditions: Immediately on discovery of need for clarification of Contract Documents, submit a Request For Information (RFI) to District. Include a detailed description of problem encountered, together with recommendations for resolution of the item discovered.

3.3 CONSTRUCTION LAYOUT

1. Verification: Before proceeding to lay out the Work, verify layout information shown on Drawings, in relation to the property survey and existing benchmarks. If discrepancies are discovered, notify District promptly.

2. General: Engage a land surveyor, registered in the state of California to lay out the Work using accepted surveying practices.

   1. Establish benchmarks and control points to set lines and levels at each story of construction and elsewhere as needed to locate each element of Project.

   2. Establish dimensions within tolerances indicated. Do not scale Drawings to obtain required dimensions.

   3. Inform installers of lines and levels to which they must comply.

   4. Check the location, level and plumb, of every major element as the Work progresses.

   5. Notify District when deviations from required lines and levels exceed allowable tolerances.

   6. Close site surveys with an error of closure equal to or less than the standard established by authorities having jurisdiction.

3. Site Improvements: Locate and lay out site improvements, including pavements, grading, fill and topsoil placement, utility slopes, and invert elevations.

4. Building Lines and Levels: Locate and lay out control lines and levels for structures, building foundations, column grids, and floor levels, including those required for mechanical and electrical work. Transfer survey markings and elevations for use with control lines and levels. Level foundations and piers from two or more locations.

5. Record Log: Maintain a log of layout control work. Record deviations from required lines and levels. Include beginning and ending dates and times of surveys, weather conditions, name and duty of each survey party member, and types of instruments and tapes used. Make the log available for reference by District.
3.4 FIELD ENGINEERING

1. Identification: Control datum for survey is that established by District provided survey.

2. Reference Points: Locate existing permanent benchmarks, control points, and similar reference points before beginning the Work. Preserve and protect permanent benchmarks and control points during construction operations.

   1. Do not change or relocate existing benchmarks or control points without prior written approval of District. Report lost or destroyed permanent benchmarks or control points promptly. Report the need to relocate permanent benchmarks or control points to District before proceeding.

   2. Replace lost or destroyed permanent benchmarks and control points promptly. Base replacements on the original survey control points.

3. Benchmarks: Establish and maintain a minimum of two permanent benchmarks on Project site, referenced to data established by survey control points.

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

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

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

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

5. Final Property Survey: Prepare a final property survey showing significant features (real property) for Project. Include on the survey a certification, signed by land surveyor that principal metes, bounds, lines, and levels of Project are accurately positioned as shown on the survey.

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

1. General: Locate the Work and components of the Work accurately, in correct alignment and elevation, as indicated.
   
   1. Make vertical work plumb and make horizontal work level.
   
   2. Where space is limited, install components to maximize space available for maintenance and ease of removal for replacement.
   
   3. Conceal pipes, ducts, and wiring in finished areas, unless otherwise indicated.
   
2. Comply with manufacturer's written instructions and recommendations for installing products in applications indicated.

3. Install products at the time and under conditions that will ensure the best possible results. Maintain conditions required for product performance until Substantial Completion.

4. Conduct construction operations so no part of the Work is subjected to damaging operations or loading in excess of that expected during normal conditions of occupancy.

5. Tools and Equipment: Do not use tools or equipment that produce harmful noise levels.

6. Templates: Obtain and distribute to the parties involved templates for work specified to be factory prepared and field installed. Check Shop Drawings of other work to confirm that adequate provisions are made for locating and installing products to comply with indicated requirements.

7. Anchors and Fasteners: Provide anchors and fasteners as required to anchor each component securely in place, accurately located and aligned with other portions of the Work.
   
   1. Mounting Heights: Where mounting heights are not indicated, mount components at heights directed by District.
   
   2. Allow for movement, including thermal expansion and contraction.
   
   3. Coordinate installation of anchorages. Furnish setting drawings, templates, and directions for installing anchorages, including sleeves, concrete inserts, anchor bolts, and items with integral anchors, that are to be embedded in
concrete or masonry. Deliver such items to Project site in time for installation.

8. Joints: Make joints of uniform width. Where joint locations in exposed work are not indicated, arrange joints for the best visual effect. Fit exposed connections together to form hairline joints.

9. Hazardous Materials: Use products, cleaners, and installation materials that are not considered hazardous.

3.6 PROGRESS CLEANING

1. General: Clean Project site and work areas daily including common areas. Coordinate progress cleaning for joint use areas where more than one installer has worked. Enforce requirements strictly. Dispose of materials lawfully.

2. Maintain Project site free of waste materials and debris.

3. Clean areas where work is in progress to the level of cleanliness necessary for proper execution of the Work.

4. Keep installed work clean. Clean and provide maintenance on completed construction as frequently as necessary through the remainder of the construction period.

5. Exposed surfaces in finished areas: Clean exposed surfaces and protect as necessary to ensure freedom from damage and deterioration.

6. Waste Disposal: Burying or buffing waste materials on site will not be permitted. Washing waste materials down sewers or into waterways will not be permitted.

7. Limited Exposures: Supervise construction operations to assure that no part of the construction, completed or in progress, is subject to harmful, dangerous, damaging or otherwise deleterious exposure during the construction period.

3.7 CORRECTION OF THE WORK

1. Repair or remove and replace defective construction. Restore damaged substrates and finishes. Comply with requirements in Division 1, “Cutting and Patching”.

2. Restore permanent facilities used during construction to their condition prior to construction.

3. Remove and replace damaged surfaces that are exposed to view if surfaces cannot be repaired without visible evidence of repair.
4. Repair components that do not operate properly. Remove and replace operating components that cannot be repaired to like new condition.

END OF SECTION
SECTION 01732

CUTTING AND PATCHING

1. PART 1 GENERAL

1.1 SECTION INCLUDES

1. Requirements and limitations for cutting and patching of Work.

1.2 DEFINITIONS

1. Cutting: Removal of in-place construction necessary to permit installation or performance of other work.

2. Patching: Fitting and repair work required to restore surfaces to original or specified conditions after installation of other work.

1.3 REGULATORY REQUIREMENTS

1. Unless specifically shown on the drawings, no structural member shall be cut, drilled, or notched without prior written authorization from the District and the Division of the State Architect.

1.4 SUBMITTALS

1. Submit written request in advance of cutting or patching which affects:

   1. Structural integrity of any element of Project.
   2. Integrity of weather-exposed or moisture-resistant element.
   3. Efficiency, maintenance, or safety of any operational element.
   5. Work of District or separate contractor.

2. Include in request:

   1. Identification of Project.
   2. Location and description of affected work.
   3. Necessity for cutting or patching.
   4. Description of proposed work, and Products to be used.
   5. Alternatives to cutting and patching.
6. Effect on work of District or separate contractor.

7. Written permission of affected separate contractor.

8. Date and time work will be executed.

1.5 QUALITY ASSURANCE

1. Do not cut and patch structural elements in a manner that could change their load-carrying capacity or load-deflection ratio.

2. Do not cut or patch operating elements that would reduce their capacity to perform or that would result in increased maintenance or decreased operational life or safety.

3. Do not cut or patch construction that would result in visual evidence of cutting or patching.

4. Remove and replace construction that has been cut or patched in a visually unsatisfactory manner.

2. PART 2 PRODUCTS

2.1 MATERIALS

1. Primary Products: Those required for original installation.

2. Substitutions: Under provisions of Section 01300.

3. PART 3 EXECUTION

3.1 EXAMINATION

1. Inspect existing conditions prior to commencing Work, including elements subject to damage or movement during cutting and patching.

2. After uncovering existing Work, inspect conditions affecting performance of work.

3. Beginning of cutting or patching means acceptance of existing conditions.

3.2 PREPARATION

1. Provide temporary supports to ensure structural integrity of the Work. Provide devices and methods to protect other portions of Project from damage.

2. Provide protection from elements for areas which may be exposed by uncovering work.

3.3 CUTTING AND PATCHING

1. Execute cutting, fitting, and patching to complete Work.

2. Fit Products together, to integrate with other work.
3. Uncover work to install ill timed work.

4. Remove and replace defective or non-conforming work.

5. Remove samples of installed work for testing when requested.

6. Provide openings in the Work for penetration of mechanical and electrical work.

7. Cut rigid materials using saw or drill. Pneumatic tools not allowed without prior approval.

3.4 PERFORMANCE

1. Execute work by methods to avoid damage to other Work, and which will provide appropriate surfaces to receive patching and finishing.

2. Employ skilled and experienced installer to perform cutting and patching.

3. Cut rigid materials using masonry saw or core drill. Pneumatic tools not allowed without prior approval.

4. Restore work with new Products in accordance with requirements of Contract Documents.

5. Fit work airtight to pipes, sleeves, ducts, conduit, and other penetrations through surfaces.

6. At penetrations of fire rated walls, partitions, ceiling, or floor construction, completely seal voids with fire rated material, to full thickness of the penetrated element.

7. Refinish surfaces to match adjacent finish. For continuous surfaces, refinish to nearest intersection or natural break. For an assembly, refinish entire unit.

3.5 CLEANING

1. Clean areas and spaces where cutting and patching was performed.

2. Completely remove paint, mortar, oils, sealant, and similar materials.

END OF SECTION
SECTION 01770

CLOSEOUT PROCEDURES

1. PART 1 GENERAL

1.1 SECTION INCLUDES


2. Final Cleaning.

3. Pest Control.

4. Adjusting.

5. Demonstration and Instructions.

6. Project Record Documents.

7. Operation and Maintenance Data.

8. Warranties.


1.2 CLOSEOUT PROCEDURES

1. Submit written certification that Contract Documents have been reviewed, Work
has been inspected, and that Work is complete in accordance with Contract
Documents and ready for District's review.

2. Prepare and submit to District a list of items to be completed or corrected, the
value of the items on the list, and reasons why the Work is not complete.

3. Submit written request to District for review of Work.

4. Submit warranties, bonds, service agreements, certifications, record documents,
maintenance manuals, receipt of spare parts and similar closeout documents.

5. Make final changeover of permanent locks and deliver keys to District.

6. Terminate and remove temporary facilities from Project site.

7. Advise District of change over in heat and other utilities.

8. Provide submittals to District that are required by governing or other authorities.
9. Submit final Application for Payment identifying total adjusted Contract Sum, previous payments, and sum remaining due.

10. Submit affidavit of payment of debts and claims, AIA Document G706.

11. Submit affidavit of release of liens, AIA Document G706A.


13. District will occupy [all] [portions] of the building as specified in Section 01110.

1.3 FINAL CLEANING

1. Execute final cleaning prior to final review by District.

2. Employ experienced professional cleaners for final cleaning.

3. Clean interior and exterior glass and surfaces exposed to view; remove temporary labels, stains and foreign substances, polish transparent and glossy surfaces.


5. Clean equipment and plumbing fixtures to a sanitary condition.

6. Clean exposed surfaces of grilles, registers and diffusers.

7. Replace filters of operating mechanical equipment.

8. Clean debris from roofs, gutters, downspouts, and drainage systems.

9. Clean site; sweep paved areas, rake clean landscaped surfaces.

10. Remove waste and surplus materials, rubbish, and construction facilities from the site.

11. Clean light fixtures [and replace burned out lamps and bulbs].

12. Relamp all lamps and bulbs in lighting fixtures.

13. Replace defective and noisy ballasts and starters in fluorescent fixtures.

14. Leave project clean and ready for occupancy by District.
1.4 PEST CONTROL

1. Engage an experienced, licensed exterminator to make final inspection and rid Project of rodents, insects, and other pests. Submit final report to District.

1.5 ADJUSTING

1. Adjust operating Products and equipment to ensure smooth and unhindered operation.

1.6 DEMONSTRATION AND INSTRUCTIONS

1. Demonstrate operation and maintenance of products, systems, and equipment to District's personnel [two weeks] [_______] prior to date of final review.

2. For each demonstration submit list of participants in attendance.

3. Provide two copies of video tape of each demonstration and instructions session.

4. For equipment or systems requiring seasonal operation, perform demonstration for other season within six months.

5. Utilize operation and maintenance manuals as basis for instruction. Review contents of manual with District's personnel in detail to explain all aspects of operation and maintenance.

6. Demonstrate start-up, operation, control, adjustment, trouble-shooting, servicing, maintenance, and shutdown of each item of equipment at agreed-upon times, at equipment location.

7. Prepare and insert additional data in operations and maintenance manuals when need for additional data becomes apparent during instruction.

1.7 PROJECT RECORD DOCUMENTS

1. Maintain on site, one set of the following record documents; record actual revisions to the Work in contrasting color.


2. Specifications.

3. Addenda.

4. Change Orders and other Modifications to the Contract.
5. Reviewed shop drawings, product data, and samples.

2. Store Record Documents separate from documents used for construction.

3. Record information concurrent with construction progress.

4. Specifications: Legibly mark and record at each Product Section in contrasting color ink, description of actual Products installed, including the following:

1. Manufacturer's name and product model and number.

2. Supplier and installer's name and contact information.

3. Changes made by Addenda and Modifications.

5. Contract Drawings and Shop Drawings: Legibly mark each item in contrasting color ink to record actual construction including:

1. Measured horizontal and vertical locations of underground utilities and appurtenances, referenced to permanent surface improvements.

2. Measured locations of internal utilities and appurtenances concealed in construction, referenced to visible and accessible features of the Work.

3. Field changes of dimension and detail.

4. Details not on original Contract Drawings.

5. Revisions to electrical circuitry and locations of electrical devices and equipment.

6. Note change orders, alternate numbers, and similar information, where applicable.

7. Identify each record drawing with the written designation of "RECORD DRAWING" located in prominent location.


7. Submit documents to District at time of Substantial Completion.

1.8 OPERATION AND MAINTENANCE DATA

1. Summary:
1. Organize operation and maintenance data with directory.

2. Provide operation and maintenance manuals for products, systems, subsystems, and equipment.

3. Refer to Divisions 2 thru 16 for specific operation and maintenance manual requirements for the Work in those Divisions.

2. Submit two sets prior to final review, bound in 8-1/2 inch x 11 inch, three ring D size binders with durable vinyl covers.

3. Prepare binder covers with printed title "OPERATION AND MAINTENANCE INSTRUCTIONS", title of project, and subject matter of binder when multiple binders are required.

4. Internally subdivide the binder contents with permanent page dividers, logically organized as described below; with laminated plastic tabs.

5. Part 1: Directory, listing names, addresses, and telephone numbers of Architect, Engineers, Contractor, subcontractors, and major equipment suppliers and manufacturers.

6. Part 2: Operation and maintenance instructions, arranged by specification section. For each category, identify names, addresses, and telephone numbers of Subcontractors and suppliers. Identify the following:

   1. Performance and design criteria.

   2. List of equipment.

   3. Parts list for each component.

   4. Start-up procedures.

   5. Shutdown instructions.


   7. Wiring diagrams.

   8. Control diagrams.

   9. Maintenance instructions for equipment and systems.
10. Maintenance instructions for finishes, including recommended cleaning methods and materials.

7. Part 3: Project documents and certificates, including the following:
   1. Shop drawings and product data.
   2. Air and water balance reports.
   3. Certificates.
   4. Warranties.

8. [Refer to Section 01810 - Commissioning, for additional requirements.]

1.9 WARRANTIES

1. Commencement of warranties shall be date of Substantial Completion.

2. For items of Work delayed beyond date of Substantial Completion, provide updated submittal within ten days after acceptance, listing date of acceptance as start of warranty period.

3. Provide duplicate notarized copies in operation and maintenance manuals.

4. [Each prime contractor is responsible for warranties related to its own contract.]

5. Execute and assemble documents from subcontractors, suppliers, and manufacturers.

6. Provide Table of Contents and assemble in binder with durable plastic cover.

7. Submit prior to final Application for Payment.

8. Manufacturer's disclaimers and limitations on product warranties do not relieve Contractor of warranty on the work that incorporates the products.

9. Manufacturer's disclaimer and limitations on product warranties do not relieve suppliers, manufacturers, and subcontractors required to countersign special warranties with Contractor.

10. When correcting failed or damaged warranted construction, remove and replace construction that has been damaged as a result of such failure or must be removed and replaced to provide access for correction of warranted construction.
11. When work covered by warranty has failed and has been corrected, reinstate warranty by written endorsement. Reinstated warranty shall be equal to original warranty with equitable adjustment for depreciation.

12. Upon determination that Work covered by warranty has failed, replace or repair Work to an acceptable condition complying with requirements of the Contract Documents.

1.10 SPARE PARTS AND MAINTENANCE MATERIALS

1. Provide products, spare parts, maintenance and extra materials in quantities specified in individual specification Sections.

2. Deliver to Project site and place in location as directed.

3. Obtain signed receipt for delivery of materials and submit prior to request for final review by District.

2. PART 2 PRODUCTS

Not used

3. PART 3 EXECUTION

Not used

END OF SECTION
SECTION 02110

SITE CLEARING

PART 1 – GENERAL

1.1 SUMMARY

A. This Section includes the following:

1. Protecting exiting trees and vegetation to remain.
2. Removing trees and other vegetation.
3. Clearing and grubbing: including the removal and legal disposal of debris.
4. Removing above-grade site improvements.

B. Related Sections include the following:

1. Section 02200 “Earthwork”
2. Section 02220 “Excavation and Backfill of Structures”

1.2 DEFINITIONS

A. Topsoil: Natural or cultivated surface-soil layer containing organic matter and sand, silt, and clay particles: friable, pervious, and black or a darker shade of brown, gray, or red than underlying subsoil; reasonably free of subsoil, clay lumps, gravel, and other objects more than 2 inches in diameter; and free of weeds, roots, and other deleterious materials.

B. Clean: To remove dirt clods, rocks, tree branches, and other items which may fall from hauling equipment or which can be “tracked” from the site.

1.3 MATERIALS

A. Except for materials indicated to be stockpiled or to remain on District property, cleared materials shall become Contractor’s property and shall be removed from the site.
1.4 SUBMITTALS

A. Photographs or videotape, sufficiently details, of existing conditions of trees and plantings, adjoining construction, and site improvements that might be misconstrued as damage caused by site clearing.

B. Record drawings according to the General Requirements.
   1. Identify and accurately locate capped utilities and other subsurface structural, electrical, and mechanical conditions.

1.5 QUALITY ASSURANCE

A. Pre-installation Conference: Conduct conference at Project site to comply with requirements in the General Requirements

1.6 PROJECT CONDITIONS

A. Traffic: Minimize interference with adjoining roads, streets, walks, and other adjacent occupied or used facilities during site-clearing operations.
   1. Do not close or obstruct streets, walks, or other adjacent occupied or used facilities without permission from authorities having jurisdiction.
   2. Provide alternate routed around closed or obstructed traffic ways if required by authorities having jurisdiction.

B. Salvage Improvements: Carefully remove items indicated to be salvaged and store on District's premises where indicated.

C. Notify utility locator service for area where Project is located before site clearing.

D. Improvements on Adjoining Property: Authority for performing indicated removal and alteration work on property adjoining Owner's property will be obtained by Owner before award of Contract.

PART 2 – PRODUCTS

2.1 IMPORTED SOIL MATERIALS, IF REQUIRED

A. Satisfactory Soil Materials: Requirements for satisfactory soil materials are specified in Section 02200 “Earthwork.”
   1. Obtain approved borrow soil materials off-site when satisfactory soil materials are not available on-site.
PART 3 – EXECUTION

3.1 PREPARATION

A. Protect and maintain benchmarks and survey control points from disturbance during construction.

B. Provide erosion-control measures to prevent soil erosion and discharge of soil-bearing water runoff or airborne dust to adjacent properties and walkways.

C. Protect existing site improvements to remain from damage during construction.

3.2 TREE PROTECTION

A. Erect and maintain a temporary fence around drip line of individual trees or around perimeter drip line of groups of trees to remain. Remove fence when construction is complete.

   1. Do not store construction materials, debris, or excavated material within drip line of remaining trees.

   2. Do no permit vehicles, equipment, or foot traffic within drip line of remaining trees.

B. Do not excavate within drip line of trees, unless otherwise indicated.

C. Where excavation for new construction is required within drip line of trees, hand clear, and excavate to minimize damage to root systems. Use narrow-tine spading forks, comb soil to expose roots, and cleanly cut roots as close to excavation as possible.

   1. Temporarily support and protect roots from damage until they are permanently relocated and covered with soil.

   2. Cover exposed roots with wet burlap to prevent roots from drying out. Backfill with soil as soon as possible.

D. Repair or replace trees and vegetation indicted to remain that are damaged by construction operations, in a manner approved by Engineer.

   1. Employ a qualified arborist, licenses in jurisdiction where Project is located to submit details of proposed repairs and to repair damage to trees and shrubs.

   2. Replace trees that cannot be repaired and restored to full-growth status, as determined by the qualified arborist.
3.3 UTILITIES

A. District will turn off existing District utilities and Contractor shall disconnect, seal, or re-route indicated utilities that serve existing structures before site clearing when requested by Contractor as indicated on the drawings. Contractor shall provide a minimum of five (5) days notice to District prior to necessary disconnect, seal or re-routing of utilities.

1. Verify that utilities have been disconnected and capped before proceeding with site clearing.

2. If any existing utilities are damaged during the construction, Contractor shall immediately contact District and repair damages to the satisfaction of the District's Representative at Contractor's own cost.

B. Located, identify, disconnect, and seal or cap off utilities indicated to be removed.

1. District will arrange to shut off indicated utilities when required by Contractor.

2. Arrange to shut off indicated utilities with utility companies.

C. Existing Utilities: Do not interrupt utilities serving facilities occupied by District or others unless permitted under the following conditions and then only after arranging to provide temporary utility services according to requirements indicated:

1. Notify District Representative not less than fourteen (14) working days in advance of proposed utility interruptions.

2. Do not proceed with utility interruptions without District Representative's written approval.

3.4 CLEARING AND GRUBBING

A. Remove obstructions, trees, shrubs, grass, and other vegetation to permit installation of new construction. Removal includes digging out stumps and obstructions and grubbing roots.

1. Do not remove trees, shrubs, and other vegetation indicated to remain or to be relocated.

2. Cut minor roots and branches of trees indicated to remain in a clean and careful manner where such roots and branches obstruct installation of new construction.
3. Completely remove stumps, roots, obstructions, and debris extending to a depth of 18 inches below exposed sub-grade.

4. Use only hand methods for grubbing within drip line of remaining trees.

5. Remove top 12-inches of soil to discard the existing grass, vegetations and organic materials per the Geotechnical Engineering Report (see Appendix A).

B. Fill depressions caused by clearing and grubbing operations with satisfactory soil material, unless further excavation or earthwork is indicated.

1. Place fill material in horizontal layers not exceeding 8-inch (200-mm) loose depth, and compact each layer to a density equal to adjacent original ground.

3.5 SITE IMPROVEMENTS

A. Remove existing above- and below-grade improvements as indicated and as necessary to facilitate new construction.

B. Remove slabs, paving, curbs, gutters, and aggregate base as indicated.

1. Unless existing full-depth joints coincide with line of demolition, neatly saw-cut length of existing pavement to remain before removing existing pavement. Saw-cut faces vertically.

3.6 DISPOSAL

A. Disposal: Remove surplus soil material, unsuitable topsoil, obstructions, demolished materials, and waste materials, including trash and debris, and legally dispose of them off District’s property.

END OF SECTION
SECTION 02200

EARTHWORK

PART 1 – GENERAL

1.0 GENERAL REQUIREMENTS:

A. Permits: Contractor shall obtain and pay for all permits and compliance activities associated with Earthwork (e.g., grading, encroachment, and all utility permits).

1.1 RELATED DOCUMENTS AND REFERENCED STANDARDS


B. Geotechnical Engineering Report dated December 16, 2009. These documents are included in the Specifications as Appendix “A”.


D. Related Technical Divisions/Sections include: 02065, 02510, 02520, 02530, 02630, 02910, 02480.

1.2 SUMMARY

This section includes all earthwork operations associated with rough and precise grading (e.g., overexcavation, subgrade preparation, backfill and compaction), drainage and moisture control, hardscapes (e.g. walkways, walls, footings, etc.) and trenching and backfilling of all underground facilities and foundations such that all improvements shown on the drawings can be constructed in strict conformance with the geotechnical report prepared for this project. See Appendix in Project Specifications. All excess material, any excavated material (rock) which has a dimension of 3" or more is unsuitable as well as unsuitable fills as defined in the geotechnical report for the project shall be removed and disposed of by the Contractor at an approved disposal site. All imported fill material shall be approved by the Soils Engineer prior to transportation of the material to the project site. The limits of grading are the entire project site except the footprint of the existing structures to remain and as more specifically shown on the grading plan.

1.3 SUBMITTALS

A. Grading placement plan: The contractor shall submit a placing plan to the District for approval 10 days prior to beginning any grading operations. The plan shall include, but not be limited to, complete description, details, equipment lists, schedule and supporting calculations showing:

1) Compliance with the Geotechnical Report and Plans. Sequencing of mass and precise grading operations.
2) Procedures for survey, obtaining final elevations and record drawings.

3) Methods of shoring, and the methods and monitoring (e.g., settlement, survey of foundations, video) of the removal and recompaction next to adjacent structures.

4) Methods of shoring and installation of major underground facilities (e.g., water main).

5) Disposal site location and contact information.

6) Import site location and contact information along with laboratory analysis of properties of the soil to be imported, if any.

7) Methods of compaction.

8) Method(s) to dry oversaturated soils.

9) Excavation stability and safety.

1.4 QUALITY ASSURANCE

A. All work shall be in strict conformance with the related documents and referenced standards outlined above. The Contractor shall attend a pre-grading conference with the appropriate authorities (e.g., District, District Project Engineer, Inspector, Independent Testing Firm) at least three (3) working days prior to starting work.

PART 2 – PRODUCTS

2.1 SOIL MATERIALS

A. All materials shall be in strict compliance with the above outlined related documents and referenced standards.

B. The Contractor shall provide soils analysis by an independent soils testing agency (paid for by the District) to verify the compliance of the import material with the above outlined related documents and referenced standards.

C. Import soils shall be free of all perishable and contaminant materials. No particles larger than one inch in largest dimension is allowed. The imported soils shall have the same or greater quality than the existing soil on site.

D. Where the top 12-inches of soil were removed during the site clearing outside the amphitheater limits, the agriculture mix shall be placed for the landscape.

CHEMISTRY

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reaction (pH) saturated paste</td>
<td>6.0-7.6</td>
</tr>
<tr>
<td>Salinity ( (EC_e, dS/m) ) saturation extract</td>
<td>&lt;3.0</td>
</tr>
<tr>
<td>Sodium adsorption ratio (SAR)</td>
<td>&lt;6.0</td>
</tr>
<tr>
<td>Boron in saturation extract, ppm</td>
<td>&lt;1.0</td>
</tr>
</tbody>
</table>

Earthwork 02200-2
TEXTURE

<table>
<thead>
<tr>
<th>Particle Size</th>
<th>USDA Sieve Size (mm)</th>
<th>Objective – Percent Passing</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gravel</td>
<td>2.0</td>
<td>&gt;85%</td>
</tr>
<tr>
<td>Coarse sands</td>
<td>0.5</td>
<td>&gt;75%</td>
</tr>
<tr>
<td>Silt plus clay</td>
<td>0.05*</td>
<td>&lt;35%</td>
</tr>
</tbody>
</table>

*Use Hydrometer method

E. The agriculture mix shall be provided for the top 2 feet of soil in the amphitheater where the import soils are placed.

PART 3 - EXECUTION

3.1 PREPARATION

A. All operations shall be in accordance with the related documents, referenced standards and NPDES requirements. All work shall meet all Federal, State and Local requirements for safety. All facilities, not to be demolished, shall be protected from damage at all times.

3.2 UTILITIES

A. All utilities shall appropriately permitted, at the Contractors expense, inspected, fabricated and installed in accordance with the current standards and policies of each utility.

3.3 STORAGE OF SOIL MATERIALS

A. Contractor shall designate a stockpile area on the grading placement plan submittal for approval.

3.4 FIELD QUALITY CONTROL

A. All work shall be properly inspected, tested for conformance with the Plans, Specifications and Contract Documents. All nonconforming work shall be reworked, as directed by the District, at the sole expense of the Contractor.

3.5 FINAL CERTIFICATION

A. Final certification shall be in conformance with the Grading Permit (e.g., Grade Certification and Compaction Reports). Building and other structure pad elevations shall be within a tolerance of ± ¼ inch. Furthermore, the Contractor shall undertake all survey work to establish final grades, elevations, and utility locations and Contractor’s surveyor shall certify and submit this information with certification letter to the Engineer for approval prior to final acceptance.
SECTION 02220

EXCAVATION AND BACKFILL FOR STRUCTURES

PART 1 – GENERAL

1.1 DESCRIPTION:

A. All labor, materials, etc. necessary for and incidental to performing all operations of the work for this section, complete as shown on the Plans or specified herein. Work includes, but is not necessarily limited to, the following:

1. Examine all other sections for work related to those other sections and required to be included as work under this section

2. Structural excavations for footings, grade beams, etc.

3. Backfill and compact

4. Provide de-watering and site drainage during construction

5. Remove surplus excavated materials from the site

6. Preparation of subgrade under slabs and walkways

7. Layout and setting of lines and levels

B. Related Work in Other Sections:

1. Site drainage - Section 02630

2. Earthwork - Section 02200

3. Site concrete - Section 02520

C. Requirements:

1. Permits, fees, and codes: Obtain all permits and pay all fees required in connection with this work. Any fees made necessary by the removal and dumping of debris shall be paid for by the Contractor.

2. Layout of the work: The Contractor shall be responsible for the accuracy of all layout of work and shall retain and pay for the services of a licensed surveyor or civil engineer to set the lines and grades and to stake out all construction.
3. Soils data: The Geotechnical Report shall be reviewed by the Contractor. See Appendix in Specifications. Information in report shall not relieve Contractor of his responsibility for the work required.

4. Sub-grade preparation: The sub-grade shall be that portion of the ground upon which portland cement concrete is to be constructed. The sub-grade shall be accurately shaped to the required elevations and shall not vary more than .10' above or below the required elevation. Within these limits, the elevations of the finished sub-grade shall conform to the elevations shown on the drawings when allowance is made for pavement and slab thicknesses to bring the area to finished elevation.

5. During the progress of the work, keep premises free from debris and waste material resulting from the work in this section. Upon completion, remove all surplus material and debris from the site.

D. Soils Engineers:

There will be a Soils Engineer on this project (selected and paid for by the District) who will represent the District. The Soils Engineer will have the authority over all filling and grading and compaction operations, including stoppage of work if deemed necessary by him, due to improper work.

E. Benchmarks:

Protect against dislocation and damage. Repair or replace any that are disturbed.

F. Existing Utilities:

1. Carefully protect all conduits, drains, pipes and wires that are on the property.

2. Repair any damage to existing utilities resulting from work of this section.

PART 2 – PRODUCTS

A. Materials for compacted fill and backfill shall consist of material per recommendations of the soils Geotechnical Report included in Appendix in Specifications.

B. All products, such as imported fill, existing fill to be reused, gravel fill, etc. shall be approved by the Soils Engineer prior to use on this project.

C. Refer to the Geotechnical Report for existing materials at the site and for requirements of any products to be used.

PART 3 – EXECUTION

Excavation and Backfill for Structures
3.1 EXCAVATION:

A. Excavate to the dimensions and elevations indicated. Remove all materials encountered, regardless of their nature. Adjust angle of slope shown for excavations as required during excavation to suit soil stability conditions encountered, as directed by Soils Engineer. If the excavation for footings is made below the elevations indicated on the plans, fill the excavated portion with concrete of the strength and weight required for the footings.

B. Should suitable bearing, as determined by the Soils Engineer, not be encountered at the depth indicated on the plans for foundations, do not proceed further until instructions are given and the necessary measurements made for the purpose of establishing the additional volume of excavation.

C. The bottom of all footings excavation shall be level, free of loose material, and approved by the Soils Engineer.

D. Remove excavated materials not suitable for backfill from the site and dispose of without any additional cost to the District. Structural excavations for footings shall be done so as to provide ample working space to permit the placing of any required form work, and to allow the District's adjacent areas to be effectively drained and kept free from standing water at all times.

E. Excavations for footings which are carried below the required depth shall be refilled to the required level with concrete at the Contractor's expense.

F. Provide any shoring necessary to maintain the banks of excavations and to prevent any sloughing or caving-in, and as necessary to prevent damage of any kind which may occur in connection with this work.

3.2 SITE DRAINAGE:

A. During the entire period that the excavations are open and the building subgrades are exposed to the elements, perform corrective and protective grading to divert any surface and rainwater away from the open excavations in a legal manner.

B. Promptly remove any water occurring in the excavations from any cause and keep the excavations continuously dry by relief trenches, by sumps and pumping, or by other suitable and effective methods.

3.3 BACKFILLING:

A. After the concrete has been placed, the forms removed, and the concrete work approved, backfill and compact the excavations to the indicated grades. Before placing backfill, remove all rubbish, wood, and debris from the excavations.

B. Deposit backfill in loose 6" layers and compact to at least 90% of maximum density at optimum moisture content as determined by ASTM D1557.
C. Do not backfill against waterproofed surfaces until such surfaces are properly protected and approved by District.

D. Under no circumstances will flooding or jetting be permitted when backfilling.

3.4 GRADING

Bring areas to be graded to the approximate finish grades and then scarify, moisten, and roll to obtain the required density. Scarify, moisten, and roll resulting high areas and low areas to obtain the required finish grades by cutting and filling. Finish grades shall be within a tolerance of 1/4" above or below the finish grade shown, less allowances for subsequent construction. Rough grades shall be within 0.10' of required elevations.

A. OBSERVATION AND TESTING:

1. The Soils Engineer will observe the filling and compacting operations so that he can state his opinion whether or not the fill was constructed in accordance with these Specifications.

2. The Soils Engineer will make field density tests in accordance with Test Method ASTM D1556 for each layer of fill. The Soils Engineer may make field density tests using nuclear density gauge and hand-driven tubes. Density tests may be made by intervals not exceeding 2' of fill height, provided all layers are tested. Density tests shall be made in the compacted materials below the surface where the surface is disturbed. If these tests indicate that the density or moisture content of any layer of fill or portion thereof does not meet the specified density or moisture content, the particular layer or portions shall be re-worked until the specified density and moisture content have been obtained.

END OF SECTION
SECTION 02441

IRRIGATION SYSTEMS

PART 1 - GENERAL

1.1 GENERAL CONDITIONS

A. The requirements of the General Conditions specified in Division 1 – General Requirements shall apply to all work of this Section with the same force and effect as thought repeated herein.

1.2 DESCRIPTION

A. The scope of work shall include the provision of all labor, materials, transportation, and other services necessary to furnish and install the irrigation system as shown on the construction drawings and specifications herein.

1.3 QUALITY REQUIREMENTS

A. Contractor shall obtain and pay for all permits, fees, applications, and notices to all public authorities required for the irrigation installation.

B. The contractor and its onsite project superintendent shall have worked on similar landscape and irrigation projects of similar scope, complexity, and size of the project shown on these construction documents and specifications within the preceding five years.

C. The manufacturer’s directions, specifications, and detail drawings shall be referenced in instances where not covered by these construction documents or specifications.

D. The Contractor shall conform and/or comply with the following:

1. Local laws, rules, and regulations
2. Local plumbing code
3. Local electrical code
4. Codes governing the materials and work at the project site

E. All local laws, rules, and regulations relating to the work in this Section shall be adhered to with the same force and effect as though written in full as part of these specifications.

F. Any conflict between the local laws, rules, and regulations relating to the work in this Section shall be resolved with the local laws, rules, and regulations taking precedence.
G. When materials, workmanship, or construction of an item in these Specifications is of higher standard or quality than the local governing requirement, then these Specifications shall take precedence.

H. The construction drawings are diagrammatic and due to the scale of the drawings, is the Contractor's responsibility to investigate the site and the conditions of the project that affect the work in the construction documents and Specifications.

I. The Contractors shall install the irrigation system to avoid conflict between utilities, architectural, and engineering features.

J. The Contractor shall not willingly install the irrigation system as shown on the drawings when it is evident there is a conflict between the field conditions and what is shown on the drawings. Any discrepancy shall be brought to the attention of the District's Authorized Representative. The Contractor shall assume full responsibility for the irrigation system if such notification of discrepancy is not reported.

1.4 SUBMITTALS

A. The contractor shall submit a list of materials and equipment specified in the Irrigation Construction drawings and specifications prior to the start of any work. The list shall include the manufacturer, make and model number, and detailed description of all materials used in the irrigation installation. The following is a sample of the format for submission:

<table>
<thead>
<tr>
<th>Item No.</th>
<th>Manufacturer</th>
<th>Model Number</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Nibco</td>
<td>T-585</td>
<td>Brass ball valve</td>
</tr>
<tr>
<td>2.</td>
<td>Febco</td>
<td>825YA</td>
<td>RP Backflow device</td>
</tr>
<tr>
<td>3.</td>
<td>Rainbird</td>
<td>PES-B-PRS-D</td>
<td>Automatic plastic control valve with pressure regulating module</td>
</tr>
<tr>
<td>4.</td>
<td>Paige Electric</td>
<td>7001D</td>
<td>#14AWG UF UL approved control valve wire</td>
</tr>
</tbody>
</table>

B. The irrigation submittal shall be complete with detailed descriptions of all product uses. This includes all items that are not specified in the irrigation legend, including but not limited to pipe, fittings, primer, solvent glue, wire, valve boxes, identification tags, etc.

C. Copies of the manufacturer catalog and product literature are required for all items. The catalog literature shall be numbered in sequence with the item no. listed in the sample format shown.

D. Substitutions of irrigation equipment may be submitted and must follow the procedures listed in Section 1.10 of these specifications.
E. Equipment purchased and / or installed without prior acceptance by the District’s authorized representative may be rejected and may be required to be removed from the project site at the sole expense of the Contractor.

F. Any manufacturer warranty of a product does not relieve the Contractor of their liability of their guarantee.

1.5 RECORD AS BUILT DRAWINGS

A. On one set of full size photocopy black and white prints (Irrigation Drawings) record all changes in work constituting departures from the original contract drawings. Include changes in both pressure and non-pressure lines.

B. Transfer all such information and dimensions to a record set. Record changes and dimensions in red waterproof ink in a legible and professional manner.

C. Changes to equipment location shall be shown with symbols matching the legend and it shall be apparent on the record drawings that the equipment was relocated.

D. Record information on as-built drawings on a daily basis as the work is installed. All dimensions noted on the drawings shall be minimum $\frac{3}{8}$" in size.

E. Dimensions shall be shown from two permanent points of reference (monuments, sidewalks, curbs, pavement).

F. Include offset dimensions of pressure mainline piping at a minimum of 100 foot increments, at any changes in direction, and at all crossings under paving.

G. Show dimension locations and depths of the following:

1. Water Meter / Point of Connection
2. RP backflow preventor
3. Master Valve
4. Flow Sensor
5. Control Valves
6. Shut off Valves
7. Quick couplers
8. Air relief valves
9. Pressure regulators
10. Controller
11. Electrical meters
12. Wire pull boxes
13. Any other equipment as directed by the District’s Authorized Representative

H. At the start of maintenance period, the Contractor shall submit the record set of Irrigation Drawings to the District’s Authorized representative for review. Upon approval, the Contractor shall transfer the as-built record information to a copy of the irrigation construction drawings in AutoCAD format.
I. All dimensions and valve station identification shown on the AutoCAD drawings shall be a minimum ¼" height so when reduced for controller charts, the text is legible.

J. Prior to the Project Turnover, the Contractor shall submit to the District the following deliverables:
   1. One full size bond photocopy plot of the irrigation as-built from AutoCAD
   2. A digital copy of the irrigation as-builts in AutoCAD format
   3. Full size, digital copies of the irrigation as-builts in pdf format.
   4. Files shall be provided on CD or DVD format – one per package of construction documents.
   5. The disc shall be labeled with the project name and phase and date of turnover.

1.6 CONTROLLER CHARTS

A. As-built drawings shall be reviewed and approved by the District’s authorized representative prior to the preparation of the Controller Charts.

B. The District’s Contractor shall provide two 11x17 size controller charts for each controller supplied, showing the area covered by each automatic controller.

C. The chart shall be a reproduction of the as-built system drawing. If the controller sequence is not legible when the drawing is reduced, enlarge it to a size that will be readable when reduced.

D. Charts shall be a paper photocopy AutoCAD plot with a different transparent color used to show area of coverage for each valve station.

E. When completed and approved, hermetically seal the chart between two pieces of plastic, each piece being a minimum of 10 mils thick.

F. Prior to Project Turnover, the Contractor shall submit to the District, the following deliverables:
   1. Two 11x17 inch laminated color copies of the controller charts per controller
   2. Digital scanned copies of the controller charts in one multi-page pdf format per controller.
   3. Files shall be provided on CD or DVD format – one per package of construction documents.
   4. The disc shall be labeled with the project name and phase and date of turnover.

G. Controller access. The District reserves the right to have complete access to the controller clocks for monitoring and controlling system failures. The contractor shall provide the District with two sets of all keys necessary for access to the controller clocks within the design area. The keys will then become the property of the District.
1.7 OPERATION AND MAINTENANCE MANUALS

A. Prior to Project Turnover, the Contractor shall prepare all required and necessary descriptive material in complete detail and sufficient quantity, properly prepared in two (2) individually bound copies.

B. Describe the material installed in sufficient detail to allow qualified maintenance personnel to understand, operate and maintain the equipment. Each manual shall include the following:

1. Index sheet stating contractor's address and telephone number.
2. Catalog literature sheets of all equipment installed in the irrigation system.
3. Manufacturer maintenance and operations information.
4. Duration of guarantee period with guarantee forms.

1.8 GUARANTEE

A. Prior to Project Turnover, the Contractor shall submit a written guarantee, in approved form, that all work showing defects in materials or workmanship will be repaired or replaced at no cost to the District for a period of one (1) year from date of acceptance by the District's authorized representative.

B. The guarantee form shall be written onto the contractor's letterhead and contain the following information. (Shown as an example only)

GUARANTEE FOR IRRIGATION SYSTEM

We hereby guarantee that the irrigation system we have furnished and installed for is free from defects in materials and workmanship, and the work has been completed in accordance with the drawings and specifications, ordinary wear and tear and unusual abuse, or neglect expected. We agree to repair or replace any defects in material or workmanship which may develop during the period of one (1) year from date of acceptance and also to repair or replace any damage resulting from the repairing or replacing of such defects at no additional cost to the District. We shall make such repairs or replacements within a reasonable time, as determined by the District, after receipt of written notice. In the event of our failure to make such repairs or replacements within a reasonable time after receipt of such written notice from the District, we authorize the District to proceed to have said repairs or replacements made at our expense and we will pay for the costs and charges therefore upon demand.

Project Name: ____________________________

District: ________________________________

Landscape Architect: ______________________

Project Location: _________________________
1.9 TURNOVER ITEMS AND SPARE EQUIPMENT

A. Prior to the Project Turnover, prepare and deliver to the District’s authorized representative the following:

1. As-built record drawings as listed in Section 1.5
2. Colored controller charts as listed in Section 1.6
3. Operations and Maintenance Manual binders as listed in Section 1.7
4. Two (2) keys for each automatic controller
5. Automatic controller operation manuals
6. Two (2) quick coupler keys and corresponding brass hose swivel per each controller installed.
7. Two (2) control valves of each size supplied on the project
8. Ten (10) of each type of pop up spray body
9. Completed Irrigation Guarantee Statement per example in Section 1.8
10. Minimum of two copies of a letter of transmittal to the District’s authorized representative listing all turnover items. One copy is to remain with the District and one copy is to be retained by the Contractor.
11. Any additional information or equipment as directed by the District per these specifications.

1.10 SUBSTITUTIONS

A. If the contractor wishes to substitute any materials from those shown on the Irrigation Drawings or specifications, they must provide the following information to the District’s authorized representative for review:

1. Provide the make and model number of the equipment specified on the irrigation drawings and provide the make and model number of the substitute item.
2. Provide manufacturer catalog literature, technical specifications, and performance data for each item.
3. Provide an estimate of change in cost if the item is approved.
4. Provide information for each item as a separate attachment.

B. The District’s authorized representative shall have the sole responsibility to accept or reject any substitute item as an approved equal to the equipment and materials listed on the irrigation drawings and specifications.
PART 2 - PRODUCTS

2.1 GENERAL

A. Use only the brand and types of materials noted on drawings, specified herein, or approved equals.

2.2 PVC PRESSURE MAINLINE PIPING AND FITTINGS

A. Mainline piping used with future recycled water shall be purple in color and approved by local plumbing and health codes.

B. Mainlines 1-1/2" and smaller shall be Schedule 40 solvent-weld PVC unless otherwise noted.

1. Schedule 40 PVC pipe shall be made from IAMPO listed, virgin PVC 1120 compound conforming to ASTM D1784 and D1785 to meet the requirements of cell classification 12454B for pipe. The compound shall have a 2000 PSI hydrostatic design stress rating.

2. Fittings shall be equivalent to Schedule 40 PVC solvent weld

C. Mainlines 2 inch to 3 inch shall be Class 315 solvent-weld PVC unless otherwise noted.

1. Class 315 PVC pipe shall be made from IAMPO listed, virgin PVC 1120 compound conforming to ASTM D1784 and D2241 to meet the requirements of cell classification 12454B for pipe. The compound shall have a 2,000 PSI hydrostatic design stress rating.

2. Fittings shall be Schedule 40 PVC solvent weld.

D. All pipe and fittings shall bear the following markings:

1. Manufacturer name
2. Nominal pipe size
3. Schedule or Class
4. Pressure rating (PSI)
5. Date of extrusion.

E. Solvent cement and primer for PVC solvent weld pipe and fittings shall of a type and installed per pipe manufacturer recommendations.

2.3 PVC NON-PRESSURE LATERAL PIPING AND FITTINGS

A. Lateral piping used with future recycled water shall be purple in color and approved by local plumbing and health codes.

B. Lateral piping shall be Schedule 40 solvent-weld PVC unless otherwise noted.
1. Schedule 40 PVC pipe shall be made from IAMPO listed, virgin PVC 1120 compound conforming to ASTM D1784 and D1785 to meet the requirements of cell classification 12454B for pipe. The compound shall have a 2000 PSI hydrostatic design stress rating.
   2. Fittings shall be Schedule 40 PVC solvent weld

C. All pipe and fittings shall bear the following markings:
   1. Manufacturer name
   2. Nominal pipe size
   3. Schedule rating
   4. Pressure rating (PSI)
   5. Date of extrusion.

D. Solvent cement and primer for PVC solvent weld pipe and fittings shall of a type and installed per pipe manufacturer recommendations.

2.4 PVC THREADED NIPPLE FITTINGS

A. Threaded nipples shall be Schedule 80 PVC with molded threads
B. Threaded nipples on pressurized mainline shall be Schedule 80 PVC – Thread One End (TOE) type with the threaded side attached to the FPT device and the SLIP end attached to the pressure mainline with a PVC SLIP coupling.
C. All threaded fittings shall be installed with high quality Teflon tape

2.5 BRASS PIPE AND FITTINGS

A. Brass pipe shall be red brass threaded pipe
B. Fittings shall be red brass, Class 125

2.6 COPPER PIPE AND FITTINGS

A. Copper Pipe shall be Type K, hard tempered
B. Fittings shall be wrought copper with a solder type joint
C. Joints shall be soldered with 45% silver, 15% copper, 16% zinc, 24% cadmium and solidus at 607 degrees C (1125 degrees F) and liquidus at 618 degrees C (1145 degrees F.)

2.7 SHUT OFF VALVES

A. Isolation ball type shut off valve shall be of the brand, size and type indicated on the irrigation plans.
B. Valve shall be of threaded bronze body with full port and blowout proof stem.
C. Valve shall be rated to 600 PSI pressure.
D. Valve shall be available in 1 inch to 2 inch
E. Product Type: Nibco T-585-70-66

2.8 REDUCED PRESSURE PRINCIPLE BACKFLOW DEVICE

A. Backflow prevention unit shall be furnished and installed per the Civil Engineer's plans and specifications.
B. RP Backflow stainless steel enclosure shall be furnished and installed per the Irrigation Plans and Detail Drawings.
C. Backflow enclosure shall be stainless steel smooth touch type as per the Irrigation legend and detail drawings.

2.9 MASTER CONTROL VALVE

A. Remote control valves shall be of the brand, size and type indicated on the irrigation plans.
B. The electric remote control valve shall be a normally closed 24 VAC 60 Hz solenoid actuated globe pattern with a balanced pressure diaphragm design. The valve pressure rating shall not be less than 200 PSI.
C. The valve body and bonnet shall be constructed of heavy cast red brass; diaphragm shall be of nylon reinforced EPDM rubber. All other internal parts shall be made of bronze, brass, and stainless steel to ensure corrosion resistance.
D. The valve shall have both internal and external manual open/close control (internal and external bleed) for manually opening and closing the valve without electrically energizing the solenoid. The valve shall have internal manual bleed to prevent flooding of the valve box.
E. The valve shall house a fully-encapsulated, one-piece solenoid. The solenoid shall have a captured plunger with a removable retainer for easy servicing and a leverage handle for easy turning.
F. The valve shall have a stainless steel flow control stem with cross handle for regulating or shutting off the flow of water.
G. The valve construction shall be such as to provide for all internal parts to be removable from the top of the valve without disturbing the valve installation.
H. The valve shall have a contamination proof (CP) self-flushing stainless steel screen located at the valve inlet to filter out grit and prevent clogging of hydraulic control ports and assure reliable operation.
I. When used with recycled water, the valve shall also have a purple flow control handle and chlorine resistant diaphragm.

J. Recommended Product: Rainbird EFB-CP-NP HAN

2.10 FLOW SENSOR

A. An irrigation mainline flow sensor shall be installed in accord with Drawings. See Drawings for location. Contractor shall be responsible for the installation, hook-ups, materials, components, connections, etc., of the flow sensors for the complete automatic operation of the system.

B. Electrical connections shall be 2 single conductor 18 AWG leads, 4 feet long. Insulation shall be direct burial "UF" type colored red for the positive lead and black for the negative lead.

C. The meter body shall be fabricated from Schedule 80 PVC Tees, available in 1-1/2" with socket end connections.

D. All splices shall be performed with a waterproof dry splice type connector.

E. Product Type: Hunter FS158

2.11 FLOW SENSOR INTERCONNECT CABLE AND CONDUIT

A. Cable shall be Paige # P7162D ICEA CLASS B, 16 AWG, 7 strand flow sensor cable.

B. All wire connections be absolutely watertight with no leakage to ground or shorting from one conductor to another. All splices shall be Epoxy-type wire connector kits such as 3M Series 3500 Scotch-LOK connector packs or 3M Series 7000 Epoxy Wire Connector Kits. One splice shall be made per connection.

C. The Contractor shall provide and install a conduit that will be used for the installation of the flow sensor cable(s).

D. The flow sensor cable conduit shall be gray PVC Schedule 40 with solvent welded joints and unless otherwise noted on the Drawings, shall be 1-1/2 inch in size, with ¼" nylon pull rope installed within entire length of conduit.

E. Except as noted in paragraph ‘D’ (above) of this section, all requirements for communication cable conduit and fittings shall be the same as for solvent-weld pressure main line pipe and fittings as set forth in Section 2.2 of these Specifications.

F. Sweep ells shall be fabricated standard electrical type PVC schedule 40 long sweep elbows. Cap sweep ell with tri-plug with a ring for securing nylon pull rope.
G. The flow sensor cable conduit shall be routed, wherever possible, with the irrigation pressure main line piping.

H. Provide minimum cover and separation from adjacent piping per detail drawings for all conduit.

I. Pull boxes shall be located a minimum of 200 feet on center, at each automatic controller location, and at each change of direction.

2.12 REMOTE CONTROL VALVES

A. Remote control valves shall be of the brand, size and type indicated on the irrigation plans.

B. The remote control valve shall be normally closed 24 VAC 60Hz solenoid actuated globe pattern, spring loaded diaphragm type.

C. The valve shall be pressure rated up to 200 PSI.

D. The valve body shall be constructed of heavy-duty, glass-filled UV resistant nylon and have stainless steel studs and flange nuts. Diaphragm shall be of nylon reinforced EPDM rubber.

E. The valve shall have both internal and external manual open/close control (internal and external bleed) to manually open and close the valve without electrically energizing the solenoid.

F. The valve’s internal bleed shall prevent flooding of the valve box.

G. The valve shall house a fully-encapsulated, one-piece solenoid. The solenoid shall have a captured plunger with a removable retainer for easy servicing and a leverage handle for easy turning.

H. The valve shall have a self-cleaning stainless steel screen designed for use in dirty water applications.

I. The valve construction shall be such as to provide for all internal parts to be removable from the top of the valve without disturbing the valve installation.

J. When used with recycled water, the valve shall have a purple flow control handle.

K. When so indicated on the design, the valves shall have a pressure regulating module capable of regulating outlet pressure between 15 and 100 PSI. The pressure shall be adjustable from the PRS-D when the valve is internally manually bled or electrically.

L. Install valves in planting areas and according to the construction details. Only one valve per box will be allowed. Align valve boxes at right angles to adjacent
hardscape whenever possible. Where several valve boxes are located in the same area, arrange them in a uniform and orderly fashion.

M. When grouped together, allow a minimum of 12 inches between valves. The valves shall be installed in valve boxes which will have enough room on all sides of the valves to allow repair personnel to completely reconstruct the valves without removing the valve box.

N. Product Type: Rainbird PESB-R-PRS DIAL

2.13 LOW VOLTAGE CONTROL WIRING

A. Connections between the controller and remote control valves shall be made with direct burial AWG-UF type wire, installed in accordance with valve manufacturer's wire chart and specifications and in no case shall the wire be smaller than #14 AWG.

B. Wiring shall be installed adjacent to the mainline whenever possible and shall never be installed above or below the pipe.

C. Where more than one wire is placed in a trench, the wiring shall be taped together using black electrical tape at intervals of 10 feet.

D. Master valve pilot and common wire shall be installed in grey 1-1/2 inch conduit along with the flow sensor cable.

E. All splices shall be made using waterproof direct bury wire connectors. Only one splice is allowed per connector.

F. An expansion curl shall be provided at all directional changes. Expansion curls shall be sufficient length at each splice connection at each electric control valve, so that in case of repair, the valve bonnet may be brought to the surface without disconnecting the control wires. Control wires shall be laid loosely in the trench without stress or stretching of control wire conductors. A 24 inch expansion loop shall be located every 100 feet on continuous wire runs.

G. Use continuous wire between controller and remote control valves. Under no circumstances shall splices exist without prior approval. Any splices allowed shall be installed in a labeled pull box.

H. All pilot control wires shall be black in color. When more than one controller is installed use a different color (except green, orange, yellow, blue, or white) pilot wire for each controller. The following colors are not permitted:

1. Green  Electrical Ground
2. White    Common wire
3. Yellow   Master valve pilot
4. Blue     Master valve common
5. Orange   Extra Pilot Wires
I. All common wires shall be white in color. When more than one controller is installed use white colored wire with a color stripe to match the pilot control wire for each controller.

J. All extra wires shall be orange in color.

2.14 WIRE SPLICES

A. Conductors shall be installed with no underground splices, unless absolutely necessary and unavoidable. Any and all underground splices that are required to be made, must be approved by the Architect, and shall he placed in a suitable type valve box for easy access.

2.15 VALVE BOXES

A. Round valve boxes shall be 10 inch diameter x 10 inch high constructed of rigid polyolefin, chemically inert plastic with bolt down plastic covers.

B. Rectangular valve boxes shall be 12 inch wide x 17 inch long x 12inch high constructed of rigid polyolefin, chemically inert plastic, with valve box extensions where required. Valve boxes shall have bolt down plastic covers.

C. Heat brand box lid with minimum 2 inch letters using a branding iron specifically designed for the purpose of heat branding. Branding shall not puncture or weaken the valve box lid. Refer to detail drawings.

D. Valve boxes and covers shall conform to the following color guide:

1. Boxes used with future recycled shall be green in color.
2. Boxes used with flow sensor and controller communication cable pull boxes shall be black in color and shall be located at a maximum 200 feet on center and at every change in direction of the conduit.

E. Valve box covers shall be bolt down type secured with a stainless steel bolt, washer and nut.

F. Valve boxes used for irrigation equipment shall be as follows:

1. Round valve boxes shall be used for quick coupler valves and air relief valves.
2. Rectangular valve boxes shall be used for ball valves, master valves, flow sensors, remote control valves, and pull boxes.

2.16 Quick Coupling Valves:

A. Quick coupler valves shall be of the brand, size and type indicated on the irrigation plans.
B. Quick coupler valve shall have a body constructed of red brass with a wall thickness guaranteed to withstand normal working pressure of 150 P.S.I. without leakage, with female threads opening at base. Quick coupler valve shall have a hinge cover constructed of red brass with a leather like vinyl cover bonded to it in such a manner that it becomes a permanent type of cover. Quick couplers used with potable water shall have vinyl covers yellow in color. Quick couplers used with reclaimed water shall have vinyl covers purple in color with the appropriate reclaimed water warnings in English and Spanish, as well as the international "Do Not Drink" symbol.

C. Product Type: Reclaimed Water: Hunter HQ 44 - R

D. Quick coupler valve shall be operated only with a special connecting device known as a quick coupler key, designed for that purpose. Quick coupler key is inserted into the valve and a positive, water-tight connection shall be made between coupler key and valve.

E. Product Type: Hunter HK 44 - A with Hunter HS-1 1" x ¾" swivel

F. Locate all quick coupling valves within 12 - 18 inch of walks, curbs, header boards, or paved areas where applicable. Locate quick coupler valves inside shrub and ground cover areas when ever possible. Quick coupling valves shall be installed such that valve top will be 3 inch below the lid of the valve box.

2.17 Automatic Controller

A. Controller and communication hardware shall be of the brand and type indicated on the irrigation plans.

B. Controller shall be programmable for various schedules with the following features:

1. Transformer input: 120/230VAC, 50/60Hz; 2A at 120VAC, 1A at 230VAC, Maximum
2. Transformer output: 24VAC, 4A, 110VA
3. Station output: 24VAC, 0.56A (2 valves)
4. Seasonal adjustment: 0 to 300% in 1% increments, by program
5. All programs can run simultaneously
6. Self-diagnostic circuit breaker: skips shorted stations and continues watering
7. UL, C-UL, CE, C-tick
8. 365 day calendar
9. Test program feature allows for quick system checks
10. Central control compatible with Hunter IMMS™ system
11. Real-time Flow Monitoring capability built in, with actual flow histories (in GPM or metric) available when connected to Hunter HFS or other compatible flow meters.
12. Flow-learning mode by station, with station-level diagnostics and alarm shutdowns.
13. Easy Retrieve™ backup feature can restore schedules, run times, names and other settings to a saved setup
14. Programmable Stack and Overlap settings, including SmartStack™.
15. Alphanumeric names up to 13 characters for each program, station (zone) or group, with programmable customer contact screen.

C. Controller shall be installed in a stainless steel enclosure by the manufacturer.

D. Product Type: Hunter ACC with stainless steel enclosure and Hunter communication module for connection to the Hunter IMMS central control system.

2.18 SPRINKLER HEADS

A. Full circle, part circle pressure regulating spray heads and built-in check valve sprinkler heads:

1. The sprinkler body, stem nozzle and screen shall be constructed of heavy duty plastic.
2. The sealing device shall create no more than one 0,07 bar pressure drop at maximum rated pressure and flow.
3. The sprinkler shall have a strong stainless steel retract spring for positive pop-down.
4. Pop-up height shall be as indicated on the irrigation drawings and no less than 4 inches.
5. The sprinkler shall have a screen under the nozzle to protect it from clogging and for easy removal for cleaning and flushing system.
6. The sprinkler shall be equipped with a built in pressure regulating device capable of regulating an inlet pressure of 15-100 PSI for proper operation of the spray head. The pressure regulating device shall be constructed of stainless steel springs and heavy duty plastic parts.
7. Pop-up sprinklers shall be equipped with a built in anti-drain valve capable of holding water within the sprinkler head from up to 14 feet of elevation change. The check valve equipped pop-up sprinkler shall be identified on the cap as being so equipped.
8. The sprinkler shall have a matched precipitation rate (MPR) plastic nozzle with an adjusting screw capable of regulating the radius and flow.
9. MPR nozzles - The plastic nozzles shall have matched precipitation rates across sets (5, 8, 10, 12, 15 feet). The spray nozzles shall have female thread configuration for use on the sprinkler and the plastic shrub adapter.

B. Product Types:

1. Turf spray heads: Hunter Inst-06 CV
2. Shrub spray heads: Hunter Inst-12 CV
3. Bubbler spray heads: Hunter Inst-04 CV
4. Spray Nozzles: Hunter Pro Spray fixed arc
5. Rotary heads: Hunter MP Rotator series
2.19 Check Valves:

A. Provide check valves and/or anti-drain valves as may be required by the District to prevent drainage of irrigation water from sprinkler system due to changes in elevation.

B. Swing Check Valve: Where water source is at the bottom of slope swing check valves are to be used. Swing check valves shall be constructed of heavy duty plastic and stainless steel internal parts. Swing check valve shall permit water to flow up slope not down. Install swing check valves in-line as designated on the irrigation drawings. As all sizes may not be available from the manufacturer, use UVR-PVC Sch. 40 reducing bushings to adapt check valve to the line size as long as PVC swing check valve is larger than the line size.

C. Product Types: Valcon, KBI or approved equal.

D. Spring Check Valve (adjustable): Where water source is at the top of slope adjustable spring check valves are to be used. Spring check valves shall be constructed of heavy duty plastic and stainless steel internal parts. Spring check valve shall be adjustable between 5 - 15 lbs. Install swing check valves in-line and/or on sprinkler heads designated on the irrigation drawings. As all sizes may not be available from the manufacturer, use UVR-PVC Sch. 40 reducing bushings to adapt check valve to the line size as long as PVC spring check valve is larger than the line size.

E. Types: KBI or approved equal.

2.20 MISCELLANEOUS EQUIPMENT

A. Thrust Blocks

1. Thrust blocking shall be used on all irrigation mainlines 2 inch diameter and larger. Thrust blocks shall be minimum 1 cubic foot of concrete.

2. All PVC pipe fittings shall be wrapped with black plastic tape prior to installation of thrust blocks.

B. Gravel

1. All gravel used in valve boxes shall be washed crushed gravel of approximately ¾” size. No pea gravel shall be used.

C. Stabilizing Rods

1. All assemblies requiring stabilization shall be equipped with #4 x 18 inch rebar stabilizer rods.

2. Quantity of stabilizing rods shall be as indicated on the detail drawings.

D. Yellow identification tags with controller letter and station designation are required on all remote control valves.
E. Swing Joint Assemblies

1. All sprinklers shall be installed with triple swing joints. Assembly shall be sized per the sprinkler inlet, with a 6 inch minimum lay length.
2. 1/2" swing joints shall be made with Marlex street ells.
3. 3/4" and larger swing joints shall be made with Sch. 40 PVC street ells with Teflon tape wrap.

PART 3 - EXECUTION

3.1 Inspection Schedule:

A. Contractor is responsible for notifying the District 48 hours in advance for the job card inspections.

B. AS-BUILT DRAWING MUST BE SUBMITTED PRIOR TO SITE INSPECTION, NO INSPECTION WILL COMMENCE WITHOUT AS-BUILT DRAWING APPROVAL. In the event the contractor calls for an inspection without as-built drawings, without completing previously noted corrections, or without preparing the system for inspection, he shall be responsible for reimbursing the District for the cost of the inspection per the current rate established by the District. No further inspections will be scheduled until this charge has been paid.

C. When performing the irrigation coverage test, the contractor shall be responsible for having a two-way communication system or sufficient personnel, so that the directions from the inspection area to the controller of the system can be readily accomplished.

3.2 Water Supply:

A. Utilize water meter and provide connections to RP backflow unit per the irrigation drawings and details.

B. Connections to the existing water meter shall be at the approximate locations shown on the drawings. Minor changes caused by actual site conditions shall be made without additional cost to the District.

3.3 Layout:

A. Lay out irrigation heads and make any minor adjustments required due to differences between site and the drawings. Any such deviations in layout shall be within the intent of the original drawings and approved by the District.

B. Lay out all irrigation equipment using an approved staking method, and maintain the staking of approved layout.

C. All layouts shall be approved by the District prior to equipment installation.
D. Before starting work on irrigation system, determine that work may proceed without disruption of activities of other trades.

E. The contractor shall carefully check grades to ensure that the area is safe to begin work.

F. Contractor is responsible for taking all reasonable investigative actions and precautions, when working around any utility system.

G. Contractor shall be responsible for verification of site conditions and minor revisions as approved by the District to insure 100% irrigation coverage in all areas.

3.4 Assemblies:

A. Routing of irrigation lines as indicated on drawings is diagrammatic. Install lines (and various assemblies) to conform to details on plans. Whenever possible, place all irrigation equipment in the planting areas. Irrigation elements drawn in hardscape areas on the plans is for graphic clarity only and are meant to be placed in planting areas.

B. Do not install multiple assemblies on plastic lines. Provide each assembly with its own outlet.

C. Install all assemblies specified herein according to the respective detail drawings or specifications, using the best standard practices with prior approval.

D. Assemble brass pipe and fittings and plastic pipe and threaded fittings, using Teflon tape, or approved equal applied to the male threads only.

E. Install concrete thrust blocking at all changes of direction 45 degrees or greater on all mainline, 2 inch or larger. Install thrust blocks per details. Pipe restraint system shall be used in lieu of thrust blocks on bell and gasket pipe.

3.5 Line Clearance:

A. All lines shall have a minimum clearance of 6 inches from each other and 24 inches from lines of other trades.

B. Do not install parallel lines directly over one another.

3.6 Trenching:

A. Dig trenches and support pipe continuously on bottom of trench. Lay pipe to an even grade. Pipe shall be snaked from side to side to allow for expansion and contraction. Trenching excavation shall follow layout indicated and as noted. Where lines occur under paved area, these dimensions shall be considered below sub-grade.

B. Provide the following minimum covers:
1. Pressure mainline 3 inches size or greater 36 inches
2. Pressure mainline less than 3 inches: 24 inches
3. Non-pressure lines (lateral lines): 12 inches
4. Control wiring: 24 inches

3.7 Backfilling:

A. Initial backfill on all lines shall be of a fine granular material, not larger than 1/2 inch diameter.

B. Compact backfill to dry density equal to the adjacent undisturbed soil, conforming to adjacent grades without dips, sunken areas, humps, or other irregularities.

C. In appropriate types of soil, the District may authorize the use of flooding in lieu of tamping.

D. Under no circumstances shall vehicle wheels be used for compacting soil.

E. Provide sand backfill a minimum of 6 inches above and 2 inches below all piping under paved areas, and a minimum of 2 inches above and below on all other piping.

F. If settlement occurs and subsequent adjustments in pipe, valves, irrigation heads, turf or other plantings, or other construction are necessary, the contractor shall make all required adjustments without cost to the District.

3.8 Flushing the System:

A. After all irrigation pipe lines and risers are in place and connected, and prior to installation of irrigation heads, the control valves shall be opened and full head of water used to flush out the system.

B. Sprinkler heads shall be installed only after flushing of the system has been accomplished to the complete satisfaction of the District.

3.9 Under Existing and/or Proposed Pavement:

A. Trenches located under areas where paving, asphaltic concrete or concrete will be installed shall be backfilled with sand and compacted in layers to 95% compaction, using manual or mechanical tamping devices. Trenches for piping shall be compacted to equal the compaction of the existing adjacent undisturbed soil and shall be left in flush with the adjoining grade. The irrigation contractor shall set in place, cap and pressure test all piping under paving prior to paving work.
B. Piping under existing pavement may be installed by jacking, boring, or hydraulic driving. However, no hydraulic driving will be permitted under asphalt paving.

C. Provide a minimum cover of 24 inches between the top of the pipe and the bottom non-pressure piping (laterals) installed under asphaltic concrete paving.

D. Sleeves shall be two times the diameter of lateral line, mainline, and wire bundle size, and a minimum of 2 inch size. Install separate sleeves for each use.

E. Under public roads, all mainlines and lateral piping must have a minimum cover of 30 inches from the top of the pipe to the bottom of aggregate base. All mainlines and control wires to be sleeved as shown per plan, shall have a minimum cover of 36 inches from the top of the sleeve to the bottom of pavements or aggregate base. All lateral piping to be sleeved as shown per plan shall have a minimum cover of 30 inches from the top of the sleeve to the bottom of pavements or aggregate base.

F. Secure permission from the District before cutting or breaking existing pavement. All necessary repairs and replacements shall be approved by the District at no additional cost to the District.

3.10 Controller:

A. The contractor shall install a new controller as specified on the irrigation drawings.

B. Controller shall be installed in the locations indicated on the irrigation drawings and approved by the District.

C. Contractor shall install separate sleeves for the phone line, control wiring, ground wire, flow sensing, and electrical power wires as required.

D. Install one extra 1 1/4 inch size conduit into the enclosure for each controller for future use.

3.11 Irrigation Heads:

A. Install irrigation heads as indicated on the irrigation drawings.

B. Spacing of heads shall not exceed the maximum indicated. In no case shall the spacing exceed the maximum recommended by the manufacturer.

C. Sprinkler heads in lawn or turf areas shall be elevated to a minimum of 1/2 inch above grade during installation. Sprinkler heads in shrub or groundcover areas shall be elevated to a minimum 1 inch above grade during installation. Heads along curbs, walks, paving, etc., shall be placed 1/2 inch above finish grade. Lower raised irrigation heads within ten days after notification by the District.

D. Final sprinkler head heights shall be as indicated on the irrigation detail drawings. All sprinkler heads installed adjacent to hardscape features shall be located 3
inches off of the edge of the hardscape feature in turf areas, and 6 inches off the edge of the hardscape feature in shrub and groundcover areas.

E. All irrigation heads shall be set perpendicular to finish grades unless otherwise indicated on the plans.

3.12 Adjusting the System:

A. The contractor shall flush and adjust all irrigation heads and valves for optimum performance and to prevent over spray onto walks, roadways, buildings, walls and other structures as much as possible.

B. If it is determined that adjustments in the irrigation equipment or nozzle changes will provide proper and more adequate coverage, make all such changes or make arrangements with the manufacturer to have adjustments made, prior to any planting.

3.13 Coverage Test:

A. When the irrigation system is completed, perform a coverage test in the presence of the District to determine if the water coverage for lawn, planting and slope areas is complete and adequate. Coverage must be 100% head to head to be accepted by the District. Furnish all materials and perform all work required to correct any inadequacies of coverage due to deviations from the plans or where the system has been willfully installed as indicated in the drawings; when it is obviously inadequate or inappropriate, without bringing this to the attention of the District. This test shall be accomplished before any plant material is planted (excluding trees).

3.14 Tests:

A. All piping under paved areas shall be tested under a hydrostatic pressure of 150 PSI, and approved watertight, prior to the paving operation. Make hydrostatic tests only in the presence of the District. No pipe shall be backfilled until it has been inspected, tested, and approved in writing.

B. Furnish necessary force pump and all other test equipment.

C. Test all pressure mainlines under a hydrostatic pressure of 150 PSI for a period of four hours.

D. All testing shall be approved prior to the installation of remote control valves, quick couplers, or other valve assemblies.

3.15 Maintenance:

A. The entire irrigation system shall be under full automatic operation for a period of seven days prior to any planting or hydroseeding (excluding trees).

3.16 Completion Cleaning:

Irrigation System
A. Upon completion of the work, make ground surface-level, remove excess materials, rubbish, debris, etc., and remove construction and installation equipment from the premises.

END OF SECTION
SECTION 02480

PLANTING AND LANDSCAPE MAINTENANCE

PART 1: GENERAL

1.01 Inspections

A. Inspections shall be made by the District. Contractor shall be on the site when inspections are made. Requests for inspections shall be made at least 48 hours in advance. If the work is not ready for inspection when the inspector arrives, contractor shall pay for the District's visit at current District Rate.

B. Inspection is required by the District per inspection job card.

C. Any work completed without proper inspection by shall be removed and replaced at no expense to the District.

D. Quantities and Types. Plant materials shall be furnished in the quantities and/or spacing as shown or noted for each location, and shall be of the species, kinds, sizes, etc., as symbolized, and/or described in the "Plant Legend", as indicated on the drawings. The landscape contractor is to verify all sizes and quantities on plans.

1.02 Guarantee

A. All trees (5 gallon and larger) shall be guaranteed for a period of one year. All shrubs and other plant materials shall be guaranteed for a period of 90 calendar days. All guarantee periods commence from the time of final acceptance by the District at the completion of the 90 calendar day maintenance period.

B. Replace, as soon as weather permits, all dead plants not in vigorous condition as noted during the maintenance period.

C. Plants used for replacements shall be same kind and size as originally planted. They shall be furnished, planted, and fertilized as specified and guaranteed within these documents.

PART 2: PRODUCTS

2.01 Materials

A. Import Soil

1. Imported soil shall have a silt and clay content that is equal or less than the underlying subsoil. Silt plus clay content of this soil shall be not greater than 40% by weight and gravel should comprise no more than 15% of the soil by weight. The boron content of this soil shall be not greater than 1 part per million as measured on the saturation extract. The ECE shall not exceed 3.0 millimhos per centimeter at 25 degrees C. The sodium absorption ratio (SAR) shall not exceed 6.0.
2. In order to ensure conformance, samples of the imported soil shall be submitted to an agronomic soils testing laboratory, approved by the District for analysis prior to use. For reference: Soil and Plant Laboratory is an approved soil testing facility (714) 282-8777. Results of testing shall be delivered to the District for approval. Soil test to include analysis and recommendations. Cost for soil testing shall be provided by Contractor.

B. Organic Amendment:

Organic amendment shall be derived from greenwaste compost, composted wood/bark, manure, mushroom compost or peat moss.

1. The organic percentage shall be greater than 50%.
2. The salt content shall be less than 10 millimho/cm @ 25 °C. (ECe less than 10) on a saturated paste extract.
3. Boron content of the saturated extract shall be less than 1.0 parts per million.
4. Calcium carbonate shall not be present if to be applied on alkaline soils.
5. The amendment should be free of plastic, glass or metal, weed seed, pathogens and other deleterious materials.
6. Composted wood products are conditionally acceptable (stable humus must be present).
7. Sludge-based materials are not acceptable if the soil already has a high level (toxic level) of zinc, copper or other heavy metals based on soil analysis.
8. Carbon: nitrogen ratio is less than 35:1.
9. The compost shall be aerobic and mature without malodorous presence of decomposition products.
10. The maximum particle size shall be 0.5 inch, 75% or more shall pass a ¾" screen.

Higher amounts of salinity or boron may be present if the soils are to be preleached to reduce the excess or if the plant species will tolerate the salinity and/or boron. Fertilizer rates may need to be adjusted based on properties of approved organic amendment.

C. Fertilizer and Soil Conditioner:

1. Pelletized gypsum - Best `soilbuster' w/iron or equal.
2. Preplant commercial fertilizer shall have a minimum of 15% nitrogen, 15% phosphoric acid, and 15% potash. Deliver mixed fertilizer in standard bags, marked with weight, analysis and name of manufacturer. Keep fertilizer in dry storage. The maintenance fertilizer shall have an analysis of 16-6-8. Fertilizer shall be commercial grade manufactured by Best or equal. These fertilizers are listed for bid purposes only; actual fertilizer used shall be based on recommendations from soil test laboratory.

3. Plant tablets shall be 7 gram size, Agriform or equal.
D. Plant Materials:

1. All plant materials shall be healthy; well-developed representatives of their species of varieties, free from disfigurement with well developed branch and root systems, and certification of nursery inspection that plants are free from all plant diseases and insect infestation.

2. Tag plant materials with name and size in accordance with standards of practice recommended by American Association of Nurserymen.

3. Size of tree and shrub containers shall be as stated on the planting plan. Container stock shall have grown in containers for at least six (6) months, but not over two (2) years. Samples shall be shown to prove that no root-bound conditions prevail. No container plants that have cracked or broken balls of earth, when taken from containers shall be planted, except upon specific approval.

4. Do not prune, prior to delivery, except by specific approval.

5. Plants shall be subject to inspection for size, variety, condition, latent defects and injuries, at place of growth and at the project site at any time before or during progress of work. Remove rejected plants from the project site immediately and replace it with acceptable material.

6. Protect all plants from damage by pests, rodents, sun, wind or rain at all times before planting.

7. Substitutions will not be permitted; except, when proof is submitted that any plant specified is not obtainable. In this case, a proposal will be considered for use of the nearest equivalent in size or variety with an equitable adjustment of contract price. All substitutions will be subject to the District's approval.

8. Plants shall have grown under climatic conditions comparable to those of the project site, unless otherwise specifically approved by the District.

E. Ground Cover:

1. Ground covers will be hand planted in the areas indicated on the planting plans.

2. Ground cover plants shall be grown in flat plants or peat pots as indicated on the plant list. Flat grown plants (rooted cuttings) shall remain in flats until transplanting. The soil in the flat shall contain sufficient moisture so that it will not fall apart when lifting the plants. If plants from peat pots are used, the peat pots shall be protected at all times prior to planting to prevent unnecessary drying of the root ball.
3. Ground covers shall be planted in a triangular pattern evenly spaced unless otherwise noted on the plan. Plant ground covers continuously under all trees and shrubs in the areas designated on the planting plans.

4. Each plant shall be planted with its proportionate amount of soil from the flat or in a peat pot, in a manner that will ensure minimum disturbance of the root system. Hand smooth planting area after planting to provide an even, smooth, final finish grade. To avoid drying out, plantings shall be immediately watered after planting until the entire area is soaked to the full depth of each hole unless otherwise noted on the drawing.

5. A representative number of plants shall be inspected and approved at the nursery by the District representative prior to shipment to the planting site. Prior to such visit, Contractor shall submit 3" x 5" color photographs of all proposed tree and shrub material for District's representative review. Photos shall be submitted seven (7) calendar days prior to specified plant material review at nursery site. Plants shall be inspected for size and condition of root growth, insects, injuries and latent defects. The District reserves the right to reject entire lots of plants represented by defective samples.

Plant condition shall be in accordance with the California State Department of Agriculture's regulations for nursery inspections, rules, and grading.

F. Tree ties: V.I.T. Twist Brace Ties for double staking, or equal as approved by the District. Secure tree to stake in two places minimum.

G. Tree stakes: (2)- 2 inch diameter x 10 foot long lodgepole stakes for all five gallon, fifteen gallon and 24 inch box trees. Tree stakes shall be pine and pointed at one end. Tree stakes shall be free from splits.

H. Trees installed as 36" box and larger shall be installed with guy anchors. Tree stakes are not acceptable. Deadman stakes shall be duckbills or 2 x 4 inch redwood 18 inches long. Covers for wire shall be ¾-inch Class 200 PVC pipe – 3 feet long. A minimum of three (3) supporting guy anchors shall be used for each 36" box tree or larger.

I. Root Barriers: Where trees are planted within 8 feet of curbs, sidewalks or pavement, install a sub-surface panel barrier 10 feet long centered on the tree trunk ("Deep Root" (800) 458 7668, or approved equal).

J. Mulch. Mulch material shall be "Forest Floor (0-4")" bark mulch, supplied by Aguinaaga Fertilizer Company, Inc. (949) 786-9558, or approved equal. Dark earthy brown in color, re-cycled, ground and screened to specification 0-4". Composted and nitrogen stabilized. Submit sample for review and approval by District prior to material delivery on-site.

K. Soil Herbicide. A commercially manufactured non-selective herbicide for total control of vegetation products shall meet all federal and state regulations pertaining to the use of such substances. Application and rate of application...
shall follow manufacturer's recommendations. Application shall not be made until obtaining written approval from the District. Such application shall be performed in consideration of overall construction schedule and operation so as not to disrupt or interfere with the project schedule and timeline.

K. Wood Headerboards:

1. Provide 2 inch by 4 inch redwood construction grade headerboards. Make splices with 1 inch by 4 inch pieces no less than 12 inches long. Place 1 inch by 3 inch by 16 inch stakes at intervals of not more than 5 feet. Cut stakes level and set below top headerboards.

2. On sharp turns and curves, four ½ inch by 4 inch laminated boards, or two 1 inch by 4 inch laminated boards may be permitted.


4. Provide headerboards as shown on drawings, laid true to line and grade. Protect in-place adjacent improvements, shrubbery and other properties. Place stakes on ground cover side of headerboards.

L. Jute Netting: As provided by "Geojute" or approved equal. Available from: Ben Meadows. (800) 458-7668.

PART 3: EXECUTION

3.01 Installation

A. Site clearance: Clean up and remove from the planting areas weeds and grasses, including roots, and any minor accumulated debris and rubbish before commencing work.

B. Storage: Secure permission from the District to store plants on the project site, and ensure that they are protected from damage by the sun, wind, and construction work.

C. Finish grading of all shrubs, groundcover planting areas. Grading shall be done as indicated on the grading plans and as follows.

1. Do not work on the soil when moisture content is so great that excessive compaction will occur, or when it is so dry that dust will form or clods will not readily break up.

2. Remove and dispose of all soil in planting areas that contains any deleterious substance such as oil, plaster, concrete, gasoline, paint, solvents, etc., removing the soil to a minimum depth of six (6) inches or to the level of dryness in the affected areas. The affected soil shall be replaced with native or imported soil as required. The contractor shall be responsible for any damage to installed plants caused by such substances.
3. If an area to be landscaped is not acceptable to the contractor, the contractor shall notify the District, in writing.

4. Prior to start of finish grading; loosen all planting areas to a depth of six (6) inches. Finish grades shall allow for addition of soil conditioners.

5. Make minor grade adjustments as directed by the District.

6. Where designated drainage meets an obstruction, warp grades so that no water collects.

7. Use water trucks and sprinklers as required to control all airborne dust caused by grading operations.

8. Finish grading all planting areas to a smooth and even condition, making certain that no water pockets or irregularities remain. Remove and dispose of all foreign materials, clods, and rocks over 1 inch in diameter at the surface and sub-surface down to 8 inches depth minimum.

9. Provide a grade which, after conditioning and planting, is 1 inch below the tops of curbs and walks in lawn areas and 2 inch below for shrub areas sloping to drain to adjacent roadway, drain swale or catch basin.

D. Soil Conditioning:

1. Amend all planting areas with a grade of 3:1 or less. Incorporate evenly into the top 6 inch of existing soil (with a rototiller or approved piece of equipment) the following per each 1,000 square feet of planting area.
   a. 4 cubic yards of soil amendment.
   b. 10 lbs. of 15-15-15- commercial fertilizer or approved equal.
   c. 75 lbs gypsum
   d. 15 lbs soil sulfur

2. The above soil conditioning quantities shall be used for bidding purposes only, soil conditions may change drastically from the time these specifications were developed until the actual soil conditioning takes place. Therefore, the contractor shall obtain soil samples at a rate of one per every 25,000 square feet of planted area in the presence of the District. These soil tests shall be conducted by an approved agronomic soils testing laboratory approved by the District. For reference, a pre-approved agronomic testing facility is: Soil and Plant Laboratories, (714) 282-8777. The contractor shall add amendments per soils report recommendations for individual planting areas and as approved by the District.

3. All rocks or unbroken soil clods over 1 inch in diameter brought to the surface shall be removed from the project site.

E. Weed control program: Upon completion of the soil amendment installation and fine grading work perform weed control measures as follows:
1. Irrigate all areas designated to be planted for seven days at a schedule required to germinate all weed seed possible.

2. Apply weed killer per manufacturer’s recommendation and the District’s approval and allow efficient time for complete kill of all germinated weeds.

3. Repeat step one above.

4. Repeat step two above.

F. Planting shall be completed as follows:

1. Determine location of the trees and shrubs by scaling from the planting plan.

2. Place / locate all 5 gallon and smaller containers on finish grade, and obtain approval from the District before excavating planting pits. Provide color-coded 6' high stakes (one color per tree type) secured in finish grade to indicate location of all tree plantings. Location of all tree planting locations, as indicated by 6’ color coded stakes shall be reviewed and approved by District prior to planting.

3. Excavate planting pits with vertical sides for all plants. Shrub pits shall be twice the diameter and 1-1/2 times the depth of the rootball. Tree pits shall be twice the diameter and 1-1/2 times the depth of the rootball. Tree pits depth shall include the rootball and a transitional zone of compacted, unamended native soil.

4. If planting pits are cut with power auger, vertical sides of pit shall be additionally broken with balling bar or spade to interrupt continuous curve influence on root development.

5. Plant material shall be planted in such a way that after settling, the crown of the plant bears the same relation to finish grade that it did to the surface in the container.

6. Backfill tree and shrub planting pits with pulverized site soil amended with 5 lbs gypsum and one pound iron sulfate per cubic yare of backfill if specified by soil test.

7. Form shallow basin around the edge of planting pits. Water should be directed into original rootball until roots grow into surrounding soil.

8. Plant Tablets - 7 gram planting tablets, Provide tablets in the following ratios:

   a. 1 tablet per ground cover and liners.

   b. 2 tablets per gallon plant.
c. 6 tablets per 5 gallon plant.

d. 12 tablets per 15 gallon plant.

e. 14 tablets per 24 inch box plant.

f. 16 tablets per 30 inch box tree.

g. 18 tablets per 36 inch box tree.

h. 20 tablets per 48 inch box tree.

9. Grade area around plants to finish grades and dispose of excess soil.

10. Location for street trees adjacent to any light standards or utility equipment shall be adjusted to maintain a suitable clearance, as approved by the District.

11. Install sump drains per details for all trees with slow or poor draining soils per approval of District.

12. All landscape areas with a slope gradient of 4:1 and steeper shall be covered with “Geojute” or approved equal; available from: Ben Meadows (800) 241-6401. Installation shall be per manufacturers specifications. Planting through “Geojute” shall be in accordance with planting recommendations provided by Geojute.

13. **Tree Relocation Planting:** Contractor shall provide for tree relocation / planting of six (6) existing trees, currently located at: ATEP (Advanced Technology and Education Park), 15445 Lansdowne Road, Tustin, CA 92782. Existing trees shall be relocated by District approved “Big John”, 90-inch tree spade relocation company. Existing trees have 12 inch D.B.H. Contractor shall submit resume and references for proposed “Big John” Tree Spade Owner/ Operator for District review and approval. Resume shall include project names, location and contact information for a minimum of five (5) 90-inch toll space relocation projects, each providing for removal and relocation of a minimum of 5 –10 inch (DBH) trees. For Reference: Big Trees of California, Tree Transplanting Specialists (619) 921-6747, contact: Mark Holland is a pre-approved “Big John” tree spade owner / operator. The six (6) existing trees shall be selected by District following Award of Contract.

G. Pruning:

1. Prune minimum necessary to remove injured twigs, branches, dead wood, sprouts and suckers.

2. Prune plants according to standard horticultural practices, by qualified personnel.
3. No topping of any trees will be permitted. Trees that have been topped will be replaced at the contractor's expense.

H. Clean-up:

1. During the course of the work, daily remove surplus materials from the site and leave premises in a neat and clean condition.

2. Prior to acceptance of the project for maintenance, clean up and remove all remaining debris and surplus materials upon completion of work, leaving the premises neat and clean.

3. Remove all tags, labels, nursery stakes and ties from all plant material only after the approval of the District.

PART 4: MAINTENANCE

4.01 General:

Continuously maintain all areas included in the contract during the progress of the work, the maintenance period and until the final acceptance of the work.

4.02 Maintenance Period:

After all the work indicated on the drawings or herein specified has been completed and inspected and approved by the District; maintain all areas within the project boundary for a period of 90 calendar days. 90 day maintenance period shall not begin until final review and approval by the District has been provided regarding the successful completion of all punch list items

4.03 Tree and Shrub Care:

A. Watering: Maintain a large enough water basin around plants so that enough water can be applied to establish moisture through the major root zone. When hand watering, use a wand to break the water force.

B. Tree Pruning:

1. Prune trees to select and develop permanent scaffold branches that are smaller in diameter to the trunk or branch of which they are attached, which have vertical spacing of from 18 to 48 inches and radial orientation so as not to overlay one another; to eliminate narrow V-shaped branch forks that lack thinning out crowns; to maintain growth within space balance crown with roots.

2. Under no circumstances will stripping of lower branches or "raising up" of young trees be permitted. Retain lower branches in a "tipped back" or pinched condition with as much foliage as possible to promote trunk growth (tapered trunk). Lower branches may be removed only after the tree is able to stand erect without staking or other support.
3. Thin out and shape evergreen trees when necessary to prevent wind and storm damage. Perform primary pruning to deciduous trees during the dormant season. Prune damaged trees or those that constitute health or safety hazards at any time of the year as directed by the District.

C. Shrub Pruning:

1. The objectives of shrub pruning are the same as for trees. Do not clip shrubs into balled or boxed forms unless such is required by the design and designated on the planting plans.

2. Make all pruning cuts of lateral branches or buds, as directed by the District.

3. Topping is not allowed.

D. Staking: Remove stakes as soon as they are no longer needed. Inspect stakes to prevent girdling of trunks or branches, and to prevent rubbing that causes bark wounds. The contracting crew at the time of maintenance shall remove the stakes and cut the stakes so they are not protruding into the canopy.

E. Weed control:

1. Keep basins and areas between plants free of weeds. Apply pre-emergent herbicides recommended by a licensed pest control advisor to all non-seeded landscape areas only. Avoid frequent soil cultivation that destroys shallow roots or disturbs pre-emergent herbicide application.

2. Eradicate all noxious weeds from site (i.e. nutgrass, bermuda grass, kikuyu grass, crab grass).

F. Insect and disease control: Maintain control with approved materials.

G. Fertilization: Make three applications of commercial fertilizer at the rate of 5-6 lbs. per 1,000 square feet at the following periods: (Maintenance progress inspections are required for verification of fertilizer applications)

1. 30 calendar days after the maintenance period has begun.

2. 60 calendar days after the maintenance period has begun.

3. Just prior to the end of the 90 calendar day maintenance period.

4. Note: Application should be per manufacturer's recommendation per site and District's approval.

H. Replacement of plants: Remove dead and drying plants and replace with plants of equal size and variety of original planting plan at no additional cost to the District and as approved by the District.
I. Groundcover Care: Apply a pre-emergent herbicide having a life no less than six (6) months to all ground cover and shrub areas. Herbicide shall be registered for use on the species of plant material specified in planting plans and approved by a licensed pest control advisor.

J. Turf care:

1. Mowing and edging: No more than 1/3 of turf height shall be removed at mowing. Mow at least once every seven (7) days during spring and fall seasons and as needed during other seasons.

2. Trim edges at least twice monthly or as needed with a power edger for a neat appearance. Vacuum or blow clippings off walks.

K. Watering: Water turf areas at such frequency as weather conditions require, to replenish soil moisture below root zone. Irrigation shall be scheduled between 10 p.m. and 6 a.m. following turf establishment.

L. General Maintenance:

1. Remove trash weekly.

2. Edge ground cover to keep in bounds and trim top growth as necessary to achieve an overall even appearance.

3. The Contractor shall be responsible for detecting diseases and pests (including vertebrate pests, rabbits, gophers, groundhogs, mole, rodents, etc.) as soon as they are present and shall take immediate action to identify, control, and remove the disease or pest. Pest control programs of all mammals shall be done without extermination and as approved by the District's Authorized Representative. Plants shall be maintained in a disease and pest free condition. A licensed pest control operator shall be maintained to recommend and apply pesticide, herbicides, and fungicides. Contractor shall be responsible for removal of gophers, moles, rabbits, etc. from site and repair any and all damage attributed to their presence. Damaged plant material due to vertebrate pests (rabbits, gophers, groundhogs, etc.) shall be replaced immediately by Contractor at no cost to District. Dead, dying and damaged plant material shall be removed at no cost to the District. Contractor shall be responsible for providing 90 day maintenance as noted herein for any and all plant material which is removed and replaced during the 90 day maintenance period.

4. Test irrigation system weekly and submit reports to District.

5. The site temporary fence shall be maintained to ensure security to the site.

PART V: GUARANTEE
5.01 All trees (5 gallon and larger) shall be guaranteed for a period of one year. All shrubs and plant materials shall be guaranteed for a period of 90 calendar days. All guarantee periods commence from the time of final acceptance by the District at the completion of the 90 calendar day maintenance period.

5.02 Replace, as soon as weather permits or as directed by the District, all dead plants and all plants not in vigorous condition as noted during the inspections and maintenance period.

5.03 Plants used for replacements shall be the same kind and size as originally planted. Replacement plants shall be approved by the District and shall be furnished, planted, fertilized as specified and guaranteed the same as the original plant materials.

END OF SECTION
SECTION 02510

WATER DISTRIBUTION

PART 1 – GENERAL

1.1 SUMMARY

A. This Section includes piping and specialties for combined potable-water service outside the building.

B. This Section includes tapping of existing water mains.

1.2 Related documents and referenced standards


1.3 ABBREVIATIONS

A. The following area industry abbreviations for plastic and rubber materials:

1. PVC: Polyvinyl chloride.

1.4 SYSTEM PERFORMANCE REQUIREMENTS

A. Minimum Working Pressures: The following are minimum pressure requirements for piping and specialties, unless otherwise indicated:


1.5 QUALITY ASSURANCE

A. Product Options: Drawings indicate size, profiles, and dimensional requirements of water-service piping specialties and are based on specific types and models indicated. Comply with requirements of utility supplying water. Include tapping of water mains and backflow prevention.


D. Comply with ASTM F 645, "Guide for Selection, Design, and Installation of Thermoplastic Water Pressure Piping Systems."
E. Comply with NFPA 70, “National Electrical Code,” for electrical connections between wiring and electrically operated devices.

F. Provide listing/approval stamp, label, or other marking on piping and specialties made to specified standards.

G. Listing and Labeling: Provide electrically operated specialties and devices specified in this Section that are listed and labeled.

1. The Terms “Listed” and “Labeled”: As defined in NFPA 70, Article 100.

2. Listing and Labeling District Qualifications: A “Nationally Recognized Testing Laboratory” as defined in OSHA Regulation 1910.7.

1.6 DELIVERY, STORAGE, AND HANDLING

A. Preparation for Transport: Prepare valves, according to the followings:

1. Ensure that valves are dry and internally protected against rust and corrosion.

2. Protect valves against damage to threaded ends and flange faces.

3. Set valves in best position for handling. Set valves closed to prevent rattling.

B. During Storage: Use precautions for valves, according to the following:

1. Do not remove end protectors, unless necessary for inspection: then reinstall for storage.

2. Protect from weather. Store indoors and maintain temperature higher than ambient dew-point temperature. Support off the ground or pavement in watertight enclosures when outdoor storage is necessary.

C. Handling: Use sling to handle valves whose size requires handling by crane or lift. Rig valves to avoid damage to exposed valve parts. Do not use handwheels or stems as lifting or rigging points.

D. Deliver piping with factory-applied end-caps. Maintain end-caps through shipping, storage, and handling to prevent pipe-end damage and to prevent entrance of dirt, debris, and moisture.

E. Protect stored piping from moisture and dirt. Elevate above grade. Do not exceed structural capacity of floor when storing inside.

F. Protect flanges, fittings, and specialties from moisture and dirt.

G. Store plastic piping protected from direct sunlight. Support to prevent sagging and bending.
1.7 PROJECT CONDITIONS

A. Perform site survey, research public utility records, and verify existing utility locations. Contact utility-locating service for area where Project is located.

B. Verify that water-service piping may be installed to comply with original design and referenced standards.

C. Site Information: Reports on subsurface condition investigations made during design of Project are available for informational purposes only; data in reports are not intended as representations or warranties of accuracy or continuity of conditions between soil borings. District assumes no responsibility for interpretations or conclusions drawn from this information.

1.8 SEQUENCING AND SCHEDULING

A. Coordinate connection to water main with District. System outages require a minimum of two (2) weeks’ advance approval.

B. Coordinate piping materials, sizes, entry locations, and pressure requirements with building water distribution piping.

C. Coordinate with other utility work.

PART 2 – PRODUCTS

2.1 MANUFACTURERS

A. Available Manufacturers: Subject to compliance with requirements, manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:

B. Manufacturers: Subject to compliance with requirements, provide products by one of the following:

1. Drilling-Machine, Sleeves, and Corporation Stops:
   a. Ford Meter Box Co., Inc.
   c. Lee Brass Co.

2. Bronze Corporation Stops and Valves:
   a. Ford Meter Box Co., Inc.
   c. Lee Brass Co.
   d. Master Meter, Inc.
   e. McDonald: A.Y. McDonald Mfg. Co.
   g. Watts Industries, Inc.; James Jones Co.
3. Tapping Sleeves and Valves:
   b. East Jordan Iron Works, Inc.
   c. Grinnell Corp; Mueller Co.; Water Products Div.
   d. McWane, Inc.
   e. United States Pipe & Foundry Co.

4. Gate Valves:
   a. American AVK Co.
   b. American Cast Iron Pipe Co.
   c. East Jordan Iron Works, Inc.
   d. Grinnell Corp
   e. Hammond Valve Corp.
   f. McWane, Inc.
   g. Milwaukee Valve Co., Inc.
   h. Nibco, Inc.
   i. Pratt; Henry Pratt Co.
   j. Stockham Valves & Fittings, Inc.
   k. United States Pipe & Foundry Co.

5. Backflow Preventers:
   a. CMB Industries; Febco Div.

6. Keyed Couplings:
   a. McWane, Inc.; Tyler Piep; Gustin-Bacon Div.
   b. Victaulic Co. of America

7. Drains:
   a. Enpoco, Inc.
   b. Josam Co.
   c. McWane, Inc.; Tyler Pipe; Wade Div.
   e. Watts Industries, Inc.; Ancon Drain Div.
   f. Zurn Industries, Inc.; Hydromechanics Div.

2.2 PE ENCASEMENT
   A. PE Encasement for Ductile-Iron Piping or Copper Piping: ASTM A 674 or AWA C105, PE film, 0.008-inch (0.20-mm) minimum thickness, tube, or sheet.
   B. PE Encasement for Cast Iron Piping: ASTM A 674 or AWA C105, PE film, 0.0032-inch (0.08 mm) minimum thickness, tube, or sheet.
PART 3 – EXECUTION

3.1 EARTHWORK
   A. Refer to Section 2200 “Earthwork” for excavation, trenching, and backfilling.

3.2 PIPING APPLICATIONS
   A. General: Use pipe, fittings, and joining methods for piping systems according to
      the following applications:
   B. Transition couplings and special fittings with pressure ratings at least equal to
      piping pressure rating may be used in applications below, unless otherwise
      indicated.
   C. Do not use flanges or keyed couplings for underground piping.
      1. Exception: Piping in boxes and structures, but not buried, may be joined
         with flanges or keyed couplings instead of joints indicated.
   D. Flanges, keyed couplings, and special fittings may be used on aboveground
      piping.

3.3 VALVE APPLICATIONS - As Indicated on Plans

3.4 JOINT CONSTRUCTION
   B. Ductile-Iron Piping, Gasketed Joints for Fire-Service Piping: According to UL 194
      and AWWA C600.
   C. Flanged Joints: Align Flanges and install gaskets. Assemble joints by
      sequencing bolt tightening. Use lubricant on bolt threads.
   D. Threaded Joints: Thread pipes with tapered pipe threads according to ASME
      B1.20.1, apply tape or joint compound, and apply wrench to fitting and valve
      ends into which pipes are being threaded.
   E. Ductile-Iron, Keyed-Coupling Joints: Cut-groove pipes. Assemble joints with
      keyed couplings, gaskets, lubricant, and bolts according to coupling and fitting
      manufacturer’s written instructions.
   F. Copper Tubing, Brazed Joints: According to AWS’s “Brazing Handbook, “
      Chapter “Pipe and Tube.”
   G. Copper Tubing, Soldered Joints: According to AWS’s “Soldering Manual,”
      Chapter “Soldering of Pipe and Tube.”
   H. Copper Tubing, Soldered Joints: According to CDA’s “Copper Tube Handbook.”
I. PVC Piping, Gasketed Joints: Use joining materials according to AWWA C900. Construct joints with elastomeric seals and lubricant according to ASTM D 2774 or ASTM D 3139 and pipe manufacturer’s written instructions.

J. PVC Piping Solvent-Cement Joints: According to ASTM D 2672 and ASTM D 2855. Handle cleaner, primer, and solvent cement according to ASTM F 402.

K. Dissimilar Materials Piping Joints: Use adapters compatible with both piping materials, OD, and system working pressure. Refer to “Piping Systems–Common Requirements” Article below for joining piping of dissimilar metals.

3.5 PIPING SYSTEMS – COMMON REQUIREMENTS

A. General locations and Arrangements: Plans indicate general location and arrangement of piping systems. Indicated locations and arrangements were used to size pipe and calculate friction loss, expansion, pump sizing, and other design considerations. Install piping as indicated, unless deviations to layout are approved on Coordination Plans.

B. Install piping at indicated slope.

C. Install components with pressure rating equal to or greater than system operating pressure.

D. Install piping free of sags and bends.

E. Locate groups of pipes parallel to each other, spaced to permit valve servicing.

F. Install fittings for changes in direction and branch connections.

G. Piping Connections: Unless otherwise indicated, make piping connections as specified below:

1. Install unions, in piping 2-inch NPS (DN50) and smaller, adjacent to each valve and at final connection to each piece of equipment with 2-inch NPS (DN50) or smaller threaded pipe connection.

2. Install flanges, in piping 2-1/2 inch NPS (DN65) and larger, adjacent to flanged valves and at final connection to each piece of equipment with flanged pipe connection.

3. Install dielectric fittings to connect piping of dissimilar metals.

3.6 SERVICE ENTRANCE PIPING

A. Extend water-service piping and connect to water-supply source and building water piping systems at outside face of building wall in locations and pipe sizes indicated.
1. Terminate water-service piping at building wall until building water piping systems are installed. Terminate piping with caps, plugs, or flanges as required for piping material. Make connections to building water piping systems when those systems are installed.

B. Sleeves and mechanical sleeve seals are specified in Section 1500 "Basic Mechanical Materials and Methods."

C. Install underground piping with restrained joints at horizontal and vertical changes in direction. Use restrained-joint piping, thrust blocks, anchors, tie-rods and clamps, and other supports.

D. Anchor service-entry piping to building wall.

3.7 PIPING INSTALLATION

A. Water-Main Connection: Tap water main with size and in location as indicated.

B. Make connections larger than 2-inch NPS (DN50) with tapping machine according to the following:

1. Install tapping sleeve and tapping valve according to manufacturer's written instructions.

2. Install tapping sleeve on pipe to be tapped. Position flanged outlet for gate valve.

3. Install gate valve onto tapping sleeve. Comply with AWWA C600. Install valve with stem pointing up and with cast-iron valve box.

4. Use tapping machine compatible with valve and tapping sleeve; cut hole in main. Remove tapping machine and connect water-service piping.

C. Make connections, 2-inch NPS (DN50) and smaller, with drilling machine according to the following:

1. Install service clamps and corporation stops in size, quantity, and arrangement required by utility company standards and according to manufacturer's written instructions.

2. Install service clamps on pipe to be tapped. Position outlets for corporation stops.

3. Install corporation stops into service clamps. Install with stem pointing up and with cast-iron valve box.

4. Install curb stop in service piping with head pointing up and with cast-iron service box.

5. Install manifold for multiple taps in water main.
6. Use drilling machine compatible with service clamp and corporate stop. Drill hole in main. Remove drilling machine and connect water-service piping.

D. Install ductile-iron piping according to AWWA C600.

1. Encase piping with PE film according to ASTM A 674 or AWWA C105.

E. Install copper tube and fittings according to CDA's "Copper Tube Handbook."

F. Install AWWA PVC plastic pipe according to AWWA M23 and ASTM F645.

G. Bury piping with depth of cover over top at least 30 inches according to the following:

1. Under Driveways: With at least 36 inches over top.

2. In Loose Gravelly Soil and Rock: With at least 12 inches additional cover.

H. Install piping under streets and other obstructions that cannot be disturbed, by tunneling, jacking, or combination of both.

3.8 ANCHORAGE INSTALLATION

A. Install anchorages for tees, plugs and caps, bends, crosses, valves, and hydrant branches. Include anchorages for the following piping systems:


B. Apply full coat of asphalt or other acceptable corrosion-retarding material to surfaces of installed ferrous anchorage devices.

3.9 VALVE INSTALLATION

A. General Application: Use mechanical-join-end valves for 3-inch NPS (DN80) and larger underground installation. Use threaded- and flanged-end valves for installation in pits. Use nonrising-stem UL/FM gate valves for installation with indicator posts. Use bronze corporation stops and valves, with ends compatible with piping, for 2-inch NPS (DN50) and smaller installation.

B. AWWA-Type Gate Valves: Comply with AWWA C600. Install underground valves with stem pointing up and with cast-iron valve box.

C. UL/FM-Type Gate Valves: Comply with NFPA 24. Install underground valves and valves in pits with stem pointing up and with vertical cast-iron indicator post.

D. Bronze Corporation Stops and Curb Stops: Comply with manufacturer's written instructions. Install underground curb stops with head pointed up and with cast-iron curb box.

3.10 BACKFLOW PREVENTER INSTALLATION
A. Install backflow preventers of type, size, and capacity indicted. Include valves and test cocks. Install according to plumbing and health department authorities having jurisdiction.

B. Do not install reduced-pressure-principle type in pit.

C. Do not install bypass around backflow preventer.

D. Support backflow preventers, valves, and piping on brick or concrete piers.

3.11 FIELD QUALITY CONTROL

A. Piping Tests: Conduct piping tests before joints are covered and after thrust blocks have hardened sufficiently. Fill pipeline 24 hours before testing and apply test pressure to stabilize system. Use only potable water.

B. Hydrostatic Tests: Test at not less than 1-1/2 times working pressure for 2 hours.

1. Increase pressure in 50-psig increments and inspect each joint between increments. Hold at test pressure for one hour; decrease to 0 psig. Slowly increase again to test pressure and hold for one more hour. Maximum allowable leakage is 2 quarts per hour per 100 joints. Remake leaking joints with new materials and repeat test until leakage is within above limits.

C. Prepare reports for testing activities.

3.12 CLEANING

A. Cleaning clean water distribution piping as follows:

1. Purge new water distribution piping systems and parts of existing systems that have been altered, extended, or repaired before use.

2. Use purging and disinfecting procedure prescribed by authorities having jurisdiction.

END OF SECTION
SECTION 02520

SITE CONCRETE

PART 1 – GENERAL

1.1 SECTION INCLUDES

A. Concrete paving for pedestrian areas; concrete banding; curbs; concrete mow curbs; concrete accessible ramps; concrete stairs, utility slabs; concrete pad for benches, trash enclosures and light fixtures.

B. Aggregate base material for paving or as otherwise noted per plan.

C. Reinforcement

1.2 REFERENCES

A. ACI 301 – Specification for Structural Concrete for Buildings.

B. ADAAG – Americans with Disabilities Act (ADA) Accessibility Guidelines for Buildings and Facilities.

C. ASTM A82 – Specification for Steel Wire, Plain, for Concrete Reinforcement.

D. ASTM A185 – Welded Steel Wire Fabric for Concrete Reinforcement.


F. ASTM D1751 – Preformed Expansion Joint Fillers for Concrete Paving and Structural Construction.

G. ASTM A615 – Deformed and Plain Billet-Steel for Concrete Reinforcement.

H. ASTM C33 – Concrete Aggregates.

I. ASTM C94 – Ready Mixed Concrete.


K. ASTM C260 – Air-Entraining Admixtures for Concrete.

L. ASTM C309 – Liquid Membrane-Forming Compounds for Curing Concrete.

M. ASTM C494 – Chemical Admixtures for Concrete.

N. ASTM C1116 – Specification for Fiber-Reinforced Concrete and Shotcrete.
O. CCR – California Code of Regulations, Title 24, Part 2, California State Accessibility Standards.


1.3 QUALITY ASSURANCE

A. Perform work in accordance with ACI 301.

B. Obtain materials from same source throughout.

C. All material shall comply with the latest editions of the American Concrete Institute (ACI) and Uniform Building Code. Testing of Portland cement concrete shall apply to all site concrete (building, footings, flatwork, etc.) at the discretion of the District inspector.

D. Concrete Installer

1. Experience: Minimum 5 years’ experience in the installation of specified concrete.

2. Demonstration of Experience: 7 – 10 projects that have been completed within the past 36 months of like similar products, scope, and complexity. Project names, address, and reference names and phone numbers shall be submitted with the bid documents.

3. Supervision: Perform placement and finishing of concrete work under supervision of a person having a minimum of 5 years of experience in placement and finishing of products specified herein.

4. Submit qualifications to the Agency for information purposes. Submit a resume of Concrete Sub Project manager and Superintendent who will be overseeing the work.

5. Previous projects shall be located in Riverside, Orange, Ventura, San Bernardino, San Diego or Los Angeles Counties.

6. Provide field quality control testing and inspection during concrete operations.

7. Contractor shall provide adequate notice, cooperate with, provide access to the work, obtain samples, and assist District and their representatives in execution of their function.

1.4 REGULATORY REQUIREMENTS
A. Conform to applicable code for paving work on public property.

B. Conform to CCR, Title 24, Part 2, and ADAAG for access for the handicapped.

1.5 SUBMITTALS

A. Submit product data under provisions of Section 01300.
   1. Submit complete materials list of items proposed for the work. Identify material source.
   2. Submit admixture, curing compound, retarder, and accessory item product data.
   3. Submit material certificates for aggregates, reinforcing, and joint fillers.

B. Submit data on joint filler, admixtures, and curing compounds.

C. Submit proposed mix design to testing laboratory for review prior to commencement of work.

D. Submit manufacturer's instructions under provisions of Section 01300.

E. Submit concrete delivery tickets with the following:
   1. Batch number
   2. Mix by class or sack content with maximum size aggregate
   3. Admixture
   4. Air content
   5. Slump
   6. Time of loading

F. Submit concrete test reports.

1.6 TESTING

A. Provide slump test on first load of concrete delivered each day and whenever requested due to changes in consistency or appearance of concrete.

B. Provide air indicator tests and air meter tests for all air-entrained concrete.
1. Perform air indicator test with a "Chase" AE 35 or equal air indicator an air meter test in accordance with ASTM C231 or C173. Test first load of concrete delivered each day.

2. Furnish copies of field records and test reports as listed for strength tests.

C. Strength Testing:

1. Provide 1 set of 3 test specimens for each 50 cubic yards placed in any one day. Secure samples in accordance with ASTM C31.

2. Test 1 specimen at 7 days and 2 specimens at 29 days in accordance with ASTM C39.

3. Furnish copies of field records and test reports as follows:
   - 2 copies to District's representative
   - 1 copy to Contractor
   - 1 copy to Ready Mix supplier

D. Record the exact location of the concrete in the work represented by each set of cylinders and show on test reports.

E. Coefficient of friction shall be 0.65 or above on all Class 3 (non-slip) concrete surfaces.

PART 2 – PRODUCTS

2.1 CONCRETE MATERIALS

A. Cement: ASTM C150 Normal-Type II, Portland type, gray color, unless otherwise indicated on plans and details, from single source throughout project.

B. Fine and Coarse Aggregates: ASTM C33, non-reactive.

C. Water: Clean and not detrimental to concrete.

2.2 BASE MATERIALS

A. Aggregate Base: Crushed rock conforming to Section 200-2.2 of the Standard Specifications for Public Works Construction.

2.3 FORM MATERIALS

A. Conform to ACI 301.

B. Refer to Section 03100.

2.4 REINFORCEMENT
A. Refer to Section 03200.

B. Reinforcing Steel: ASTM A615; deformed billet steel bars, uncoated finish.
   #3 reinforcing steel shall be 40 grade
   #4 reinforcing steel shall be 40 grade
   #5 reinforcing steel shall be 60 grade

C. Welded Steel Wire Fabric: Plain type, ASTM A185; in coiled rolls or flat sheets; uncoated finish.

D. Fabricated Bar Mats: ASTM A184; welded or clip-assembled steel bar mats of ASTM A615, Grade 60 steel bars.

E. Tie Wire: ASTM A82, annealed steel, minimum 16 gauge size.

F. Dowels: Speed dowels as noted on plans, or approved equal.

G. Supports: Chairs, spacers, dowel bar supports, and other devices for spacing, supporting, and fastening reinforcing bars, and dowels in place.

2.5 ACCESSORIES

A. Curing Compound: ASTM C309 or better, concrete curing compound per Section 201-4 of the “Greenbook” - Standard Specifications for Public Works Construction.

B. Expansion joint filler and joint sealants.
   1. Premolded Joint Filler: 1/2" poly-foam expansion joint as manufactured by W.R. Meadows, or approved equal, with pre-scored removable strip to allow for recess below the concrete surface to accept joint sealant. Submit sample to District for approval.

   2. Joint sealers shall be two-part urethane sealer “Dynatred” as manufactured by Pecora Corporation (800) 523-6688, or equal. Color to be selected by District. For Bid purposes: “Limestone”; 039. Install per manufacturer’s recommendations. Install silica sand over “wet” joint sealant (full coverage) to protect sealant until completely cured.

C. Concrete Surface Sealer. Aqueous copolymer chemically reactive dispersion that provides a durable, transparent protective barrier, 'Ultrapel' as manufactured by White Mountain or approved equal.

2.6 ADMIXTURES

A. Admixtures shall be as permitted under Subsection 201-1.2.4 of the Standard Specifications and as directed by the District.

2.7 CONCRETE MIX

Site Concrete
A. Mix concrete in accordance with ASTM C94, Alternative No. 3.

   1. Pedestrian and vehicular paving; curbs; curb and gutters; terraced concrete seating; cross gutters; curb outlet; mow curbs; accessible ramps; curb ramp; access ramp; stairs; stair cheek walls; utility slabs; transformer pad; concrete pad for concrete benches, light pole bases and bike racks, etc.
   2. Compressive Strength: 2,500 psi minimum at twenty-eight (28) days, unless stated otherwise.
   3. All structural concrete mix design shall be per project structural concrete plans and specifications.
   4. All concrete shall be mixed with Type II cement per Geotechnical Report.
   5. Slump Range: 4" maximum at the point of placement.
   6. Water / cement ratio shall be per Geotechnical Report
   7. No air entrainment.

C. Coarse aggregate shall consist of 3/4" aggregate.

D. Provide an approved water-reducing admixture in all concrete.

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 specifications requirements.

F. Contractor shall retain the services of a qualified State of California licensed civil engineer to provide a concrete mix design for each class of concrete in accordance with UBC Section 1905. Concrete mix design submittals shall bear the stamp and signature of the engineer approving the mix design as being consistent with project specifications and geotechnical report.

PART 3 – EXECUTION

3.1 INSPECTION

A. Verify compacted subgrade is ready to support paving and imposed loads.

B. Verify gradients and elevations of base are correct.

C. Beginning of installation means acceptance of existing conditions.
3.2 BASE
A. Prepare and compact base materials in accordance with recommendations in the Geotechnical Evaluation as prepared by C.E.M. Laboratory, Corp. See Appendix in Specifications.

3.3 PREPARATION
A. Moisten base to minimize absorption of water from fresh concrete.
B. Coat surfaces of adjacent manholes, catch basins, inlets, and other fixed objects with oil to form isolation joint and prevent bond with paving.
C. Notify District minimum 24 hours prior to commencement of concreting operations.

3.4 FORMING
A. Place and secure forms to correct location, dimension, and profile.
B. Assemble formwork to permit easy stripping and dismantling without damaging concrete.
C. Place joint fillers vertical in position, in straight lines. Secure to formwork during concrete placement.
D. Forms shall be braced to withstand the pressures developed and shall be tight to prevent the loss of mortar. Formed wall surface shall be free of any unevenness greater than ¼" when checked with a 10' straight edge.
E. Concrete in walls with side slopes flatter than ¾:1 shall be placed on suitable material which has been overfilled, compacted and trimmed to true grade. Backforms shall be used where the side slope is ¾:1 or steeper.
F. A clear non-staining form release agent which will not discolor nor affect the surface texture of the concrete and does not react with any ingredients of the concrete shall be used.
G. Use flexible metal, 1" lumber or plywood forms to form radius bends.
H. 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 1/8" in 10'0".
I. The Contractor shall include all fine grading and compaction with regard to setting forms during concrete placement.
3.5 REINFORCEMENT

A. Place reinforcement at mid-height of slabs-on-grade.

Aluminum and plastic supports for reinforcement shall not be used.

Bars shall be accurately spaced as shown on the Plans and spacing of first bar immediately adjacent to transverse construction joint shall be one-half the required spacing shown on the Plans. In no case shall the clear distance between parallel bars be less than 2-1/2 diameters of the bar, or a minimum of 2". Unless otherwise shown on Plans, embedment of reinforcing steel (other than stirrups and spacers) shall be 1-1/2 inches clear depth for #8 bars or smaller, and shall be 2-inches clear for #9 bars and larger. Where placement of reinforcing steel requires alternate bars of different size embedment, requirements shall be governed by the larger bar. Stirrups and spacers shall be embedded not less than 1-inch clear depth.

Measurement of embedment shall be from the outside of the bar to the nearest concrete face. Tack welding or butt welding of reinforcing bars will not be permitted.

B. Lap adjoining pieces of welded wire fabric one full mesh and lace splice with wire. Offset laps of adjoining sheets.

C. Place fabricated bar mats in lengths as long as practical. Overlap adjacent mat 2 inches.

D. Interrupt reinforcement at expansion joints.

E. Place secondary fiber reinforcement in concrete mix in quantities as specified by manufacturer.

F. Place reinforcement to achieve slab and curb alignment as detailed.

G. Provide dowelled joints at interruption of concrete with one end of dowel set in capped sleeve to allow longitudinal movement. See Details.

H. Splicing

Reinforcing bars may be continuous at locations where splices are shown on the plans, at the option of the Contractor. The location of splices, except where shown on the Plans, shall be determined by the Contractor, based upon using available commercial lengths where applicable.

Splices shall consist of placing the reinforcing bars in contact and wiring them together in such a manner as to maintain the alignment of the bars and to provide minimum clearances.
No lapped splices will be permitted at locations where the concrete section is not sufficient to provide a minimum clear distance of 2-inches between the splice and the nearest adjacent bar. The clearances to the surface of the concrete shall not be reduced. Length of lapped splices shall be as noted on drawings.

Splices of tensile reinforcement at points of maximum stress shall be avoided; however, any deviation from splices shown on the Plans shall be approved by the District’s Representative.

3.6 PLACING CONCRETE

A. Place concrete in accordance with ACI 301.
B. Hot and Cold Weather Placement: ACI 301.
C. Place concrete formwork on public property in conformance with applicable code.
D. Ensure reinforcement, inserts, embedded parts, and formed joints are not disturbed during concrete placement.
E. Place concrete continuously between predetermined construction joints and control joints. Do not break or interrupt successive pours such that cold joints occur.
F. Do not push or drag concrete into place or use vibrators to move concrete into place.
G. Place concrete to pattern indicated.

3.7 JOINTS

A. Contractor shall submit a paving jointing and pour sequence plan for District review and approval, indicating the following:
   1. Proposed layout of all joints (cold joint/hidden expansion, expansion joint, and tooled joints.)
   2. Concrete pour sequence.
B. Locate cold joint (hidden expansion joint) as indicated on plans. Coordinate cold joints with alternate concrete pours and at all change of pavement types (concrete paving to concrete band). Provide sawcut per detail two days after pour.
C. Location expansion joints with caulk sealant at all paving/wall interface areas.
D. Install joint fillers full-width and depth of joint. Remove perforated portion of joint filler to receive sealants as indicated on the details.
E. Provide joint fillers in single lengths for the full slab width, whenever possible. Fasten joint filler sections together when multiple lengths are required.

F. Where intersecting joints occur join top edge and continue any spliced joints without deviation of form line or direction.

G. Protect the top edge of the joint filler during concrete placement.

H. Place expansion joints at minimum 15-foot intervals, unless otherwise shown on plans, to correct elevation and profile. Align curb, gutter, and sidewalk joints.

I. Place joint filler between paving components and building or other appurtenances.

J. Provide control joints at indicated intervals. See plans.

K. Provide keyed points at indicated.

L. Finish each edge of joint with radiused jointer tool.

M. Form isolation joints where paving abuts curbs, catch basins, manholes, inlets, structures, and other fixed objects.

3.8 FINISHING

A. Contractor shall provide 6' x 6' sample onsite pour of each finish specified for review and approval by District prior to production. Sample shall be available for review 36 hours prior to scheduled production pours and shall indicate specified finish, sawcuts and/or tooled control joints and expansion joints.

B. Uniformly spread, screed, and consolidate concrete. Do not spread concrete by vibration.

C. Smooth Form Finish:
   1. Coordinate as necessary to secure form construction using smooth, hard, uniform surfaces, with number of seams kept to a practical minimum and in a uniform, orderly pattern.
   2. Patch tie holes and defects.
   3. Trowel to smooth non-slip even finish.
   4. Use for curbs, gutters, mowstrips, walls, stairs, vertical surfaces or otherwise noted on plans or details.

D. Broom Finish:
   1. Float surface and trowel to smooth even finish.
2. While surface is still plastic draw a soft fiber bristle broom uniformly over surface in perpendicular direction to traffic.

3. Use for pedestrian paving areas, sidewalks, ramps, utility slabs, driveways, or otherwise noted on plans or details.

4. Portland cement concrete paving shall have medium broom finish on all surfaces less than 5% and a heavy broom finish on all surfaces greater than 5%.

5. Slip Resistance: Provide a finish surface slip resistance coefficient of friction equal or greater than 0.6 for flat surfaces and 0.8 for ramps, when tested in accordance with ASTM F 489.

3.9 CURING

A. Cure concrete surfaces in accordance with ACI 301.

B. Apply curing compound on finished slab surfaces in accordance with manufacturer's instructions.

3.10 SEALANTS

A. Apply sealers on finished slab surfaces in accordance with manufacturer's instructions.

3.11 FIELD QUALITY CONTROL

A. Field inspection and testing will be performed under provisions of Section 01410 and Section 01420.

B. District will take cylinders and perform slump and air entrainment tests in accordance with ACI 301 and will arrange for pickup of cylinders by Testing Laboratory.

C. Three concrete test cylinders will be taken for every 50 or less cu yds of each class of concrete placed each day.

D. One slump test will be taken for each set of test cylinders taken.

E. Maintain records of placed concrete items. Record date, location of pour, quantity, air temperature, and test samples taken.

3.12 TOLERANCES

A. Maximum Variation of Surface Flatness: 1⁄4 inch in 10 feet.

B. Maximum Variation from True Position: 1⁄8 inch.
3.13 PROTECTION

A. Immediately after placement, protect concrete under provisions of the General Requirements from premature drying, excessive hot or cold temperatures, and mechanical injury.

B. Do not permit traffic over pavement for seven (7) days after finishing.

END OF SECTION
SECTION 02630

SITE DRAINAGE

PART 1 – GENERAL

1.1  SUMMARY

A.  This Section includes site drainage.

1.2  DEFINITIONS

A.  PVC: Polyvinyl chloride plastic.

B.  RCP: Reinforced concrete pipe.

1.3  SUBMITTALS

A.  Product Data: In accordance with these provisions, submit complete
    manufacturer's descriptive literature.

B.  Shop Drawings: Include plans, elevations, details, and attachments for the
    following:
    1.  Precast concrete manholes and other structures, including frames,
        covers, and gates.
    2.  Cast-in-place concrete manholes and other structures, including frames,
        covers, and grates.
    3.  Inlets.
    4.  Clean-outs.
    5.  Piping joints and connections.

C.  Design Mix Reports and Calculations: For each class of cast-in-place concrete.

1.4  DELIVERY, STORAGE, AND HANDLING

A.  Do not store plastic structures, pipe, and fittings in direct sunlight.

B.  Protect pipe, pipe fittings, and seals from dirt and damage.

C.  Handle precast concrete manholes and other structures according to
    manufacturer's written rigging instructions.
1.5 PROJECT CONDITIONS

A. Site Information: Perform site survey, research utility records, and verify existing utility locations.

B. Locate existing structures and piping to be closed and abandoned.

C. Existing Utilities: Do not interrupt utilities serving facilities adjacent to development or others unless permitted under the following conditions and then only after arranging to provide temporary utility services according to requirements indicated:

1. Notify District not less than two days in advance of proposed utility interruptions.

2. Do not proceed with utility interruptions without District's written permission.

PART 2 – PRODUCTS

2.1 MANUFACTURERS

A. Manufacturers: Design is based on the use of products manufactured by the following:


B. Like materials shall be the products of one manufacturer and shall be either the ones upon which the design is based or those accepted in advance by the District.

2.2 PIPES AND FITTINGS

A. PVC Sewer Pipe and Fittings: According to the following:

1. PVC Sewer Pipe and Fittings, NPS 15 (DN375) and Smaller: ASTM D3034, SDR 35, for solvent-cemented or gasketed joints.


2. PVC sewer pipe and fittings, NPS 18 (DN 450) and larger: ASTM F679, T-1 wall thickness, bell, and spigot for gasketed joints.


2.3 MANHOLES
A. Cast-in-Place Concrete Manholes: Construct of reinforced-concrete bottom, walls, and top; designed according to ASTM C890 for A-16, heavy-traffic, structural loading; of depth, shape, dimensions, and appurtenances indicated.

B. Manhole Frames and Covers: ASTM A 536, Grade 60-40-18, ductile-iron castings designed for heavy-duty service. Include 24-inch ID by 7- to 9-inch riser with 4-inch minimum width flange, and 26-inch diameter cover. Include indented top design with lettering “STORM SEWER” cast into cover.

2.4 CATCH BASINS


B. Cast-in-Place Concrete, Catch Basins: Construct of reinforced concrete; designed according to ASTM C 890 for structural loading; of depth, shape, dimensions, and appurtenances indicated.

C. Frames and Grates: ASTM A 536, Grade 60-40-18, ductile iron designed for heavy-duty service. Include flat grate with small square or short-slotted drainage openings.

1. Size: 12 by 12 inches minimum, unless otherwise indicated.

2. Grate Free Area: Approximately 50 percent, unless otherwise indicated.

D. Frames and Grates: ASTM A 536, Grade 60-40-18 ductile iron designed for heavy-duty service. Include 24-inch ID by 7- to 9-inch riser with 4-inch minimum width flange, and 26-inch-diameter flat grate with small square or short-slotted drainage openings.

1. Grate Free Area: Approximately 50 percent, unless otherwise indicated.

2.5 CONCRETE

A. General: Cast-in-place concrete according to ACI 318, ACI 350R, and the following:

1. Cement: ASTM C 150, Type II / V.


B. Portland Cement Design Mix: 3000 psi minimum unless otherwise stated higher elsewhere, with 0.45 maximum water-cementitious ratio.

2. Reinforcement Bars: ASTM A 615/A 615M, Grade 60, (Grade 420) deformed steel.

C. Ballast and Pipe Supports: Portland cement design mix, 3000 psi minimum, with 0.58 maximum water cementitious ratio.


2. Reinforcement Bars: ASTM A 615/A 615M, Grade 60 (Grade 420), deformed steel.

2.6 CLEANOUTS

A. PVC Cleanouts: PVC body with PVC threaded plug. Install cleanout in 12" x 12" backwater valve box by NDS, model no. 1219 with valve box cover, model no. 1220 or approved equal. Provide 12" x 12" extensions as required.

PART 3 – EXECUTION

3.1 EARTHWORK

A. Excavating, trenching, and backfilling are specified in Section 02200 – "Earthwork."

3.2 PIPING APPLICATIONS

A. General: Include watertight, silt-tight, or soil-tight joints, unless watertight or silt-tight joints are indicated.

3.3 INSTALLATION, GENERAL

A. General Locations and Arrangements: Plans indicate general location and arrangement of underground storm drainage pipe. Location and arrangement of piping layout take design considerations into account. Install piping as indicated, to extent practical.

B. Install piping beginning at low point, true to grades and alignment indicated with unbroken continuity of invert. Place bell ends of piping facing upstream. Install gaskets, seals, sleeves, and couplings according to manufacturer’s written instructions for use of lubricants, cements, and other installation requirements. Maintain swab or drag in line, and pull past each joint as it is completed.

C. Use manholes for changes in direction, unless fittings are indicated. Use fittings for branch connections, unless direct tap into existing storm drain is indicated.
D. Use proper size increasers, reducers, and couplings where different sizes or materials of pipes and fittings are connected. Reducing size of piping in direction of flow is prohibited.

E. Install gravity-flow piping and connect to building's storm drains, of sizes and in locations indicated.

1. Install piping pitched down in direction of low, at minimum slope of 1 percent, unless otherwise indicated.

F. Extend storm drainage piping and connect to building's storm drains, of sizes and in locations indicated. Terminate piping as indicated.

G. Install aggregate-free interceptor 'Elgen' drains according to manufacturer's specifications and details.

3.4 MANHOLE INSTALLATION

A. General: Install manholes, complete with appurtenances and accessories indicated.

B. Form continuous concrete channels and benches between inlets and outlet.

C. Set tops of frames and covers flush with finished surface of manholes that occur in pavements. Set tops 3 inches above finished surface elsewhere, unless otherwise indicated.

D. Install precast concrete manhole sections with gaskets according to ASTM C 891.

E. Construct cast-in-place manholes as indicated.

3.5 CATCH-BASIN INSTALLATION

A. Construct catch basins to sizes and shapes indicated.

B. Set frames and grates to elevations indicated.

3.6 CONCRETE PLACEMENT

A. Place cast-in-place concrete according to ACI 318 and ACI 350R.

3.7 TAP CONNECTIONS

A. Make connections to existing piping and underground structures so finished Work complies with requirements specified for new Work.

B. Protect existing piping and structures to prevent concrete or debris from entering while making tap connections. Remove debris or other extraneous material that may accumulate.
3.8 FIELD QUALITY CONTROL

A. Clear interior of piping and structures of dirt and superfluous material as work progresses. Maintain swab or drag in piping, and pull past each joint as it is completed.

1. In large, accessible piping, brushes and brooms may be used for cleaning.

2. Place plug in end of incomplete piping at end of day and when work stops.

3. Flush piping between manholes and other structures to remove collected debris, if required by authorities having jurisdiction.

B. Inspect interior of piping to determine whether line displacement or other damage has occurred. Inspect after approximately 24 inches of backfill is in place, and again at completion of Project.

1. Submit separate reports for each system inspection.

2. Defects requiring correction include the following:
   
a. Alignment: Less than full diameter of inside of pipe is visible between structures.
   
b. Deflection: Flexible piping with deflection that prevents passage of ball or cylinder of size not less than 92.5 percent of piping diameter.
   
c. Crushed, broke, cracked, or otherwise damaged piping.
   
d. Infiltration: Water leakage into piping.
   
e. Exfiltration: Water leakage from or around piping.

3. Replace defective piping using new materials, and repeat inspections until defects are within allowances specified.

4. Re-inspect and repeat procedure until results are satisfactory.

C. Test new piping systems and parts of existing systems that have been altered, extended, or repaired, for leaks and defects.

1. Do not enclose, cover, or put into service before inspection and approval.

2. Test completed piping systems according to authorities having jurisdiction.

3. Schedule tests and inspections by authorities having jurisdiction with at least 24 hours' advance notice.
4. Submit separate reports for each test.

5. Where authorities having jurisdiction do not have published procedures, perform tests as follows:
   a. PVC Piping: Test according to AWWA M23, "Testing and Maintenance" Chapter.

6. Leaks and loss in test pressure constitute defects that must be repaired.

7. Replace leaking piping using new materials, and repeat testing until leakage is within allowances specified.

END OF SECTION 02630
SECTION 02870

SITE FURNISHINGS

PART 1 -GENERAL

1.1 DESCRIPTION

All labor, materials equipment necessary for and incidental to performing all operations of work for this Section, complete as shown on the Plans or specified herein. Work includes, but is not necessarily limited to, the following:

A. Bench

1.2 RELATED WORK SPECIFIED ELSEWHERE

A. Section 02520: Site Concrete

1.3 GENERAL REQUIREMENTS

A. General

Examine Plans and Specifications and include all miscellaneous metal, which is specified in other Sections. Provide all connections, anchors, bolts, and other fastenings as required. Perform all cutting, punching, drilling, and tapping required for proper assembly of the work. All installations shall be done in accordance to manufacturer's specifications.

B. Shop Drawings

Submit shop drawings of all work herein showing layouts, sizes, and methods of construction and installation, including sizes and types of all fastening devices.

C. Codes

Materials and work shall conform to the governing Building Code. In case of conflict between these Specifications and the Building Code, the more stringent shall govern.

D. Delivery

Ensure that items to be set in concrete are delivered at the proper time.

E. Measurements

Verify all dimensions by taking field measurements. Proper fit and attachment of all items is required.
F. Coordination

Coordinate with other trades to effect prompt delivery of all materials needed for erection or installation. Identify all bolts or other loose materials.

G. Storage

Store materials in dry, protected areas. Protect from rusting, bleaching, and other damage. Remove any damaged items from site and replace at no cost to the District.

H. Certifications

Furnish to the District's representative copies of all material certifications.

I. Trade Names or Equals

Approval of equipment and materials offered as equivalents to those specified will be as set forth under Section 4, paragraph 4-1.6 of the Standard Specifications.

J. Submit 4" x 4" color and finish sample for each site furnishing specified.

PART 2 - PRODUCTS

2.1 Bench

Concrete bench: model no. Q2CAL96B, by Quickcrete, distributed by Quickcrete, Telephone (951) 737-6240, Color: C-12 (Colonial Brick).

PART 3 - EXECUTION

3.1 SURFACE CONDITIONS

A. Prior to work of this Section, carefully inspect previously installed work. Verify all such work is complete to the point where this installation may properly commence.

B. Verify that work of this Section may be installed in strict accordance with the original design, all pertinent codes and regulations, and all pertinent portions of the referenced standards.

C. In the event of discrepancy, immediately notify the District.

D. Do not proceed with installation in areas of discrepancy until all such discrepancies have been fully resolved.

3.2 INSTALLATION
A. Dimensions upon which Work of this Section may be contingent are to be verified by the Contractor at the work site to ensure proper placement and fit of equipment in the allotted areas.

B. Set site furnishings plumb, level, and true to line with a neat and finished appearance and in accordance with approved submittal and manufacturer’s printed instructions.

END OF SECTION
SECTION 03100

CONCRETE FORMWORK

PART 1 – GENERAL

1.1 SECTION INCLUDES:

A. Formwork for cast-in-place concrete, with shoring, bracing, and anchorage.

B. Openings for other affected work.

C. Form accessories.

D. Stripping forms.

1.2 REFERENCES:

A. CBC – California Building Code, (CCR) California Code of Regulations, Title 24, Part 2, Chapter 19A.

B. ACI 301 – Specifications for Structural Concrete for Buildings.

C. PS 1-95 – Construction and Industrial Plywood.

1.3 SYSTEM DESCRIPTION

A. Design, engineer, and construct formwork, shoring, and bracing to meet design and code requirements, so that resultant concrete conforms to required shapes, lines, and dimensions.

1.4 QUALITY ASSURANCE:

A. Construct and erect concrete formwork in accordance with ACI 301.

1.5 REGULATORY REQUIREMENTS:


PART 2 – PRODUCTS

2.1 FORM MATERIALS:

A. Plywood: PS1-95, BB Plyform grade, Class I, Exterior classification.

B. Lumber: Douglas Fir species; construction grade; with grade stamp clearly visible.
2.2 FORMWORK ACCESSORIES

A. Form Ties: Snap-off metal of adjustable length; cone type; 1 inch break back dimension; free of defects that will leave holes no larger than one inch diameter in concrete surface.

B. Form Release Agent: Colorless material which will not stain concrete, absorb moisture, or impair natural bonding or color characteristics of coating intended for use on concrete.

C. Fillets for Chamfered Corners: Wood strips type; ¼ x ¾ inch size; maximum possible lengths.

D. Dovetail Anchor Slots: Minimum 22 gage galvanized steel; foam filled; release tape sealed slots; bent tab anchors; securable to concrete formwork; manufactured by Heckmann Building Products Co., www.heckmannbuildingprods.com.

E. Flashing Reglets: 26 gage thick galvanized steel; longest possible lengths; release tape sealed slots; with alignment splines for joints; securable to concrete formwork; Type CO reglet manufactured by Fry Reglet, www.fryreglet.com.

F. Nails, Spikes, Lag Bolts, Through Bolts, Anchorages: Sized as required; of strength and character to maintain formwork in place while placing concrete.

PART 3 – EXECUTION

3.1 INSPECTION

A. Verify lines, levels, and measurements before proceeding with formwork.

3.2 PREPARATION

A. Obtain Architect’s approval for use of earth forms for footings.

B. Minimize form joints. Symmetrically align joints and make watertight to prevent leakage of mortar.

C. Arrange and assemble formwork to permit stripping, so that concrete is not damaged during its removal.

D. Arrange forms to allow stripping without removal of principal shores, where required to remain in place.

3.3 ERECTION

A. Erect formwork, shoring and bracing to achieve design requirements, in accordance with requirements of ACI 301.
B. Provide bracing to ensure stability of formwork. Strengthen formwork liable to be overstressed by construction loads.

C. Camber slabs and beams to achieve ACI 301 tolerances.

D. Provide chamfer strips on external corners of walls.

E. Obtain approval before framing openings in structural members which are not indicated on Drawings.

F. Construct formwork to maintain tolerances in accordance with ACI 301.

3.4 APPLICATION OF FORM RELEASE AGENT

A. Apply form release agent on formwork in accordance with manufacturer’s instructions. Apply prior to placing reinforcing steel, anchoring devices, and embedded items.

B. Do not apply form release agent where concrete surfaces are scheduled to receive applied coverings which may be affected by agent. Soak contact surfaces of untreated forms with clean water. Keep surfaces wet prior to placing concrete.

3.5 INSERTS, EMBEDDED PARTS, AND OPENINGS

A. Provide formed openings where required for work embedded in or passing through concrete.

B. Coordinate work of other Sections in forming and setting openings, slots, recesses, chases, sleeves, bolts, anchors, and other inserts.

C. Install accessories in accordance with manufacturer’s instructions, level and plumb. Ensure items are not disturbed during concrete placement.

3.6 FORM REMOVAL

A. Do not remove forms and bracing until concrete has sufficient strength to support its own weight and imposed loads.

B. Reshore structural members due to design requirements or construction conditions to permit successive construction.

C. Remove formwork progressively so no unbalanced loads are imposed on structure.

D. Do not damage concrete surfaces during form removal.

E. Store reusable forms for exposed architectural concrete to prevent damage to contact surfaces.

F. Remove formwork in same sequence as concrete placement to achieve similar concrete surface coloration.
3.7 CLEANING

A. Clean forms to remove foreign matter as erection proceeds.

B. Ensure that water and debris drain to exterior through clean-out ports.

3.8 EARTH FORMS

A. Construct wood edge strips at top sides of excavations as indicated on drawings.

B. Provide forms for footings and foundation walls wherever concrete cannot be placed against solid earth.

C. Remove loose dirt and debris from form area prior to concrete placement.

D. Concrete for foundations may be placed directly into neat excavations provided the foundation trench walls are stable as determined by the Structural Engineer and subject to the approval of The Division of the State Architect.

E. When earth formed foundations are used, the minimum formwork shown on the drawings is mandatory to insure clean excavations prior to and during concrete placement.

F. Provide 3-1/2 inch high starter wall for all concrete and masonry walls below grade.

END OF SECTION
SECTION 03200
CONCRETE REINFORCEMENT

PART 1 – GENERAL

1.1 SECTION INCLUDES:

A. Reinforcing steel bars, welded steel wire fabric fabricated steel bar or rod mats for cast-in-place concrete.

B. Support chairs, bolsters, bar supports, and spacers, for supporting reinforcement.

1.2 REFERENCES:


B. ACI 301 – Specifications for Structural Concrete for Buildings.

C. ACI 315 (SP-66) – Details and Detailing of Concrete for Buildings.

D. ACI 318 – Building Code Requirements for Reinforced Concrete.

E. ASTM A82 – Cold Drawn Steel Wire for Concrete Reinforcement.

F. ASTM A185 – Welded Steel Wire Fabric for Concrete Reinforcement.

G. ASTM A615 – Deformed and Plain Billet-Steel Bars for Concrete Reinforcement.


I. ASTM C1116 – Specification for Fiber-Reinforced Concrete and Shotcrete.

J. AWS D1.4 – Structural Welding Code Reinforcing Steel.


L. CRSI – Placing Reinforcing Bars.

1.3 QUALITY ASSURANCE:

A. Perform concrete reinforcement work in accordance with CRSI Manual of Standard Practice.

B. Conform to ACI 301 and ACI 315 (SP-66).

1.4 CERTIFICATES:

A. Submit mill test certificates of supplied concrete reinforcing, indicating physical and chemical analysis.

PART 2 – PRODUCTS

2.1 MATERIALS:

A. Reinforcing Steel: ASTM A615, Grade 40 for No. 4 bars and smaller, Grade 60 for No. 5 bars and larger. Billet-steel deformed bars, uncoated finish.

B. Welded Reinforcement: ASTM A706, Grade 60, deformed bars, unfinished.

C. Welded Steel Wire Fabric: ASTM A185 plain type; coiled rolls; uncoated finish.

D. Steel Wire: ASTM A82, plain, cold drawn steel.

2.2 ACCESSORY MATERIALS

A. Tie Wire: Minimum 16 gage annealed type.

B. Chairs, Bolsters, Bar Supports, Spacers: Sized and shaped for strength and support of reinforcement during installation and placement of concrete.

2.3 FABRICATION:

A. Fabricate in accordance with ACI 315 (SP-66), providing concrete cover specified in Section 03300.

B. Locate reinforcing splices not indicated on Drawings at points of minimum stress. Indicate location of splices on shop drawings.

PART 3 – EXECUTION

3.1 INSTALLATION

A. Before placing concrete, clean reinforcement of foreign particles or coatings.

B. Place, support, and secure reinforcement against displacement. Do not deviate from alignment or measurement.

C. Mix fibrous reinforcement into concrete material according to Section 03300.

D. Do not displace or damage vapor barrier required by Section 03300.
3.2 FIELD QUALITY CONTROL

A. Field inspection and testing will be performed as required by the Division of the State Architect and District Inspector.

END OF SECTION
SECTION 03300
CAST-IN-PLACE CONCRETE

PART 1 – GENERAL

1.1 SECTION INCLUDES:

A. Cast-in-place concrete Seat / Retaining walls, and footings.
B. Control, expansion, and contraction joint devices associated with concrete work.
C. Curing and sealing compound.
D. Site Furnishings, Light Pole bases.

1.2 REFERENCES:

A. CBC – California Building Code, (CCR) California Code of Regulations, Title 24, Part 2, Chapter 19A.
C. ADAAG – Americans with Disabilities Act (ADA) Accessibility Guidelines for Buildings and Facilities.
D. ACI 301 – Specifications for Structural Concrete for Buildings.
E. ACI 302.1R – Guide for Concrete Floor and Slab Construction.
F. ACI 305R – Hot Weather Concreting.
H. ASTM C33 – Concrete Aggregates.
I. ASTM C94 – Ready-Mixed Concrete.
L. ASTM C260 – Air-Entraining Admixtures for Concrete.
M. ASTM C289 – Potential Reactivity of Aggregate.

O. ASTM C330 – Lightweight Aggregates for Structural Concrete.


Q. ASTM C567 – Unit Weight of Structural Lightweight Concrete.


T. ASTM C1315 – Liquid Membrane – Forming Compounds Having Special Properties for Curing and Sealing Concrete.

U. ASTM D226 – Asphalt Saturated Organic Felt used in Roofing and Waterproofing.

V. ASTM D1751 – Preformed Expansion Joint Filler for Concrete Paving and Structural Construction.


X. ASTM E154 – Standard Test Methods for Water Vapor Retardants used in contact with Earth Under Concrete Slabs, on Walls, or as Ground Cover.

Y. ASTM E1643 – Installation of Water Vapor Retarders used in contact with Earth or Granular Fill Under Concrete Slab.

Z. ASTM E1155 – Determining Floor Flatness and Levelness using the F-Number System.

AA. ASTM E1745 – Standard Specifications for Plastic Water Vapor Retarders Used in Contact with Soil or Granular Fill Under Concrete Slabs.

BB. ASTM F1869 – Standard Test Method for Measuring Moisture Vapor Emission Rate of Concrete Subfloor Using Anhydrous Calcium Chloride.

CC. National Ready Mix concrete Association – Plant Certification Program.


1.3 QUALITY ASSURANCE:

A. Perform work in accordance with ACI 301.

B. Obtain materials from same source throughout the Work.

1.4 QUALIFICATIONS
A. Manufacturer: Manufacturer of ready-mix concrete products complying with ASTM C94 requirements for production facilities and equipment. Certified according to National Ready Mix Concrete Associates Plant Certification Program.

1.5 DESIGN MIX

A. Submit design mix for each class of concrete, prepared by a California Registered Civil Engineer, to Testing Laboratory and District for review. The Contractor shall retain the services of a qualified licensed engineer to provide a Concrete Mix Design for each class of concrete in accordance with UBC Section 1905.

1.6 REGULATORY REQUIREMENTS:


B. Conform to CBC – California Building Code, (CCR) California Code of Regulations, Title 24, Part 2, and ADAAG for access requirements for individuals with disabilities.

1.7 SUBMITTALS

A. Submit product data and manufacturer’s instructions under provisions of Section 01330.

1.8 FIELD SAMPLE

A. Provide field sample of sandblast finish under provision of Section 01450.

B. Provide a minimum 3'-0" x 3'-0" sample panel to be reviewed by Architect.

C. Accepted sample may not remain as part of work.

D. Field sample will demonstrate minimum standard for the work.

1.9 PRE-INSTALLATION CONFERENCE

A. Convene a conference two weeks prior to commencing work of this section, under provisions of Section 01310.

B. Require attendance of parties directly affecting the work of this Section.

C. Agenda:

1. Placement of subgrade beneath concrete.

2. Testing of subgrade beneath concrete.

3. Delivery and placement of concrete.

5. Submittal of mix design for concrete.
6. Hot and cold weather concreting procedures.
7. Vapor barrier location and installation.
8. Placement of cold, control and expansion joints.
9. Steel reinforcement installation.
10. Installation of inserts and embedded items.
11. Finishes and finishing.
13. Concrete flatness and levelness requirements.
14. Curing process and procedures.
15. Protection of finished floor slabs.
16. Concrete joint and crack repair.
17. Moisture vapor transmission testing.

1.10 WARRANTY

A. Provide fifteen year warranty from curing and hardening manufacturer under provisions of Section 01770.

B. Warranty: Include coverage for removal and replacement of finish floor materials that delaminate from interior concrete due to moisture migration and excessive vapor emissions or due to presence of efflorescence and alkali contaminates.

1. Subfloor Moisture Conditions: Moisture emission rate of no more than 3 lb/1,000 sq. ft./24 hours when tested by Quantitive Anhydrous Calcium Chloride Test, ASTM F1869, with subfloor temperature not less than 65 degrees F.

2. Subfloor Alkalinity Conditions: A pH range of between 5 to 9 when subfloor is wetted with potable water and pHdrion paper is applied.

C. Provide ten year warranty from waterproofing admixture manufacturer that surfaces treated with crystalline waterproofing admixture will remain free from water leakage.

1.11 ENVIRONMENTAL REQUIREMENTS

PART 2 – PRODUCTS

2.1 FORMWORK:
   A. As specified in Section 03100.

2.2 REINFORCEMENT
   A. Reinforcing steel as specified in Section 03200.

2.3 FIBROUS REINFORCEMENT
   A. Fibrous reinforcement as specified in Section 03200.

2.4 CONCRETE MATERIALS
   A. Cement: ASTM C150, Type II Portland type; low alkali; grey color.
   B. Fine and Coarse Aggregates Normal Weight Concrete: ASTM C33, non-reactive when tested in accordance with ASTM C289 and Appendix X-1 of ASTM C33.
   C. Fine and Coarse Aggregate, Light Weight Concrete: ASTM C330.
   D. Water: Clean and not detrimental to concrete.

2.5 ADMIXTURES
   A. Air Entrainment: ASTM C260.
   B. Fly Ash: ASTM C618, Class F.
   C. Water Reducing Admixture: ASTM C494, Type A.
   E. Calcium chloride, or any other admixtures not allowable.

2.6 ACCESSORIES
   B. Non-shrink Grout: Premixed compound consisting of non-metallic aggregate, cement, water reducing and plasticizing agents; capable of developing minimum compressive strength of 7000 psi in 28 days.
   C. Joint Filler: ASTM D1751, ½ inch thick.
D. Sand Fill: Manufactured “crusher run” sand free of silt, clay, loam, friable, or soluble materials of organic matters, all passing the No. 4 sieve and only 5 percent passing the No. 200 sieve.


F. Slip Resistant Aggregate: 95 percent minimum fused homogeneous aluminum oxide.

G. Concrete Slab, Saw Cut, Joint, Crack, Repair Material: Cement-based, polymer-modified product that can be feathered at edges to match adjacent floor elevations. Compressive strength not less than 4,200 psi at 28 days when tested according to ASTM C109. Equivalent to ARDEX SD-F Feather Finish, www.ardex.com.

H. Substitutions: Under provisions of Section 01360.

2.7 CONCRETE MIX

A. Mix concrete in accordance with ASTM C94 and CBC, California Building Code, (CCR) California Code of Regulations, Title 24, Part 2, Section 1905.3.

B. Footings: Proportion normal-weight concrete mixture as follows:
   1. Minimum Compressive Strength: 3,000 psi at 28 days.
   2. Maximum Water-Cement Materials Ratio: 0.50.
   3. Aggregate Size: 1 inch maximum.
   4. Slump Limit: 4 inch minimum, 6 inch maximum.
   5. Fly Ash: Maximum 20 percent by weight.
   6. Air Content: 2.5 percent, plus or minus 0.5 percent.
   7. Waterproofing Admixture: 3 percent by weight of cement.

C. Seat / Retaining Walls: Proportion normal-weight concrete mixture as follows:
   1. Minimum Compressive Strength: 3,500 psi at 28 days.
   2. Maximum Water-Cement Materials Ratio: 0.50.
   3. Aggregate Size 1 inch maximum.
   4. Slump Limit: 4 inch minimum, 6 inch maximum.
   5. Fly Ash: Maximum 20 percent by weight.
   6. Air Content: 2.5 percent, plus or minus 0.5 percent.
D. Slabs-On-Grade: Proportion normal-weight concrete mixture as follows:

1. Minimum Compressive Strength: 4,000 psi at 28 days.
3. Maximum Water-Cement Materials Ratio: 0.45.
4. Aggregate Size: 1 inch maximum.
5. Slump Limit: 3 inch minimum, 5 inch maximum.
6. Air Content: 2.5 percent, plus or minus 0.5 percent.
7. Fly Ash: Maximum 20 percent by weight.

PART 3 – EXECUTION

3.1 INSPECTION

A. Verify anchors, seals, plates, reinforcement, and other items to be cast into concrete are accurately placed, held securely, and will not cause difficulty in placing concrete.

3.2 PREPARATION

A. At locations where new concrete is dowelled to existing work, drill holes in existing concrete, insert steel dowels, and pack solid with non-shrink grout.

B. Place 6 inches crushed aggregate over subgrade.

3.3 BASE

A. Place 2 inch thick sand fill base over vapor barrier.

B. Compact base materials in accordance with Soils Report, Appendix A.

3.4 PLACING CONCRETE

A. Notify District minimum 24 hours prior to commencement of concreting operations.

B. Place concrete in accordance with ACI 301.

C. Hot Weather Placement: ACI 305R.

1. Maintain concrete temperature below 90 deg F at time of placement. Chilled mixing water or chopped ice may be used to control temperature, provided water equivalent of ice is calculated to total amount of mixing water.
2. Fog-spray forms, steel reinforcement, and subgrade just before placing concrete in hot weather. Keep subgrade uniformly moist without standing water, soft spots, or dry areas.


1. When average high and low temperature is expected to fall below 40 deg F for three successive days, maintain delivered concrete mixture temperature within the temperature range required by ACI 306.1.

E. Ensure reinforcement, inserts, embedded parts and formed joints are not disturbed during concrete placement.

F. Do not disturb or damage vapor barrier while placing concrete. Repair damage as required to maintain integrity of barrier.

G. Place concrete continuously between predetermined construction and control joints. Do not break or interrupt successive pours such that cold joints occur.

H. Excessive honeycomb or embedded debris in concrete is not acceptable.

3.5 JOINTS

A. Saw cut control joints at an optimum time after finishing. Use 3/16 inch thick blade, cutting at least 1/4 to 1/3 into depth of slab thickness and planned such as not to interrupt the steel.

B. Provide control joints at maximum 12 feet on center unless otherwise indicated.

C. Separate slabs from vertical surfaces with joint filler. Extend joint filler from bottom of slab to within 1/4 inch of finished slab surface.

3.6 CONCRETE JOINT FILLING AND CRACK REPAIR

A. Prepare, clean, and install joint repair material according to manufacturer's written instructions.

B. Defer joint filling and crack repair until concrete has aged a minimum of 60 days.

C. Remove dirt, debris, saw cuttings, curing compounds, and sealers from joints; leave contact faces clean and dry.

D. Mechanically V-groove as necessary all saw cuts, joints and cracks, to a minimum width of ¼ inch and a minimum depth of 5/8 inch.

E. Fill all saw cuts, joints, and cracks with cement based joint repair material to top of concrete surface.

F. Steel trowel edges of joint repair material to a feather edge to match adjacent floor elevation.
3.7 FINISHING OF FORMED SURFACES

A. Smooth form finish:

1. Coordinate as necessary to secure form construction using smooth, hard, uniform surfaces, with number of seams kept to a practical minimum and in a uniform and orderly pattern.

2. Patch tie holes and defects.

3. Remove fins completely.

4. Use for exposed finish surfaces to receive paint.

B. Smooth rubbed finish:

1. Produce on newly hardened concrete no later than the day following form removal.

2. Wet the surfaces, and rub with carborundum brick or other abrasive until uniform color and texture are produced.

3. Do not use a cement grout other than the cement paste drawn from the concrete itself by the rubbing process.

4. Use for exposed finish surfaces to receive clear sealer.

C. Grout cleaned finish:

1. Do not start cleaning operations until all contiguous surfaces to be cleaned are completed and accessible.

2. Do not permit cleaning as the work progresses.

3. Mix one part Portland cement and 1-1/2 parts fine sand with sufficient water to produce a grout having the consistency of thick paint.

4. Wet the surface of the concrete sufficiently to prevent absorption of water from the grout and apply the grout uniformly with brushes or spray gun.

5. Immediately after applying the grout, scrub the surface vigorously with a cork float or stone to coat the surface and fill all air bubbles and holes.

6. While the grout is still plastic, remove all excess grout by working the surface with a rubber float, sack, or other means.

7. After the surface whites from drying (about 30 minutes at normal temperatures), rub vigorously with clean burlap.

8. Keep the surface damp for at least 36 hours after final rubbing.
9. Use for repair of exposed finish surfaces to receive paint or clear sealer.

3.8 SLAB TOLERANCES

A. Maintain slab tolerance as defined in ACI 302.1R of (SOV) $F_F35$ and $F_L25$ and (MOV) $F_D24$ and $F_L17$ as measured by ASTM E1155.

B. Correct the slab surface if the actual $F_F/F_L$ number for the floor installation measures less than required.

C. In areas of floor drains, maintain floor levels at the walls and slope surface uniformly to drains at 1/8 inch per foot.

3.9 CURING

A. Apply curing, hardening and vapor barrier compound on all floor slabs that are not exposed and indicated to be sealed.

B. Cure concrete surfaces in accordance with ACE 301.

C. Spray apply curing, hardening and vapor barrier compound on finished slab surfaces located below grade, at grade, and above grade in two “wet on wet” flood coats at the total rate of 200 sq. ft./gallon in accordance with manufacturer’s instructions.

D. Application of compound shall be by a trained applicator acceptable to compound manufacturer.

3.10 SEALING

A. Apply sealing compound on finished floor slab surfaces that are not to receive a finished floor covering and are indicated to be exposed and sealed.

B. Apply sealing compound immediately following finishing operation.

C. Apply sealing compound in sufficient quantities to keep entire surface wet for a minimum of 30 minutes.

D. Lightly mist surface with water as compound is absorbed into surface.

E. Flush surface with water and squeegee surface free of excess compound.

F. Burnish final concrete surface with propane burnisher.

3.11 PATCHING

A. Notify District immediately upon removal of forms to determine areas that will require patching.
B. Surface defects shall include color and texture irregularities, stains, cracks, spalls, air bubbles, honeycombs, rock pockets, fins and other projections and discolorations in the surface that cannot be removed by cleaning.

C. Patch imperfections in accordance with ACI 301.

3.12 DEFECTIVE CONCRETE

A. Modify or replace concrete not conforming to required levels and lines, details, and elevations.

B. Repair or replace concrete not properly placed or of the specified type.

3.13 FIELD QUALITY CONTROL

A. Field inspection and testing will be performed as required by the Division of the State Architect and District Inspector.

B. Owner’s Inspector will take cylinders and perform slump and air entrainment tests in accordance with ACI 301 and will arrange for pick-up by Testing Laboratory.

C. Three cylinders will be taken for every 50 years, or fraction thereof, for each class of concrete for each day.

D. Tests of cement and aggregates will be performed by Testing Laboratory to ensure conformance with requirements stated herein.

E. Concrete paving tolerance as measured by ASTM E1155 shall be performed within 72 hours of concrete paving installation.

F. Maintain records of placed concrete items. Record date, location of pour, quantity, air temperature, and test samples taken.

3.14 PROTECTION

A. Protect finished work under provisions of Section 01600.

B. Immediately after placement, protect concrete from premature drying, excessively hot or cold temperatures, and mechanical injury.

C. Maintain concrete with minimal moisture loss at relatively constant temperature for period necessary for hydration of cement and hardening of concrete.

END OF SECTION
SECTION 03310
CAST-IN-PLACE CONCRETE

PART 1 – GENERAL

1.1 GENERAL CONDITIONS

A. Requirements of the Contract Documents, including but not limited to, the General, Special, and Technical Provisions, apply to work in this Section with the same force and effect as though repeated in full herein.

1.2 SCOPE OF WORK

A. Furnish materials, labor, transportation, services, and equipment necessary to install all Portland Cement Cast-In-Place Concrete as indicated on the Drawings complete as shown and as specified herein.

B. Related Work:
   1. Section 03110 – Concrete Formwork
   2. Section 03210 – Concrete Reinforcement
   3. Section 03370 – Shotcrete
   4. Section 03380 – Concrete Curing

1.3 REFERENCES

A. Comply with the applicable reference specifications as specified in the GENERAL PROVISIONS and in accordance with applicable laws, codes and regulations required by the City of Santa Clarita, CA. Comply with the current provisions of the following Codes and Standards:

B. ASTM - American Society for Testing and Materials:
   1. ASTM C33 – Concrete Aggregates.
   2. ASTM C94 – Ready-Mixed Concrete.
   3. ASTM C143 – Test for Slump of Portland Cement Concrete.
   5. ASTM C260 – Air-Entraining Admixtures for Concrete.
   6. ASTM C494 – Chemical Admixtures for Concrete.
   7. ASTM C618 – Fly Ash and Raw or Calcined Natural Pozzolans for Use in Portland Cement Concrete

C. ACI – American Concrete Institute:
   1. ACI 211.1-81 – Recommended Practice for Selecting Proportions for Normal-Weight Concrete.
   2. ACI 211.3-81 – Recommended Practice for Selecting Proportions for Lightweight Concrete.
   3. ACI 301 – Specifications for Structural Concrete for Buildings.
   4. ACI 305 – Recommended Practice for Hot Weather Concreting.
   5. ACI 306 – Recommended Practice for Cold Weather Concreting.
6. ACI 318 – Building Code Requirements for Reinforced Concrete.

D. UBC – Uniform Building Code

E. AWS – American Welding Society
   2. AWS D1.4 – Structural Welding Code – Reinforcement.

F. CRSI – Concrete Reinforcing Steel Institute: MSP-1 – Manual of Standard Practice

1.4 SUBMITTALS

A. Design of Concrete Mixes:
   1. Contractor shall be responsible for and pay for design of concrete mixes. Design of concrete mixes shall be performed by a Testing Laboratory selected by Contractor and approved by the Owner. Design methods to be in accordance with ACI 318-71.
   2. Make three trial mixes using aggregate proposed.
   3. Make advance tests of trial mixes with proposed materials. Test four cylinders in accordance with ASTM C 39 at 7 days and 28 days. Do not place concrete on project until laboratory reports and breaks of confirmation cylinders indicate that the proposed mixes will meet the strength requirements as indicated on the Drawings.
   4. Check mix design and revise, if necessary, wherever changes are made in aggregate or in surface water content of aggregate or workability of concrete. Slump shall be the minimum to produce workable mix. Laboratory shall prescribe minimum quantity of water.
   5. If Portland Cement reducers or other additives are used, submit control mix design without reducers or additives as well as mix exactly proposed to be used. Submit W.R. Grace Co. recommendations for retarder and shrinkage compensation of slab on grade.
   6. Sample of Workmanship: Provide on site, minimum 48"x48" sample (not part of finished project) of each flatwork finish.
   7. Forward two copies of design mix to Owner’s Representative for approval.

B. Submit product data and manufacturer’s instructions for:
   1. Color admixture.
   2. Expansion joint fill material.
   3. Curing compound.
   4. Dowel aligners/caps.
   5. Waterstop.
   7. Form facing materials.
   8. Form release agents.
   11. Surface retarders.

C. Samples:
1. Samples for Color Selection: Submit color additive manufacturer’s color chart & sample chip set; indicate color additive number and required dosage rate. Samples indicate general color and may vary from concrete finished in field according to Specifications.

2. Expansion Joint Fill Material: Submit one 12-inch length.

D. Test Reports: Compressive strength of concrete test cylinders taken upon delivery of concrete.

E. Delivery Documentation: Batch tags for each load of concrete, for informational purposes.

1.5 QUALITY ASSURANCE

A. Pre-Bid Conference (if applicable): Prior to submitting bid, attend pre-bid conference with Owner’s Representative to review mock-up requirements and artistic effect desired.

B. Regulatory Requirements: Meet requirements of applicable laws, codes, and regulations required by authorities having jurisdiction over Work.

C. Contractor Mock-Ups:
   1. Contractor shall prepare 4-foot x 4-foot mock-ups for each paving type indicated on Drawings, prior to installation.
   2. Mock-Ups shall be completed to the satisfaction of the Architect, Landscape Architect, and Owner including aggregates, texture, color, and finishes.
   3. These mock-ups will become the standard of quality by which future paving samples and work will be judged.
   4. Mock-Ups to remain on-site and be protected during the course of construction, as a means to compare work in progress. If mock-ups are damaged or removed, Contractor shall repair/replace in-kind immediately.

D. Concrete Manufacturer Qualifications: Manufacturer of ready-mixed concrete products complying with ASTM C 94 requirements for production facilities and equipment.

E. Contractor Experience: Provide evidence to indicate successful experience in providing cast-in-place concrete work for skate parks similar in scope to that specified herein and can demonstrate successful experience through past project documentation and references.

1. Required Experience: The prime submitting firm or its subcontractor, in order to be pre-qualified for this project must have completed (5) public concrete skate park facilities with a minimum skating area of 30,000 square feet. Parks must be open and in good operating condition for at least one year. Only those projects where the complete construction of the facility has been the sole responsibility of your firm can be included. Please provide detailed project information and verifiable references for each of these qualifying skate park facilities. No exceptions will be made to these requirements.

2. Evidence of Experience: The prime submitting firm or its specialty subcontractor shall submit to Architect satisfactory documentation of the aforementioned experience and qualification. If a Contractor cannot provide this information or if it is unverifiable, work under this Section and any other related Section cannot be
completed by Contractor. This submission must contain the Project Name & Location, Owner’s Name & Contact Information, Architect Name & Contact Information, Project Size, Contract Value, and Completion Date. Please provide a detailed list identifying your firm's key personnel and management team that is responsible for the aforementioned skate park experience. Please include any owners, officers, managers, construction supervisors, or any other employee with the identified experience for the listed qualifying projects. Show that the individual directly responsible for the construction management of these projects will be the same individual utilized on this project.

F. Safety and Performance Guidelines: Comply with all safety and performance requirements and all applicable references as specified in the ASTM F2480 Standard Guide for In-ground Skate Parks.

G. ACI Requirements: Meet all requirements of ACI 301.

1.6 DELIVERY, STORAGE, AND HANDLING

A. Store materials in dry and protected locations and protect from damage.

B. Do not change brand of cement or source of aggregate during course of Work.

1.7 SITE CONDITIONS

A. Environmental Requirements:
   1. Submit plan to monitor wind velocity, relative humidity, temperature, and concrete temperature in order to maintain specified maximum rate of evaporation.
   2. Do not place concrete when sub base surface temperature is less than 40 degrees F, nor when surface is wet.
   3. Protect concrete against extreme cold and heat, frost, rapid drying, and damage by rain.

B. Coordination:
   1. Coordinate schedules of concrete placement to allow adequate time for installation of other related work.
   2. Verify that anchor bolts and other embedded steel items to be cast into concrete are properly placed.
   3. Coordinate size and location of mechanical and electrical equipment concrete pads.
   4. Coordinate earthwork and soils report requirements with placement requirements.
   5. Coordinate with form-work and finishes sections to provide finish floor levelness and flatness as specified herein. Slope to drains at grades and percent slope shown on contract documents.
   6. Ensure that irrigation sleeves, electrical conduit, drainage lines and other utility elements are accommodated and as-built located prior to placing concrete.

1.8 WARRANTY

A. General Description: In addition to manufacturer’s warranties, warrant Work for a period of one year from the Date of Final Completion against defects in materials and workmanship.
B. Additional Items Covered: Warranty shall also cover repair of damage to other materials and workmanship resulting from defects in materials and workmanship.

C. Exceptions: Contractor shall not be held responsible for failures due to ordinary wear, neglect by Owner, vandalism, or other causes beyond the Contractor's control.

PART 2 - PRODUCTS

2.1 MATERIALS

A. Ready Mixed Concrete: Batched, mixed and transported in accordance with ASTM C 94 – Specifications for Ready Mixed Concrete.

B. Portland Cement: Refer to Drawings for specific paving type and finish required and conform to ASTM C-150, Type II. Use same brand of cement from single source throughout entire project for each paving type.

C. Fine Aggregate (washed concrete sand): Clean, hard, durable, uncoated washed natural sand, free from silt, loam or clay, and conforming to ASTM C 33.

D. Coarse Aggregate: Clean, hard, durable, un-coated coarse aggregate conforming to ASTM C33. Use same coarse aggregate from single source throughout entire project.

E. Water: Potable and free from deleterious materials such as oils, acids, and organic matter.

F. Admixture: Cement-dispersing, water-reducing compound, ASTM C 494, Type A, as made by Master Builders, Sika, or Gifford-Hill Co., or equal. Depending upon weather conditions at time of placing, ASTM C 494, Type D (water-retarding) or Type E (water-reducing, accelerating) may be used if approved by Owner's Representative.

2.2 PROPORTIONS AND MIXING

A. Proportions and Design: In accordance with approved mix design. Minimum allowable compressive strength at 28 days is 4000 psi.

B. Admixture: No admixtures without approval. Introduce admixtures in quantities and according to methods recommended by admixture manufacturer. Add air-entraining agent to concrete as scheduled.

C. Slump: Not to exceed 3 ½".

D. Mixing: Ready mixed concrete in accordance with ASTM C-94. Do not transport or use concrete after 1-1/2 hours have elapsed from time of initial mixing. Supplier of transit-mixed concrete shall have a plant of sufficient capacity, and adequate transportation facilities to assure continuous delivery at required rate, to provide continuous concrete placement throughout a pour.

PART 3 - EXECUTION

3.1 INSPECTION

A. Inspect subgrade, forms, reinforcing steel, pipes, conduits, sleeves, hangers, anchors, inserts, and other work required to be built into concrete and report any discrepancies. Notify Owner's Representative at least 5 working days in advance of scheduled placement.

B. Correct unsatisfactory work prior to placing concrete.

C. Remove rubbish from formwork immediately prior to placing concrete.

3.2 INSTALLATION

A. Placing Concrete:
   1. Convey and place concrete allowing no separation of ingredients in accordance with ACI 304 and as specified below.
   3. Regulate rate of placement to maintain plasticity and flow into position.
   4. Deposit concrete continuously until panel or section is completed.
   5. Place concrete in horizontal layers 18" maximum thickness.

B. Consolidation:
   1. Use mechanical vibrating equipment for consolidation.
   2. Vertically insert and remove hand-held vibrators at 18" O.C. for 10 to 15 seconds.
   3. Do not use vibrators to transport concrete in forms.
   4. Provide vibrators with minimum speed of 8000 RPM and with amplitude to consolidate effectively.
   5. Thoroughly consolidate concrete and work around reinforcement, embedded items and into corners of forms. Thoroughly consolidate layers of concrete with previous layers.

C. Construction Joints:
   1. Unless otherwise shown on Drawings, each footing, wall, beam, and slab shall be considered as a single unit of operation and shall be monolithic in construction.
   2. Where construction joints are absolutely unavoidable, locate joints at or near quarter points of spans where approved by Owner's Representative and/or shown on plan.

D. Expansion Joint Fillers:
   1. Refer to Drawings for Expansion Joint locations and details.
   2. Finish joint material flush with concrete surface.

E. Hot Weather Placement:
1. Prevent high temperature in fresh concrete during hot weather in accordance with ACI 305.
2. Use water reducing set retarding admixtures in such quantities as especially recommended by manufacturer to assure that concrete remains workable and lift lines will not be visible.

F. Flatwork:
1. Cast slabs-on-grade in alternate sections, unless permanent forms are used. Wait 48 hours between all adjacent concrete castings.
3. Maximum 1:500 slope from indicated plane at any point.

G. Finish:
1. Smooth Trowel finish to match approved Mock-Up finish.
2. After surface water disappears and floated surfaces have sufficiently hardened, steel trowel then retrowel the surface to a smooth and consistent finish.
3. After concrete has set enough to provide edge troweling, retrowel edges to a smooth and uniform finish.

H. Cracking:
1. Cracking from inadequate curing is not allowed. Sawcut joints and construction joints are shown on drawings. Contractor may, with approval of Owner's Representative, recommend and detail other joints required to prevent cracking.

3.3 REPAIRS AND PROTECTION

A. Remove and replace concrete paving that is broken, damaged, defective, or does not meet the requirements of this Section or conformance with ASTM F 2480 - Standard Guide for In-ground Skate Parks.

B. Protect concrete from damage until Final Payment. Exclude traffic from paving for at least 28 days after placement. When construction traffic is permitted, maintain paving as clean as possible by removing surface stains and spillage of materials as they occur.

C. Maintain concrete paving free of stains, discoloration, dirt, wax, and other foreign material until Final Payment.

3.4 CLEAN UP

A. At completion of Work, remove concrete stains from adjacent work, including but not limited to dissimilar paving types, walls, columns, railing posts, light fixtures, plant materials, to satisfaction of Owner's Representative.

END OF SECTION 03310
SECTION 16010

GENERAL ELECTRICAL PROVISIONS

PART 1 - GENERAL

1.0 WORK INCLUDED:

A. This specification shall apply to all phases of Work hereinafter specified, shown on Drawings, or as required to provide a complete installation of electrical systems for this Project. Work required under this specification, is not limited to just the Electrical Drawings - refer to Architectural, Structural, Landscape, and Mechanical / Plumbing Drawings, as well as all other drawings applicable to this project, which designate the scope of work to be accomplished. The intent of the Drawings and Specifications is to provide a complete and operable electrical system that includes all documents that are a part of the Contract.

1. Work Included. Furnish labor, material, services and skilled supervision necessary for the construction, erection, installation, connections, testing, and adjustment of all circuits and electrical equipment specified herein, or shown or noted on Drawings, and its delivery to the District complete in all respects ready for use.

2. The electrical Work includes installation or connection of certain materials and equipment furnished by others. Verify installation details, installation and rough-in locations from the actual equipment or from the equipment shop drawings.

B. Electrical Drawings. Electrical Drawings are diagrammatic, and are intended to convey the scope of work, indicating intended general arrangement of equipment, conduit and outlets. Follow Drawings in laying out Work and verify spaces for installation of materials and equipment based on actual dimensions of equipment furnished.

1.1 QUALITY ASSURANCE

A. Design, manufacture, testing and method of installation of all apparatus and materials furnished under requirements of these specifications shall conform to latest publications or standard rules of the following:

- Institute of Electrical and Electronic Engineers - IEEE
- National Electrical Manufacturers' Association - NEMA
- Underwriters' Laboratories, Inc. - UL
- National Fire Protection Association - NFPA
- American Society for Testing and Materials - ASTM
- American National Standards Institute - ANSI
- National Electrical Code - NEC
- National Electrical Safety Code - NESC
- Insulated Cable Engineers Association - ICEA
• American Institute of Steel Construction - AISC
• State and Municipal Codes In Force In The Specific Project Area
• Occupational Safety and Health Administration (OSHA)
• Electronics Industries Association/ Telecommunications Industry Association (EIA/TIA)
• California Electrical Code (where adopted)
• Local Authority Having Jurisdiction (AHJ) Published Electrical Standards and Codes

B. Perform Work in accordance with the National Electrical Code, applicable building ordinances, and other applicable codes, hereinafter referred to as the "Code." The Contractor shall comply with the Code including local amendments and interpretations without added cost to the District. Where Contract Documents exceed minimum requirements, the Contract Documents take precedence. Where code conflicts occur, the most stringent shall apply unless variance is approved.

1. Comply with all requirements for permits, licenses, fees and codes. Permits, licenses, fees, special service costs, inspections and arrangements required for the Contractor at his expense shall obtain Work under this contract, unless otherwise specified.

2. Comply with requirements of the applicable utility companies serving this Project. Make all arrangements with utility companies for proper coordination of Work.

1.2 GENERAL REQUIREMENTS

A. Guarantee: Furnish a written guarantee for a period of one-year from date of acceptance.

B. Wherever a discrepancy in quantity or size of conduit, wire, equipment, devices, circuit breakers, etc., (all materials), arises on the Drawing and/or Specifications, the Contractor shall be responsible for providing and installing all material and services required by the strictest condition noted on Drawings and/or in Specifications to ensure complete and operable systems as required by the District and Engineer.

C. All Core Cutting, Drilling, and Patching:

1. For the installation of work under this Section, the aforementioned shall be performed under this Section of the Specifications and the Concrete section of the Specifications.

2. No holes will be allowed in any structural members without the written approval of the Project's Structural Engineer.

3. For penetrations of concrete slabs or concrete footings, the work shall be as directed in the Concrete Section of Specifications.
4. The contractor shall be responsible for patching and repairing surfaces where he is required to penetrate for work under this contract.

5. Penetrations shall be sealed to meet the rated integrity of the surface required to be patched and repaired. The patched surface shall be painted or finished to match the existing surface.

D. Verifying Drawings and Job Conditions:

1. This Contractor shall examine all Drawings and Specifications in a manner to be fully cognizant of all work required under this Section.

2. This Contractor shall visit the site and verify existing conditions. Where existing conditions differ from Drawings, adjustment shall be made and allowances included for all necessary equipment to complete all parts of the Drawings and Specifications.

1.3 WORK IN COOPERATION WITH OTHER TRADES

A. Examine the Drawings and Specifications and determine the work to be performed by the electrical, mechanical and other trades. Provide the type and amount of electrical materials and equipment necessary to place this work in proper operation, completely wired, tested and ready for use. This shall include all conduit, wire, disconnects, relays, and other devices for the required operation sequence of all electrical, mechanical and other systems or equipment.

B. Provide a conduit only system for low voltage wiring required for control of mechanical and plumbing equipment described in this or other parts of the Contract Documents. Install all control housings, conduits and backboxes required for installing conductors and wire to the controls.

C. Install separate conduits between each heating, ventilating and air conditioning sensing device and its control panel and/or control motor. Before installing any conduit for heating, ventilating and air conditioning control wiring, verify the exact requirements from the control diagrams provided with the equipment manufacturer's shop drawings.

1.4 TESTING AND ADJUSTMENT

A. Upon completion of all electrical work, this Contractor shall test all circuits, switches, motors, breakers, motor starter(s) and their auxiliary circuits and any other electrical items to ensure perfect operation of all electrical equipment.

B. Equipment and parts in need of correction and discovered during such testing, shall be immediately repaired or replaced with all new equipment and that part of the system shall then be retested. All such replacement or repair shall be done at no additional cost to the District.

C. All circuits shall be tested for continuity and circuit integrity. Adjustments shall be made for circuits not complying with testing criteria.
D. All test reports, including copies of any required Energy Code Acceptance Forms (e.g. CA Title 24 Acceptance for Code Compliance Forms) should be submitted to the Engineer at completion of project.

1.5 IDENTIFICATION

A. Nameplates shall be provided for unit substations, switchgear, switchboards, distribution boards, distribution panels, panel boards, motor control centers, transformers, transfer switches, contactors, starters, disconnect switches, enclosed circuit breakers/switches, inverters, UPSs, PDUs, RDCs, Lighting Control Panels, Dimming Panels, Door Releasing System Panels, Fire Alarm / Central Monitoring terminal cabinets/power supplies/control panels, and all low voltage system terminal & control cabinets. Nameplate inscriptions shall be identical to the equipment designations indicated in plans and specifications.

All circuit breakers/fuses in switchgear, switchboards, distribution boards, distribution panels, UPS output circuit breakers, PDU output circuit breakers and motor control centers shall have individual nameplates located immediately adjacent to the respective device. Nameplate inscription shall identify the downstream equipment or device served by the circuit breaker or fuse.

Nameplates for contactors, starters, disconnect switches, and enclosed circuit breakers shall be engraved with the device designation/identification on the top line, source identification for the device on the 2nd line and load designation for the device on the bottom line. Where device designation is not indicated on plans/specifications, Contractor shall submit a written clarification request to the Engineer.

B. Identification nameplates, UON, shall be laminated 1/8" thick micarta with beveled edges and engraved white letters 3/8" high, minimum, on 1-1/2" high black background for single line of text. Where two lines of text are required, provide min. 2" high nameplate. Where three lines of text are required, provide min. 2.5" high nameplate.

C. Identification nameplates for new switchgear, switchboards, distribution boards, distribution panels, panel boards & motor control centers shall be attached with switchgear manufacturer-provided screws via switchgear manufacturer factory pre-drilled holes. A factory option to rivet identification nameplates to the equipment is only acceptable if screw-fastened nameplates are not an available option from the switchgear manufacturer. Field drilling or other mechanical attachment methods that change/void the NEMA or NRTL rating of the enclosure are strictly forbidden.

D. Identification nameplates for transformers, transfer switches, disconnect switches, enclosed circuit breakers/switches, inverters, UPSs, PDUs, RDCs, Lighting Control Panels, Dimming Panels, Door Releasing System Panels, Terminal cabinets and all circuit breakers/fuses in switchgear, switchboards, distribution boards, distribution panels, UPS output circuit breakers, PDUs, PDU output circuit breakers, and motor control centers shall be attached to the equipment by self-adhesive backing integral to the nameplates. When equipment is located outdoors, provide nameplates without self-adhesive backing and attach to
equipment using weather-rated, UV-resistant epoxy. In all cases, clean surfaces before applying identification nameplates parallel to equipment lines.

E. Warning Placards, as required by General Single Line Diagram Notes for multiple power sources, or Instruction Placards, as required for all kirk-key interlock schemes, all UPS bypass procedures or as required elsewhere in the plans/specifications shall be self-adhesive, 1/8" thick micarta with beveled edges, engraved 1/2" high white lettering on a Red background. Warning/Instruction Placards shall be attached to the face of the equipment directly related to the placards. Provide a formal placard submittal for review by the Engineer prior to ordering any Warning/Instruction Placards. In all cases, clean surfaces before applying Warning/Instruction Placards parallel to equipment lines.

F. Receptacles that are part of a UL-listed under floor computer room whip assembly, ceiling and/or cable/ladder tray-mounted receptacles used in lab, manufacturing, commercial kitchen environments or that are serving telcom/data/av racks & cabinets shall have identification nameplates located on the wiring device plate cover. Nameplates shall be self-adhesive, 1/8" thick micarta with beveled edges, engraved 1/4" high white lettering on black background with serving power source, circuit identification and NEMA/IEC receptacle type. Use of two (2) separate nameplates per device plate cover is acceptable. Affix nameplates to be visible when plugs are occupying receptacles.

G. See wiring device section of this specification for additional wiring device plate cover labeling requirements.

H. See drawings for panel board schedule directory installation requirements.

I. See conduit installation section of this specification for conduit labeling requirements.

1.6 FINAL INSPECTION AND ACCEPTANCE

A. After all requirements of the Specifications and/or the Drawings have been fully completed, representatives of the District will inspect the work. Contractor shall provide competent personnel to demonstrate the operation of any item or system to the full satisfaction of each representative.

B. Final acceptance of the work will be made by the District after receipt of approval and recommendation of acceptance from each representative.

1.7 RECORD DRAWINGS

A. Drawings of Record: The Contractor shall provide and keep up-to-date, a complete record set of blueprints. These shall be corrected daily and show every change from the original Drawings. This set of prints shall be kept on the job site and shall be used only as a record set. This shall not be construed as authorization for the Contractor to make changes in the layout without definite instruction in each case. Upon completion of the work, a set of reproducible Contract Drawings shall be obtained from the General Contractor and all changes as noted on the record set.
of prints shall be incorporated thereon with black ink in a neat, legible, understandable and professional manner. Refer to the Supplementary General Conditions for complete requirements.

1.8 APPROVALS, EQUALS, SUBSTITUTIONS, ALTERNATIVES, NO KNOWN EQUAL

A. Approvals: Where the words (or similar terms) “approved”, “approval”, “acceptable”, and “acceptance” are used, it shall be understood that acceptance by the District, Architect and Engineer are required.

B. Equal: Where the words (or similar terms) “equal”, “approved equal”, “equal to”, “or equal by”, “or equal” and “equivalent” are used, it shall be understood that these words are followed by the expression “in the opinion of the District, Architect, and Engineer. For the purposes of specifying products, the above words shall indicated the same size, made of the same construction materials, manufactured with equivalent life expectancy, having the same aesthetic appearance / style (includes craftsmanship, physical attributes, color and finish), and the same performance.

C. Substitution: For the purposes of specifying products “substitution” shall refer to the submittal of a product not explicitly approved by the construction documents / specifications.

1. Substitutions of specified equipment shall be submitted and received by the Engineer ten (10) days prior to the bid date for review and written approval. Regulatory Agency approval for all substitutions will be the sole responsibility of the contractor. To receive consideration, requests for substitutions must be accompanied by documentary proof of its equality with the specified material. Documentary proof shall be in letterform and identify the specified values/materials alongside proposed equal values/materials. In addition, catalog brochures and samples, if requested, must be included in the submittal. ONLY PRE-BID APPROVED PRODUCTS, ISSUED VIA A FORMAL BID ADDENDUM TO ALL BIDDERS, WILL BE ALLOWED ON THE PROJECT. REGARDLESS OF THE APPROVAL ON ANY SUBSTITUTION, ALL BIDS SHALL BE BASED ON THE PRODUCTS EXACTLY AS SPECIFIED. PRICING FOR EACH APPROVED SUBSTITUTION SHALL BE INCLUDED IN THE BID SUBMITTAL AS A SEPARATE LINE ITEM.

2. In the event that written authorization is given for a substitution, after award of contract, the Contractor shall submit to the Engineer quotations from suppliers / distributors of both the specified and proposed equal material for price comparison, as well as a verification of delivery dates that conform to the project schedule.

3. In the event of cost reduction, the District will be credited with 100 percent of the reduction, arranged by Change Order.

4. The Contractor warrants that substitutions proposed for specified items will fully perform the functions required.
D. Alternates / Alternatives: For the purposes of specifying products, "alternatives / alternates" may be established to enable the District / Architect / Engineer to compare costs where alternative materials or methods might be used. An alternate price shall be submitted in addition to the base bid for consideration. If the alternate is deemed acceptable, written authorization will be issued.

E. No Known Equal: For the purposes of specifying products, "No Known Equal" shall mean that the District / Architect / Engineer are not aware of an equivalent product. The Contractor will need to submit a "Substitution" item, per the requirements listed above, if a different product is proposed to be utilized.

1.9 SHOP DRAWINGS / SUBMITTALS

A. Shop Drawings / Submittals shall be submitted in six (6) bound sets accompanied by Letter of Transmittal, which shall give a list of the number and dates of the drawings submitted. Drawings shall be complete in every respect and bound in sets.

B. The Shop Drawings / Submittals submitted shall be marked with the name of the project, numbered consecutively and bear the approval of the Contractor as evidence that the Contractor has checked the Drawings. Any Drawings submitted without this approval will be returned to the Contractor for resubmission.

C. If the shop drawings show variations from the requirements of the Contract because of standard shop practice or other reasons, the Contractor shall make specific mention of such variations in his letter of transmittal. If the substitution is accepted, the Contractor shall be responsible for proper adjustment that may be caused by the substitution. Samples shall be submitted when requested.

D. Only products listed as "Equal" within the contract documents, along with formally approved "Substitutions" will be reviewed. Products not conforming to these items will not be reviewed and will be returned to the Contractor for re-submittal.

E. Review comments used in response to shop drawings / submittals are:

- "No Exception Taken" Product approved as submitted.
- "Furnish As Corrected" Re-submittal not required, although the contractor to provide the submitted product with corrections as noted.
- "Revise And Resubmit" Re-submittal required with corrections as noted.
- "Rejected" Re-submittal required based upon the originally specified product.

F. Shop drawings shall be submitted on the following but not limited to:

- Lighting Fixtures, Lamps and Ballasts.
- Switchgear, Switchboards, Distribution Boards, Motor Control Centers, Panel boards, and Bus Ducts; complete with overcurrent device
information.
- Transformers.
- Fire alarm System/Central Monitoring System.
- Wiring Devices.
- Lighting Control System / Dimming System Products.
- Pullboxes and Underground Vaults
- Terminal Cabinets
- Lighting Inverters, UPSs, RDCs, PDUs, Generators, Transfer Switches, TVSS Systems
- Cable Tray, Flexible Cable tray and Cable Runway
- Power Poles and Floor Boxes
- Arc Flash, Short-Circuit & Coordination studies
- All other products called out on drawings that call for shop drawing submittal.

1.10 MAINTENANCE, SERVICING, INSTRUCTION MANUALS AND WIRING DIAGRAMS

A. Prior to final acceptance of the job, the Electrical Contractor shall furnish to the District at least four (4) copies of operating and maintenance and servicing instructions, as well as four (4) complete wiring diagrams for the following item(s) or equipment:

- Fire alarm system.
- Transformers.
- Switchgear, Switchboards, Distribution Boards, Motor Control Centers, Panel boards, and Bus Ducts; complete with over current device information.
- Lighting Inverters, UPSs, PDUs, Generators, Transfer Switches, TVSS Systems

B. All wiring diagrams shall specifically cover the system supplied. Typical drawings will not be accepted. Four (4) copies shall be presented to the District.

1.11 INTERRUPTION OF SERVICE OR SERVICE SHUTDOWN:

A. Any interruption of electrical services, electrical circuits, electrical feeders, signal systems, communication systems, fire alarm systems, etc. required to perform work shall meet the specific prior-approval requirements of the District. Such work shall be scheduled with the District to be performed at the District's convenience.

B. Interruptions/outrages of any of the District's systems and services mentioned above shall be scheduled to occur during other than the District's normal business hours. Any overtime costs shall be borne by the contractor.

C. See drawings for any additional requirements regarding outages, interruption and any temporary services required.

General Electrical Provisions
PART 2 – PRODUCTS

2.1 MATERIALS

A. Materials and Equipment: All electrical materials and equipment, including custom-made equipment, shall be new and shall be listed by Underwriter’s Laboratories (UL) and bear their label or be listed and certified by a Nationally Recognized Testing Lab (NRTL) that is also recognized by the local Authority-Having-Jurisdiction (AHJ).

B. Switchboards / Distribution Boards / Motor Control Centers:

1. See general single line notes on single line drawing for more information.

C. Panel boards - Branch Circuit:

1. See drawings for panel board schedules and specifications.

D. Transformers:

1. See drawings for transformer schedules and specifications.

E. Lighting Fixtures:

1. See drawings for lighting fixture and lamp schedules and additional specifications. Furnish, install and connect a lighting fixture at each outlet where a lighting fixture type symbol (designated on plans) is shown as being installed. Each fixture shall be complete with all required accessories including sockets, glassware, boxes, spacers, mounting devices, fire rating enclosure and lamps.

2. Ballasts: See lighting fixture schedule notes. All noisy ballasts shall be replaced at no cost to the District.

3. Lamps: See lamp / fixture schedule and lamp / lighting fixture schedule notes.

F. Wiring Devices:

1. Provide wiring devices indicated per plan. Devices shall be specification grade. Acceptable manufactures are Leviton, Pass & Seymour and Hubbell. Provide all similar devices of same manufacturer, unless indicated otherwise. All device colors shall be from the full range of manufacturer standard color options as selected by the District. This selection will be made during the shop drawing review process.

Wiring Devices (Decora)

Convenience Receptacle #16252- ???
Dedicated Receptacle   #16352- ???

General Electrical Provisions 16010-9
Convenience I.G. Receptacle  #16262-IG- ???
Dedicated I.G. Receptacle  #16362-IG- ???
Convenience G.F.C.I. Receptacle  #6599- ???
Dedicated G.F.C.I. Receptacle  #6899- ???
Convenience Simplex Receptacle  #16251- ???
Dedicated Simplex Receptacle  #16351- ???
Recessed Clock Receptacle  #5361-CH- ???(Non-Decora)
Single Pole Switch  #5621-2- ???
Double Pole Switch  #5623-2- ???
Three Way Switch  #5623-2- ???
Four Way Switch  #5624-2- ???
Pilot Light Switch “On”  #5628-2- ???
Pilot Light Switch “Off”  #5631-2- ???
Projection Screen Switch  #5657-2- ???
Low Voltage Momentary Switch  #5657-20- ???
Keyed Switch  #1221-2L- ???(Non-Decora)
Door Jam Switch  #1865- ???

2. I.G. (isolated ground) receptacle bodies shall be of a basic color specified above with an orange triangle to symbolize isolated ground.

3. When shown circuited with an I.G. conductor, receptacles shall be of an I.G. type. As an example, a NEMA L6-30R denoted on the plans and shown circuited with an I.G. conductor shall be an I.G. version of that receptacle.

4. Wiring devices located in wood finished areas shall generally be black unless otherwise indicated by the District.

5. Wiring devices located in mirrors shall generally be white with stainless steel cover plates unless otherwise indicated by the District.

6. Wiring devices located in general care areas and critical areas per NEC, or CEC where adopted, Article 517 shall be listed and identified as “hospital grade” (Decora Style) – unless otherwise noted.

7. Wiring device cover plates located on recessed boxes shall be commercial grade nylon. Plate color shall match wiring device color u.o.n. on plans. Cover plates utilized on surface mounted boxes shall be metal. Plastic cover plates are unacceptable.

8. All wiring device plates on the project shall be labeled with panel and circuit number(s) utilizing a Brother P-Touch labeling system utilizing 1/2” tape (yellow on black) or equal by Herman-Tellerman or Panduit. Locate label on the concealed side of the wiring device plate. Handwritten labels are unacceptable.

9. The following device plates shall be engraved:

   a. Key operated switches, switches with Pilot Lights and Switches for the control of motors, heaters and ventilators. Engraving shall be
black and occur on the exposed side of the plate and indicate the motor, heater, or ventilator controlled.

b. Receptacles on generator and/or UPS power shall have custom stamped plates with the words “generator” or “UPS” in black letters.

10. Weatherproof Outlet Covers/Assemblies. All Receptacles identified as weatherproof on the drawings shall be GFCI type and equipped as follows:

a. Subscript WP-A: Recessed wall box, 6" x 6" x 5 ½" deep, with a hinged, lockable, cast aluminum, self-closing, gasket-equipped door that is wet location-listed raintight while-in-use. Unit shall comply with NEC, or CEC where adopted, Article 406.8(A) and (B). C.W. Cole TL-310-9-GFI-PH-MOD-CUSTOM COLOR Series with an interior metal plate suitable for a GFCI receptacle in one compartment separated from a second compartment with a metal separation barrier. The second compartment shall have a blank metal plate suitable for field installation of power, AV or communications devices. This compartment shall have a minimum ¾” C.O. with pull string routed from the box to the facility telephone backboard unless otherwise noted on the drawings. Provide 1 key minimum per device to the District’s project manager upon completion of project. Include all costs for custom color powder coat finish as selected by District.

b. Subscript WP-B: Wet location-listed raintight while-in-use cast copper-free aluminum lockable cover with baked aluminum lacquer finish and one gang GFCI receptacle. Hubbell WP26M series. Polycarbonate covers are unacceptable. Unit shall comply with NEC, or CEC where adopted, Article 406.8(A) and (B). Contractor shall field paint custom color as selected by District.

c. Subscript WP-C: Single Service BK Lighting #CUS-1204-46 raintight while-in-use cast copper-free aluminum lockable cover with baked aluminum lacquer finish and one-gang GFCI receptacle. Hubbell WP26M series or equal. Polycarbonate covers are unacceptable. Wet location-listed weatherproof cover shall comply with NEC, or CEC where adopted, Article 406.8(A) and (B). Contractor shall provide custom color by manufacturer as selected by District. See drawings for additional details.

d. Subscript WP-D: Dual Service BK Lighting #CUS-1204-47 with raintight while-in-use cast copper-free aluminum lockable cover(s) with baked aluminum lacquer finish, internal barrier, one gang GFCI receptacle and one gang telecommunications outlet. Hubbell WP26M series. Polycarbonate covers are unacceptable. Wet location-listed weatherproof cover(s) shall comply with NEC, or CEC where adopted, Article 406.8(A) and (B). Contractor shall provide custom color by manufacturer as selected by District. See drawings for additional details.
G. Motor Controllers / Starters: See drawings for motorized equipment schedules and specifications.

H. Circuit Breakers:

1. Service entrance circuit breakers smaller than 400 Amp frame shall be thermal-magnetic trip with inverse time current characteristics unless otherwise indicated below. Service entrance main circuit breakers, 400 Amp frame and larger shall be 100% rated, solid-state type as outlined in this specification. All other service entrance circuit breakers, 400 Amp frame and larger, shall be 100% rated, solid-state type as outlined in this specification.

2. All non-service entrance circuit breakers 225 Amp and larger shall be thermal magnetic type and have continuously adjustable magnetic pick-ups of approximately 5 to 10 times trip rating. Breakers shall have easily changed trip rating plugs with trip ratings as indicated on the Drawings. Rating plugs shall be interlocked so they are not interchangeable between frames. Additionally, all non-service entrance circuit breakers, 600 Amp frame and larger, located in 480v 3 phase, 3-wire or 277/480v, 3 phase 4-wire switchgear, distribution boards or panel boards, shall be solid state, 100% rated. Breaker shall have built-in test points for testing long delay and instantaneous, and ground fault (where shown) functions of the breaker by means of a 120-volt operated test kit. Contractor shall utilize a test kit capable of testing all breakers 400 Amp and above - at the Engineer's request.

3. All non-service entrance circuit breakers less than 225 Amp shall be molded plastic case, air circuit breakers conforming to UL 489. Provide breakers with thermal magnetic trip units, and a common trip bar for two- or three-pole breakers, connected internally to each pole so tripping of one pole will automatically trip all poles of each breaker. Provide breakers of trip-free and trip-indicating bolt-on type, with quick-make, quick-break contacts. Provide single two- or three-pole breaker interchangeability. Provide padlocking device for circuit breakers as shown on the Drawings.

4. Where a Current Limiting Circuit Breaker (CLCB) is indicated on drawings or as required elsewhere in this specification, provides a U.L. listed current limiting thermal magnetic circuit breaker(s) u.o.n. An independently operating limiter section within a molded case is not allowed. Coordinate CLCB ratings as required to protect electrical system components on the load side of the CLCB to include, but not limited to, protecting automatic transfer switches, panel boards and lighting control panels.

5. Where a solid-state circuit breaker is indicated on drawings or as required elsewhere in this specification, provide a solid-state circuit breaker with minimum five function complete with built-in current transformers. The five functions shall be independently adjustable and consist of Overload/Long Time Amp Rating, Long Time Delay, Short Time Delay, Short
Circuit/Instantaneous Pickup, but may also include Shunt Trip and/or Ground Fault if so indicated on the Drawings. Rating plugs shall be interlocked so they are not interchangeable between frames. Breaker shall have built-in test points for testing long delay and instantaneous, and ground fault (where shown) functions of the breaker by means of a 120-volt operated test kit. Contractor shall utilize a test kit capable of testing all breakers 400 Amp and above - at the Engineer's request.

6. Ground Fault Interrupting Breakers. Provide with molded plastic case, air circuit breakers, similar to above with ground fault circuit interrupt capability, conforming to UL Class A, Group 1.

7. Arc Fault Interrupting Breakers. Provide with molded plastic case, air circuit breakers, similar to above with arc fault circuit interrupt capability, conforming to UL 1699 & UL Class A, Group 1. Provide on all-dwelling unit circuits supplying bedrooms, sleeping quarters etc as required to comply with NEC, or CEC where adopted, Article 210.12(B).

8. Tandem or half-sized circuit breakers are not permitted.

9. Series Rated Breakers. UL listed series rated combinations of breakers can be used to obtain panelboard-interrupting ratings shown on Drawings. If series rated breakers are used, switchboards, distribution boards and panel boards shall be appropriately labeled to indicate the use of series rated breakers. Shop drawing submittal shall include chart of U.L. listed devices, which coordinate to provide series rating.

10. Circuit breakers shall be standard interrupting construction. Panelboard shall accept standard circuit breakers up to 225 amperes.

11. Circuit breaker handle accessories shall provide provisions for locking handle in the on or off position.

12. Shunt trip equipped circuit breakers shall be provided on all elevator feeders.

13. Temperature compensating circuit breaker(s) shall be provided when located in outdoor enclosure(s) or when located in an enclosure subject to high ambient heat due to nearby industrial processes etc.

14. Provide 75 degree Celsius-rated conductor lugs/lug kits as required on all circuit breakers to accept conductor quantities and sizes shown on drawings.

15. All circuit breaker terminations shall be suitable for use with 75 degrees Celsius ampacity conductors.

I. Disconnect Switches:

1. Non-fusable or fusible, heavy-duty, externally operated horsepower-rated, 600V A.C. Provide NEMA 3R, lockable enclosures for all switches located
on rooftops, in wet or damp areas and in any area exposed to the elements.

2. Fusible switches shall be Class “R”.

3. Amperage, Horsepower, Voltage and number of pole per drawings. All of which shall be clearly marked on the switch nameplate.

4. Provide the District’s project manager with one spare set of fuses and two sets of fuse clips/fuse for every set of fuses on the project.

J. Fuses:

1. Provide fuses at all locations shown on the Drawings and as required for supplemental protection.
   a. Fuses shall be manufactured by Bussman, Shawmut, or equal.
   b. All fuses shall be the product of a single manufacturer.

2. Main and Feeder Protection.
   a. Where rating of protective device is greater than 600A, provide Bussman Hi-Cap fuses, Class L, current limiting, having an interrupting rating of 200,000A RMS.
   b. Where rating of protective device is 600A or less, provide Bussman Class R fuses, Class RKI current limiting fuses, having an interrupting rating of 200,000A RMS.

   a. Where rating of protective device is greater than 600A, provide Bussman Hi-Cap fuses, Class L, current limiting, having an interrupting rating of 200,000A RMS.
   b. Where rating of protective device is 600A or less, provide Bussman Class RK series current limiting fuses, having an interrupting rating of 200,000A RMS.
   c. Where fuses feeding motors are indicated but not sized, it shall be the responsibility of the Contractor shall coordinate the fuse size with the motor to provide proper motor running protection.
   d. When rejection type fuses are specified (Class RK series) the fuse holder of all switches (specified in other Sections) shall be suitable for the fuses provided.

K. Cable Tray, Flexible Cable Tray and/or Cable Runway:
1. See drawings for Cable Tray, Flexible Cable Tray and/or Cable Runway specifications.

L. Uninterruptible Power Systems (UPS):
   1. See drawings for UPS schedules and specifications.

M. Power Distribution Units (PDU):
   1. See drawings for PDU schedules and specifications.

N. Generator Systems:
   1. See drawings for Generator schedules and specifications.

O. Transfer Switches:
   1. See drawings for Transfer Switch schedules and specifications.

P. Lighting Control Systems:
   1. See drawings for Lighting Control Systems schedules and specifications.
   2. Wall box dimmers shall be rocker-type as manufactured by Lutron - no known equal. Dimmers and dimmer faceplates shall match the color of adjacent switches and faceplates. Dimmers and dimmer faceplates in wood finished areas shall generally be black unless otherwise indicated by the District. The Contractor shall obtain written approval of the District regarding final dimmer and dimmer faceplate color selection prior to ordering material. Multiple dimmers switches shall be ganged together with a common cover plate. Provide dimmers as follows:
      a. Incandescent: Lutron DIVA DV-10P or DV-103P (3-way) (1000 Watt max.)
      b. Electronic Low Voltage: Lutron DIVA DVELV-300P or DVELV-303P-(3-way) (300 Watt)
      c. Magnetic Low Voltage: Lutron DIVA DVLV-10P or DVLV-303P (3-way) (800 Watt max.)
      d. Fluorescent (3-Wire): Lutron DIVA DVF-103P (single/3way, 8A @ 120v) or DVF-103P-277 (single/3way, 6A @ 277v)
e. Fluorescent (0-10V): Lutron DIVA MW-DV.


g. Fan Control: Lutron DIVA DVFSQ-F (1.5A @ 120V. max, 3 speed, single pole, 3-way)

Contractor shall verify if dimmer(s) requires derating when ganged. Provide Lutron H.P. module, Lutron Power Boosters, and/or Lutron Interfaces where required to accommodate loads higher than dimmers' standard or derated load carrying capacity.

Q. Fire Alarm System/Central Monitoring System:

1. See drawings for Fire Alarm System or Central Monitoring System specifications.

R. Transient Voltage Suppression TVSS:

1. See drawings for TVSS specifications.

S. Conduit:

1. Galvanized Rigid Conduit (GRC) shall be full weight threaded type steel. Steel conduit shall be protected by overall zinc coating to inside and outside surfaces, applied by the hot dip, metallizing, or sherardizing process.

2. Intermediate Metal Conduit (IMC), shall be hot-dipped galvanized in accordance with UL 1242 and meeting Federal Specification WWC-581 (latest revision).

3. Electrical Metallic Tubing (EMT) shall be zinc-coated steel with baked enamel or plastic finish on inside surfaces. EMT shall be dipped in a chromic acid bath to chemically form a corrosion-resistant protective coating of zinc chromate over galvanized surface.

4. Flexible metal conduit shall be constructed of aluminum or hot-dipped galvanized steel strips wound spirally with interlocking edges to provide greatest flexibility with maximum strength. Interior surfaces shall be smooth and offer minimum drag to pulling in conductors. Use only as directed in writing by the Engineer with the exception of 400 Hz feeders and 400 Hz branch circuits which shall be run in flexible aluminum conduit.

5. Liquid-tight conduit (Seal-Tite) shall be galvanized steel flexible conduit as above except with moisture and oil-proof jacket, pre-cut lengths and
factory-installed fittings. For outdoor installations and motor connections only unless otherwise noted on drawings.

6. Factory assembled, or off-site assembled wiring systems (such as Metal Clad (MC) Cable, Type AC Cable, Type NM Cable, Type BX Cable, etc...) shall not be used unless otherwise indicated in the Allowed Specification Deviations Section or Deductive/Additive Alternate Pricing Section generally located on the symbols list drawing.

7. When approved for use in the Allowed Specification Deviations Section, generally located on the symbols list drawing, MC cables shall be allowed for lighting branch circuits (homeruns shall be EMT), receptacle branch circuits (homeruns shall be EMT) and poke-thru fed systems furniture homeruns. MC shall not be used where exposed, except for a maximum 6' length for final connections to light fixtures, or terminate in electrical panelboards or distribution boards. Equipment ground conductor shall be green. Isolated ground conductor shall be green with yellow stripe. Provide 600V rated aluminum or lightweight steel interlocking armor Metal Clad (MC) cable with copper conductors, THHN (90 degree C) insulation, and integral equipment grounding conductor and isolated grounding conductor as required. Type AC cable listed for use in patient care areas per NEC or CEC where adopted, Article 517.13 shall be required in such areas in lieu of MC cable. MC cable shall be manufactured to UL Standard 1569.

8. Nonmetallic Flexible Tubing (ENT) shall not be used unless otherwise indicated in the Allowed Specification Deviations Section or Deductive/Additive Alternate Pricing Section generally located on the symbols list drawing. Use of ENT, if allowed, is strictly limited to use in CMU walls and parking structures decks or as directed in writing by the Engineer.

9. Non-Metallic Conduit:

a. Polyvinyl chloride (PVC) rigid conduit, Schedule 40, Type II for underground installation only with solvent welded joints, conforming to Underwriters Laboratories, Inc. (U.L.) requirements, listed for exposed and direct burial application.

b. Conduit and fittings shall be produced by the same manufacturer.
10. Fire-rated MC Cable:
   
a. 2-hour fire-rated, polymer insulated 600V MC cable listed and conforming to Underwriters Laboratories, Inc. (UL) 2196 & UL 1569 requirements for installation as an Electrical Circuit Protective System for use in complying with NEC, or CEC where adopted, Articles 695 and 700. Cable sheath shall be suitable for use as a NEC or CEC where adopted, equipment grounding conductor and shall be listed for use in wet locations to 90 degrees C. (Raychem or equal).

b. Cable connectors shall be brass MC connectors.

T. Fittings:

1. Conduit type fittings shall be smooth inside and out, taper threaded with integral insulating bushing and of the shapes, sizes and types required to facilitate installation or removal of wires and cables from the conduit and tubing system. These fitting shall be of metal, smooth inside and out, thoroughly galvanized, and sherardized cadmium plated.

2. Metallic conduit covers shall have the same finish as the fitting and shall be provided for the opening of each fitting where conductors do not pass through the cover.

3. Connector, coupling, locknut, bushings and caps used with rigid conduit shall be steel, threaded and thoroughly galvanized. Bushings shall be insulated.

4. U.O.N. all EMT fittings, connectors and couplings installed in concealed locations, areas not considered to be wet or damp locations by the AHJ, or areas not subject to physical damage, shall be steel, zinc or cadmium plated, threadless, compression, steel locking ring type with insulated throat. Where suitable for use, steel set screw fittings are allowed for trades sizes of 2" and smaller. Insulated throat is not required for fittings, connectors and couplings 1" and smaller.

5. All interior and exterior EMT fittings, connectors and couplings, 2" and smaller, installed in exposed or concealed locations that are considered by the AHJ to be wet or damp locations shall be rainite-listed, steel zinc or cadmium plated, threadless, compression, steel locking ring type with insulated throat. If rainite-listed, steel, zinc or cadmium plated, threadless, compression, steel locking ring type with insulated throat. If rainite-listed, EMT fittings, connectors and couplings are unavailable for a given trade size or if conduit is installed in an area subject to damage -- provide rigid metallic or intermediate metallic conduits, fittings, connectors and couplings as required.

6. Flexible steel conduit connectors shall be or malleable iron clamp or squeeze type or steel twist-in type with insulated throat. The finish shall be zinc or cadmium plating.
7. Conduit unions shall be "Erickson" couplings, or approved equal. The use of running threads will not be permitted.

U. 600 Volt Conductors - Wire and Cable:

1. All conductors shall be copper. Provide stranded conductor for #10 AWG and larger or when making flexible connections to vibrating machinery. Use compression "fork" type connectors or transition to solid conductors when connecting to switches, receptacles, etc.

2. Type THHN/THWN-2 thermoplastic, 600 volt, UL approved, dry and wet locations rated at 90 degrees Celsius, for conductors of all sizes from #12 AWG up to and including 1000 kcmil. RHH/RHW insulation is allowed only to provide an Electrical Circuit Protective System to comply with NEC, or CEC where adopted, Articles 695 and 700.

3. Wire and cable shall be new, manufactured not more than six (6) months prior to installation, shall have size, type of insulation, voltage rating and manufacturer's name permanently marked on outer covering at regular intervals.

4. Wire and cable shall be factory color-coded by integral pigmentation with a separate color for each phase and neutral. Each system shall be color-coded and it shall be maintained throughout.

5. Systems Conductor Color Coding:

a. Power 208/120V, 3PH, 4W:

   (1) Phase A = Black
   (2) Phase B = Red
   (3) Phase C = Blue
   (4) Neutral = White
   (5) Switchlegs = Purple (Switchlegs shall also be identified separately by numerical tags).
   (6) Travelers = Purple with Black stripe.

b. Power 480/277V, 3PH, 4W:

   (1) Phase A = Brown
   (2) Phase B = Orange
   (3) Phase C = Yellow
   (4) Neutral = Grey
   (5) Switch legs = Purple (Switchlegs shall also be identified separately by numerical tags).
   (6) Travelers = Purple with black stripe.

c. Ground Conductors: Green

d. Isolated Ground Conductors: Green with continuous yellow stripe.
e. Fire Alarm System: As recommended by the manufacturer.

6. All color-coding for #12 thru #6 AWG conductor shall be as identified above. Conductors #4 AWG and larger shall be identified with utilizing phase tape at each termination.

7. No conductors carrying 120 volt or more shall be smaller than #12 AWG.

8. Aluminum conductors shall not be used.

9. Wire-pulling compounds used as lubricants in installing conductors in raceways shall only be "Polywater J". No oil, grease, graphite, or similar substances may be used. Pulling of No. 1/0 or larger conductors shall be done with an approved cable pull machine. Other methods; e.g. using vehicles and block and tackle to install conductors are not acceptable.

V. Medium Voltage Conductors (greater than 600V):

1. See drawings for Medium Voltage Cable Schedule & Specifications.

W. Junction and Pullboxes:

1. For interior dry locations, boxes shall be galvanized one-piece drawn steel, knockout type, with removable, machine screw secured covers.

2. For outside, damp or surface locations, boxes shall be heavy cast aluminum or cast iron with removable, gasketed, non-ferrous machine screw secured covers.

3. For in-grade applications, junction and pull boxes shall be pre-cast concrete or molded fiberglass manufactured by Christy, Brooks-Jensen, or Utility Vault Co. fiberglass boxes shall:
   a. Be used only in landscape planter areas that are not subject to damage from lawnmowers, tractors and other machinery.
   b. Not be used in lawn or turf areas.
   c. Not exceed 11"W x 17"L in size unless required to be larger to meet code requirements.

4. All boxes shall be sized for the number and sizes of conductors and conduits entering the box and equipped with extension rings where required.

5. All boxes located in traffic areas shall be traffic rated.

X. Outlet Boxes:
1. For fixtures, boxes shall be galvanized, one-piece drawn steel, knockout type equipped with 3/8" fixture studs and plaster rings where required.

2. For convenience outlets, wall switches, or other devices, outlet boxes shall be galvanized one-piece drawn steel, knockout type 4" x 4" x 1-1/2" minimum size with plaster rings as required.

3. For locations where standard boxes are not suitable due to number and size of conduit to be terminated, special boxes shall be designed to fit space or meet other requirements and submitted for approval.

4. For exposure to weather, damp locations, or surface mounting, outlet boxes shall be heavy cast aluminum or cast iron with threaded hubs; covers shall be watertight with gaskets and non-ferrous screws.

5. Outlet boxes used for support of ceiling fans shall be galvanized, one-piece drawn steel, knockout type equipped with bracing bars & plaster rings where required and listed for ceiling fan support use. Such boxes shall be labeled and capable of supporting ceiling fan weights up to 70 pounds.

6. See drawings for floor box installation notes and specifications.

Y. Plywood Backboards: Where indicated for telephone or communications system terminals or other equipment assemblies, provide backboards of size indicated. Use 3/4" thick x 8' tall (length per plans), Douglas Fir, void-free, kiln-dried, fire-rated plywood finished on one side and prime coat painted on all surfaces with finish coat of enamel paint, color by District. Leave one (1) fire-rating stamp/sheet exposed for inspection.

Z. Terminal Cabinets:

1. Terminal cabinets shall be fabricated of hot dipped galvanized code gauge sheet metal for flush or surface mounting, complete with barriered sections, a door for each vertically barriered section and sizes as indicated on plan. Doors shall be hinged and lockable. Locks shall be keyed to match the branch circuit panelboards. Terminal cabinet trims shall match the branch circuit panels.

2. Provide each terminal cabinet with a full size plywood backboard.

3. Terminal cabinets shall be installed complete with full-length skirts of the same construction and finish as the terminal cabinet.

4. Where mounted outdoors, terminal cabinets shall be NEMA 3R, weatherproof complete with gaskets and required sealant to prevent moisture from entering the terminal cabinet.

5. All terminal cabinets and terminal cabinet barriered sections shall be labeled by the cabinet or cabinet section use (i.e. CATV, Security, etc). Labels shall be Micarta type as specified elsewhere in these specifications.
Unless otherwise noted, all termination blocks and cables shall be labeled per ANSI/EIA 507 standard.

AA. Painting: Terminal cabinets, panels, junction boxes, pull boxes, etc., and conduit installed in public view shall be painted with colors selected by the District to match the subject surface. Refer to painting section of the specifications for additional requirements.

BB. Seismic Design and Anchoring of Electrical Equipment:

1. Seismic Protection Criteria: All Electrical and Mechanical machinery installations provided, as part of this contract located in any Seismic Risk Zone of the Uniform Building Code Seismic Risk Map shall be protected from earthquakes in accordance with the Uniform Building Code and, as applicable, the state and local building codes and regulations. Protection criteria for these zones shall be a Horizontal Force Factor as prescribed by the UBC multiplied by the machinery weight considered passing through the machinery center of gravity in any horizontal direction. Unless vibration isolation is required to protect machinery against unacceptable structure transmitted noise and/or vibration, machinery shall be protected from earthquakes by rigid structurally sound attachment to the load supporting structure. The force factor and anchorage shall be determined by calculations performed and submitted to the District by a registered California professional engineer (civil or structural) hired by the contractor. The Contractor shall be responsible for the design of seismic restraint systems for all pieces of equipment weighing over 50 pounds including but not limited to the following:

   b. Conduits/Conduit support trapezes
   c. Transformers
   d. Light Fixtures
   e. Inverters, UPSs, RDCs, PDUs, Generators, Transfer Switches
   f. Cable Tray, Flexible Cable Tray, Ladder Tray
   g. Bus Duct

2. Seismic protection, labor, materials and design shall be included in the Contract sum.

CC. Trenching and Backfilling: Contractor shall be responsible for trenching and backfilling. Refer to Trenching and Backfilling section of the specifications for complete requirements.

PART 3 – EXECUTION

3.1 PREPARATION AND INSTALLATION

A. Installation of Conduit and Outlet Boxes:
1. All conduit installed in the dry walls or ceilings of a building shall be steel tube (EMT), aluminum tube (EMT), or Intermediate Metal Conduit (IMC). Flexible conduit shall not be used in lieu of EMT, IMC or rigid conduit except as noted herein.

2. Galvanized rigid conduit (GRC) or intermediate metal conduit (IMC) shall be used as follows:
   - when noted on the drawings.
   - when considered exposed to damage by the local AHJ.
   - when installed in wet or damp locations and of a trade size where listed-raintite fittings, connectors, couplings etc. are unavailable.
   - when required by NEC or CEC Article 517.13.
   - when installed in concrete and masonry. The use of ENT in CMU walls and parking structures may be allowed only as directed in writing by the Engineer. Request for ENT substitution must be made prior to bid and in accordance with pre-bid substitution requests requirements of these specifications.

3. Intermediate metal conduit (IMC), is approved for use in all locations as approved for GRC or EMT and in accordance with NEC, or CEC where adopted, Article 342.

4. Flexible steel conduit shall only be permitted to be used at light fixture outlets and connections to vibrating electrical equipment. All flexible steel conduit runs shall be less than 6'-0". All outdoor installation shall be made using liquid-tight flex with approved fittings. Include a separate insulated green ground conductor sized per NEC in each conduit. Other uses of flexible conduit shall be allowed only as approved in writing by the Engineer.

5. Flexible liquidtight conduit shall be installed in lieu of the flexible steel; where required by the NEC, or CEC where adopted, in damp and wet location, where exposed to weather, in refrigerated area (65°F or less), and/or between seismic joints. All rotating electrical equipment shall be supplied with flexible, liquid-tight conduit with appropriate slack and shall not exceed thirty-six (36) inches. Include a separate insulated green ground conductor sized per NEC in each conduit. Other uses of liquidtight flexible conduit shall be allowed as approved in writing by the Engineer on a case by case basis.

6. Rigid metallic conduit installed underground or embedded in concrete shall be 1" trade size minimum and shall be wrapped with 20 mil. Polyvinyl chloride plastic tape. PVC conduit installed underground or embedded in concrete shall be 3/4 " minimum trade size.
7. Where required for providing an Electrical Circuit Protective System to comply with NEC, or CEC where adopted, Articles 695 and 700, utilize UL listed 2-hour fire-rated, MC cable or UL listed 2-hour fire-rated RHH-RHW conductors in conduit.

8. Conduit shall be run so as not to interfere with other piping fixtures or equipment.

9. The ends of all conduit shall be cut square, carefully reamed out to full size and shall be shouldered in fitting.

10. No running threads will be permitted in locations exposed to the weather, in concrete or underground. Special union fittings shall be used in these locations.

11. Where conduit is underground, under slabs or grade, exposed to the weather, or in wet locations, make joints liquid tight and gas tight.

12. All metal conduit in masonry and concrete and where concealed under floor slabs shall have joints painted with thread compound prior to makeup.

13. PVC conduit shall not be run in walls.

14. Where conductors enter a raceway or a raceway in a cabinet, pull box, junction box, or auxiliary gutter, the conductors shall be protected by a plastic bushing type fitting providing a smoothly rounded insulating surface.

15. Where conduit extends through roof to equipment on roof area, this Contractor shall provide flashing material compatible with the roofing system as required by the roofing specifications or as required by the District’s roof warranty. This flashing shall be delivered to the roofing contractor for installation. The actual location of all such roof penetrations and outlets shall be verified by the District. Contractor to verify type of flashing prior to bid and include all costs.

16. All conduit shall be supported at intervals not less than 6'-0" and within 12" from any outlet and at each side of bends and elbows. Conduit supports shall be galvanized, heavy stamped, two-hole conduit clamp properly secured.

17. Where conduit racks are used the rack shall consist of two piece conduit clamps attached to galvanized steel slotted channels, properly secured via threaded rods attached directly to the building structure.

18. Nail-in conduit supports, one-piece set screw type conduit clamps or perforated iron for supporting conduit shall not be used.

19. Seismic Conduit Support:

   a. All conduit shall be supported in such a manner that it is securely attached to the structure of the building. Attachment is to be
capable of supporting the tributary weight of conduit and contents in any direction. Maximum spacing of support and braces are to be as follows:

<table>
<thead>
<tr>
<th>CONDUIT SIZE</th>
<th>MAXIMUM SPACING</th>
</tr>
</thead>
<tbody>
<tr>
<td>1/2&quot; to 3&quot;</td>
<td>6'-0&quot;</td>
</tr>
<tr>
<td>3-1/2&quot; to 4&quot;</td>
<td>8'-0&quot;</td>
</tr>
</tbody>
</table>

20. All conduit runs shall be installed parallel or perpendicular to walls, structural members, or intersection of vertical planes and ceilings. Field made bends and offset shall be avoided where possible. Crushed or deformed raceway shall not be installed.

21. Open knockouts in outlet boxes only where required for inserting conduit.

22. Locate wall outlet of the same type at same level in all rooms, except where otherwise noted.

23. Outlet boxes on metal studs shall be attached to metal hangers, tack welded or bolted to studs; on wood studs attachment shall be with wood screws, nails not acceptable.

24. Recessed boxes shall not be mounted back-to-back in any wall; minimum offset shall be 24 inches.

25. Junction Boxes that do not contain any device(s) shall be located in storage rooms, electrical closets, or above accessible ceilings, not in hard lid ceilings or other forms of inaccessible ceilings. Place boxes which must be exposed to public view in a location approved by the District's Project Manager. Provide covers or plates to match adjacent surfaces as approved by the District's Project manager.

26. Surface mounted pull boxes, terminal cabinets, junction boxes, panel boards etc., shall be attached to walls using appropriate screws, fasteners, backing plates, stud blocking etc., as detailed on Structural drawings. If Structural drawings do not contain this information, Contractor shall provide all necessary mounting hardware and backing support to comply with local building code requirements and any additional requirements imposed by the local Authority-Having-Jurisdiction.

27. Except where below grade, sleeves shall be installed where conduit passes through masonry or concrete walls and shall be 24 gauge galvanized steel no more than 1/2" greater in diameter than the outside diameter of the conduit. When located in non-rated structures, caulk conduit sleeve with stone wool. When located in fire rated structures, provide U.L. listed fire stopping system. See fire stopping section of this specification for additional requirements.
28. All boxes shall be covered with outlet box protector, Appleton SB-CK, or similar device / method to keep dirt / debris from entering box, conduit or panels. If dirt / debris does get in, it shall be removed prior to pulling wires.

29. All boxes installed outdoors shall be suitable for outdoor installations, gasketed, screw cover and painted as directed by the District with weatherproof paint to match building.

30. All conduit entries to outdoor mounted panels, cabinets, boxes, etc., shall be made using Myers "SCRU-TITE" hubs Series ST.

31. Provide nylon or a 1/8-inch O.D. polyethylene rope, rated at 250 pounds tensile strength, in all conduits more than 5 feet in length left empty for future use. Not less than 5 feet of rope shall be left at each end of the conduit. Tag all lines with a plastic tag at each end indicating the termination/stub location of the opposite end of the conduit.

32. All multiple conduit runs within suspended ceilings shall be suspended from building structure by means of unistrut hangers/racks. Conduit shall not be allowed to lay on ceiling or be supported from ceiling suspension wires or other suspension system. Support conduit to structure above suspended ceilings 8" minimum above ceiling to allow removal of ceiling tile. Maintain two-inch clearance above recessed light fixtures.

33. All exposed conduits and support hardware shall be painted to match the finish of the wall or ceiling to which it is supported.

34. Where conduits or wireways cross seismic joints, provide approved flexible conduit connection or approved expansion/deflection fitting to allow for displacement of conduit in all three axes. Connection shall allow for movement in accordance with design of seismic joint. Non-flexible raceways crossing expansion joints or other areas of possible structural movement shall make provision for 3-way movement at such points by means of expansion/deflection fittings. Fittings shall be installed in the center of their axes of movement and shall not be deflected to make part of a conduit bend, or compressed or extended to compensate for incorrect conduit expansion/deflection fittings(s) complete with ground jumpers.

Where necessary, provide approved expansion joints to allow for thermal expansion and contraction of conduit(s). Install expansion joints complete with ground jumpers.

35. Seal all conduits where termination is subject to moisture or where conduit penetrates exterior wall, floor or roof, in refrigerated areas, classified (hazardous areas) and as indicated on the drawings.

36. Except as otherwise indicated on the Drawings or elsewhere in these specifications, bends in feeder and branch circuit conduit 2 inches or larger shall have a radius or curvature of the inner edge, equal to not less than ten (10) times the internal diameter of the conduit. Except where
sweeping vertically into a building where sweep radius equals ten (10) times conduit diameter, underground communications and building interconnect conduits 3 inches or larger shall have a minimum 12'-6" radius or curvature of the inner edge. For the serving utilities, radius bends shall be made per their respective specifications.

37. Tag all empty conduits at each accessible end with a permanent tag identifying the purpose of the conduit, footage end-to-end, and the location of the other end. In wet, corrosive outdoor or underground locations, use brass, bronze, or copper 16 gauge tags secured to conduit ends with #16 or larger galvanized wire. Inscribe on the tags, with steel punch dies, clear and complete identifying information.

38. The following additional requirements shall apply to underground conduits:

a. Underground conduit shall be Schedule 40 PVC (polyvinyl chloride) unless otherwise indicated elsewhere in these specifications or as required per NEC, or CEC where adopted Article 517.13.

b. For all communications conduits, 2" and larger, and where feeders are 100 amps or greater, provide with a minimum 3" inch, (2,000 LB) concrete envelope, 2" inch minimum separation between conduits, installed at depth of not less than 24" below grade. (Provide concrete encasement and/or greater minimum conduit depth as required by the Utility Companies.) Conduit separation within a duct bank shall be maintained using plastic spacers located at 5'-0" intervals. Where power and communication conduits are run in a common trench, a 12" inch minimum separation shall be maintained between power and communication conduits or as required by Utility Companies.

c. In all cases, where any conduit(s) pass under a building slab or footing, the electrical contractor will provide a Bentonite clay or concrete barrier that conforms to the height and width of the trench excavation and is a minimum of 18" thick. In all cases, where conduit(s) pass thru a sleeve in a footing or other foundation element, the electrical contractor will provide a Bentonite clay or concrete barrier between the sleeve and the conduit(s) surrounding the conduit(s) for the entire depth of the sleeve. The barrier is required to prevent passage of moisture under or thru the slab or footing via the trench or sleeve.

d. Where underground conduit passes under a building slab, concrete encasement may not be required, except as required above, contact the Engineer for written direction prior to omitting any encasement.

e. Underground conduits, which terminate inside building(s) below grade, such as in a basement level, or which slope so that water
might flow into interior building spaces, shall be sealed at the point of penetration with a modular conduit seal (Link-Seal or equal by Rox Systems). Conduit/conduit sealing system penetrations of waterproofing membranes/systems on existing structures shall be completely restored as required to maintain membrane/system manufacturer and installer warrantee for the installation. All conduits shall be provided with a 4% slope away from buildings. All conduits shall be installed such that the water cannot accumulate in the conduit and such that water drains into the nearest manhole, pull box or vault – not into the facility. In instances where grade changes or elevation differences prevent sloping of conduit away from a building into the nearest manhole, pull box or vault or where accumulation of water in a manhole, pull box or vault may result in water traveling into the facility, conduits shall be sealed internally at each end of each conduit using conduit sealing bushing, sized as required for the conductors contained within the conduit (O-Z Gedney #CSBG 100psig withstand or equal). In all cases, install plugs or caps in spare (empty) conduits at both ends of each conduit (Jackmoon or equal) able to with seal both water and gas from entering the facility via the conduits.

f. Include a separate insulated green ground conductor sized per NEC, or CEC where adopted, in each underground electrical feeder / branch circuit.

g. All underground conduits with circuits rated at 40 amps or greater and all underground communications conduits shall be provided with a metallic marker tape located 12 inches below the finished grade.

h. Where underground conduits sweep into/thru slabs, utilize PVC 90 degree sweeps that transition, via female PVC adapter to GRC coupling mounted flush in slab. GRC couplings shall be 1/2 lap taped with 20-mil tape. If the distance of the conduit run between a sweep and the next connecting sweep, pullbox, vault or manhole exceeds 150 ft then the sweep shall be concrete encased. Exceptions:

i. Communications conduits shown terminating at a finished floor shall have an additional 4" high GRC nipple equipped with a bushing, removable conduit plug, labeling tag and pull rope. Tie off pull rope to conduit plug.

ii. Utility conduit sweeps shall be installed per the requirements of the respective utility company.

i. All PVC conduit shall be glued for a water and gas tight installation. The contractor shall use appropriate solvent on all joints prior to gluing conduit together.
39. Installation of Metal Clad (MC) Cable (when use is permitted in the Allowed Specification Deviations Section generally located on the symbols list drawing).

a. Provide J-box above accessible ceiling prior to running MC cable within partitions or walls. J-box shall be permanently labeled with panel identification and circuit numbers contained within.

b. Overhead MC cable runs shall generally follow building lines to provide a neat and workmanlike installation.

c. Provide code-sized j-boxes to accommodate MC cable splicing in general. For systems furniture poke-thrus feeds utilizing MC cable, transition from MC cables to conduit and wire near the panelboard in the TI accessible ceiling space on the floor below the panel board via code-sized gutter(s). Utilize UL listed, insulated barrier strips with recessed screw heads (Ideal #89-6?? Series or equal) fastened within the gutter(s), terminate MC conductors on one side of the strips(s) and individual conductors in conduit from the panelboard(s) on the other side of the strip(s). Label each terminal strip(s) with panel designation. Label each phase conductor with circuit number using wire markers (Ideal or equal). Wire nuts are not an acceptable alternative to the terminal strips in these underfloor transition locations. Provide (1) spare 3/4" conduit from each gutter to its respective panelboard.

d. MC cable shall not run directly into panelboards, distribution boards or electrical rooms.

e. MC cabling shall be provided with its own code-approved ceiling support wires, cable hangers, individual spring steel support clips, steel trapeze hangers, threaded roads or dedicated No. 10 AWG drop wire. Cable supports shall be fastened to concrete slabs, beams, joists or other structural members of the building. In no case shall MC cable rest on ceilings, suspended ceilings or structures. Do not support MC cable using ceiling support wires. The use of nylon cable ties to support MC cable is not allowed.

f. Use lock or spring nut MC cable fittings.

g. Cable runs shall be continuous from wiring device to wiring device – no intermediate splicing j-box(es) allowed.

h. When terminating or splicing at a junction, outlet, or switch box, cut the cable with an armored cable rotary cutter such that 6-inches of free conductors remain for connections or splices. Use screw-in or spring lock connector and ensure a proper bonding by firmly tightening the connector to both the box and cable. Insert an anti-short busing at cable ends to protect conductors from abrasion and use insulated connectors.
i. MC cable bend radius shall not be less than 7 times the external diameter of the cable.

j. MC cables passing through fire-rated walls or floors shall be firestopped as required with a UL listed system. See firestopping requirements outlined elsewhere in this specification for additional requirements.

k. Installation shall not exceed code requirements for total current carrying conductors in multiple MC cable runs bundled together into a single MC cable hanger or strap, unless support device is specifically listed for such purpose. Neutrals shall be counted as current carrying conductors.

l. Maintain MC cable clearance of at least 6 inches from hot water and any other high temperature pipes. Maintain at least 12-inches clearance between MC cable(s) and telecommunication conduits and cables. MC cable shall cross telecommunication cables and conduits at right angles.

m. MC cabling shall not be run thru exposed ceilings, where open grid conditions exist, exposed on walls, or exposed to view. See Power Plan and Lighting Plan General Notes for additional requirements.

40. Installation of Electrical Nonmetallic Tubing (ENT) Cable (when use is permitted in the Allowed Specification Deviations Section or Deductive/Additive Alternate Pricing Section generally located on the symbols list drawing).

a. When approved for use in the Allowed Specification Deviations Section or Deductive/Additive Alternate Pricing Section, generally located on the symbols list drawing, 1/2" & 3/4” trade size ENT shall be allowed for concealed lighting branch circuits, receptacle branch circuits and miscellaneous signal system circuits within concrete floors, walls and columns within parking structures.

b. ENT conduit shall meet the requirements of Underwriters Laboratories Standards 1479 & 1653, NEMA TC-13 and be UL listed.

c. All ENT conduit, ENT fittings, ENT boxes and ENT accessories shall be UL listed and manufactured by the same manufacturer so as to form a complete ENT system. ENT systems shall only be used if they are listed for use in fire resistance rated concrete floors and ceilings with resistance ratings as indicated elsewhere in the project plans. ENT system shall comply with NEC, or CEC where adopted, Article 362.

d. All ENT fittings and ENT boxes shall be concrete-tight listed without the use of tape. Additionally, ENT fittings shall be constructed of high impact PVC and able to resist ENT conduit pull out forces of a
minimum of 175 lbs. ENT fittings with fewer than 6 locking tabs for ENT connection shall utilize manufacturer approved glue as additional protection from fitting/conduit separation. ENT conduit to rigid conduit transition fittings shall be equipped with set screw fittings on the rigid conduit side of the fitting. ENT to metal box fittings shall be equipped with a threaded end and lock washer.

e. Where tubing enters a box, fitting or other enclosure provide a busing or adapter to protect conductors from abrasion unless the box, fitting enclosure design provides equivalent protection.

f. ENT junction boxes shall have brass screw inserts and shall be rated to support lighting fixtures weighing less than 50 lbs.

g. Concrete tight metal boxes shall be used to support pendant hung fixtures or fixtures over 50 lbs.

h. ENT shall be provided in continuous lengths between junction boxes without use of in-line splices or connectors and shall be clearly marked/labeled at least every 10-feet.

i. All ENT conduit containing electrical branch circuits shall contain a code-sized equipment ground conductor.

j. ENT shall transition to EMT, IMC, RMC, or rigid PVC, as appropriate or as called out elsewhere in this specification, for all exposed conduits within/on/under a parking structure.

k. ENT shall transition to appropriately sized PVC expansion joint(s) at all structure expansion or seismic joints.

l. ENT shall be securely fastened and supported every 2-3 ft. and within 1 ft. of every junction box and fitting to prevent movement and sag.

m. ENT shall be routed straight without sags, or excessive bending. Where bends are required, comply with Table 344.24 of the NEC for minimum radius of bends. Number of bends shall not exceed quantity allowed by code.

n. Separation of ENT from fitting(s), excessive sagas or deflections in ENT runs that prevent pulling of wire, and other ENT system product or system installation failures/errors shall be corrected by saw cutting and patching as necessary at no additional cost to the District. Use of surface mounted conduits and junction boxes as a repair method is unacceptable.

o. Empty ENT runs shall be provided with a nylon pull string.

p. Coordinate installation of raceway with structural steel and other structural members. Do not cut, notch or otherwise alter structural
members without obtaining approval in writing by the Structural Engineer of record.

q. No more than (2) ¾" ENT conduits may cross each other within a horizontal concrete slab without obtaining approval in writing by the Structural Engineer of record.

B. Installation of 600-Volt Conductors:

1. All electrical wire, including signal circuits, shall be installed in conduit.

2. All circuits and feeder wires for all systems shall be continuous from overcurrent protective device or switch to terminal or farthest outlet. No joints shall be made except in pull, junction or outlet boxes, or in panel or switchboard gutters.

   a. Utilize preinsulated "winged" spring type connectors, 3M Company "Performance Plus" #O/B or #RR/YY as required for splices and taps in conductors No. 6 AWG and smaller. When a spring connector is used in an underground environment or when subject to moisture, utilize a 3M Company Scotchcast 3507G epoxy resin connector sealing pack to seal the spring connector.

   b. Wires No 4 AWG and larger AWG shall be joined together as follows:

      i. When located in an underground environment or when subject to moisture, the splice shall be made with compression connector and sealed by a 3M, or equal, PST cold shrink connector insulator.

      ii. When located in an interior environment, the splice shall be made with an Ilsco or equal dual rated, insulated splice-reducer connector or multi-tap connector-listed for use with 75/90 degree Celsius rated conductors.

   c. Connections to busbar shall be made with dual-rated copper/aluminum one-piece compression lugs. Paralleled conductor connections shall be by mechanical lugs.

3. Thoroughly clean all conduit and wire-ways and see that all parts are perfectly dry before pulling any wires.

4. Install UL approved fixture wire from all lighting fixture lamp sockets into fixture outlet or junction box.

5. For 20 ampere branch circuit wiring, increase No. 12 conductors to No. 10 for 120 volt circuits longer than 100 feet and for 277 volt circuits longer than 150 feet.
6. Conductor Support. Provide conductor supports as required by codes and recommended by cable manufacturer. Where required, provide cable supports in vertical conduits and provide lower end of conduit with a ventilator.

C. Grounding / Bonding:

1. Provide grounding and bonding for entire electric installation as shown on plans, as listed herein and as required by applicable codes. Included, but not limited to, are items that require grounding / bonding:

   a. Conduit, Raceways and Cable Trays.
   b. Neutral or identified conductors of interior wiring system.
   c. Panel boards, Distribution Boards, Switchgear and Switchboards.
   d. Non-current carrying metal parts of fixed equipment.
   e. Telephone distribution equipment.
   f. Inverters, UPS, PDU, RDC, Transfer Switch and Generator Systems.
   g. Raised Flooring.
   h. Antennas.
   i. Lightning Protection Systems.
   j. Metal piping installed in or attached to a building/structure.
   k. Metallically isolated structural steel.
   l. Metallically isolated underground metal water piping.
   m. Elevator hydraulic piston/lift case.

2. In multi-occupancy buildings, Contractor shall bond metal water piping systems installed in, under or attached to a building and/or structure serving individual occupancies where the piping system(s) are metallically isolated from each other. Per NEC, or CEC where adopted Art. 250.104(A)(2) and (4), the bonding conductor shall be sized per Table 250.122 and connected to the switchboard/panelboard serving that suite/occupancy.

3. Use of Ground Rods: Furnish and install required number of 3/4" x 10' copper clad ground rods to meet specified resistance, all required grounding wires, conduit and clamps. The size of the grounding conductors shall be not less than that set forth in the latest edition of the California Code of Regulations, Title 24, State of California and NEC (CEC, where adopted), unless otherwise indicated. Rods shall be installed such that at least 10 feet of length is in contact with the soil. Where rock bottom is encountered, the electrode shall be driven at an oblique angle not to exceed 45 degrees from vertical or shall be buried in a trench that is at least 30 inches deep. The upper end of the electrode shall be flush with or below ground level unless the above ground end and the grounding electrode conductor attachments are protected against physical damage. Unless otherwise noted, connection to the grounding electrode conductor may be by compression type or exothermic process connector. Mechanical connectors shall not be used.

4. Grounding System Connection:

General Electrical Provisions
a. Compression connectors shall be unplated copper, manufactured by Burndy, or approved equal, designed specifically for the intended connection.

b. Exothermic weld-type connectors shall be 'Cadweld' manufactured by Erico Products, or approved equal, designed specifically for the intended connection.

c. Mechanical connectors shall not be used.

5. Isolated Ground Receptacles shall have an insulated ground wire connected between the receptacle and the panelboard isolated ground bus. Unless otherwise noted, this ground wire shall not be grounded at any other point, and shall be distinguished from other ground wires by a continuous yellow stripe.

6. Provide separate green equipment ground conductor in all electrical raceways, to effectively ground all fixtures, panels, controls, motors, disconnect switches, exterior lighting standards, and noncurrent carrying metallic enclosures. Use bonding jumpers, grounding bushings, lugs, busses, etc., for this purpose. Connect the equipment ground to the building system ground. Use the same size equipment ground conductors as phase conductors, up through #10 AWG. Use NEC (or CEC where adopted) Table 250.122 for conductor size with phase conductors #8 and larger, if not shown on the Drawings.

7. Clean the contact surfaces of all ground connections prior to making connections.

8. Ductwork. Provide a flexible ground strap, No. 6 AWG equivalent, at each flexible duct connection at each air handler, exhaust fan, and supply fan, and install to preclude vibration.

9. Motors. Connect the ground conductor to the conduit with an approved grounding bushing, and to the metal frame with a bolted solderless lug. Bolts, screws and washers shall be bronze or cadmium plated steel.

10. Building grounding system resistance to ground shall not exceed 25 ohms.

D. Line Voltage and Low Voltage Power Supplies to all Mechanical Equipment Including Plumbing, Heating and Air Conditioning Units;

1. An electric power supply, including conduit, any necessary junction and/or outlet boxes and conductors and connection shall be furnished and installed by this Contractor for each item or mechanical equipment.

2. Power supplies to individual items of equipment shall be terminated in a suitable outlet or junction box adjacent to the respective item of equipment, or a junction box provided by the manufacturer or the equipment and directed by the Mechanical Contractor. Allow sufficient lengths of conductor
at each location to permit connection to the individual equipment without breaking the wire run.

3. The location of all conduit terminations to the equipment is approximate. The exact location of these conduit terminations shall be located and installed as directed by the Mechanical and Plumbing Contractor.

4. Provide power supplies to all plumbing and mechanical equipment, including but not limited to, equipment furnished and installed by District or Contractor such as heating and air conditioning equipment, pumps, boilers, auto valves, water coolers, trap primers etc. The installation shall produce a complete and operable system.

5. Unless otherwise noted, this Contractor shall furnish and install all conduit, boxes, wires, etc., for line voltage wiring and low voltage wiring.

6. It is the Contractor's responsibility to verify with the Drawings of other trades regarding the extent of his responsibility for mechanical equipment. The bid must include a sum sufficient to cover the cost of the installation.

7. The location of all power supply connection and/or terminations to the mechanical equipment is approximate. The exact locations of these terminations shall be verified with other trades during construction.

E. Prefabricated Equipment: Installation of all prefabricated items and equipment shall conform to the requirements of the manufacturer's specifications and installation instruction pamphlets. Where code requirements affect installation of materials and equipment, the more stringent requirements, code or manufacturer's instructions and/or specifications, shall govern the work.

F. Firestopping:

1. The Contractor shall be responsible for furnishing all material, labor, equipment, and services, in conjunction with the selection and installation of a complete and fully functioning and code compliant UL-listed fire stop assembly/system(s) as required by project conditions.

2. Each fire stop assembly/system shall have an "F" and/or "T" rating as required by each condition requiring fire stopping. Each fire stop assembly/system shall have a current U.L. listing, as indicated in the latest edition of the U.L. Fire Resistance Directory. Contractor shall verify acceptability of all fire stopping methods and system selections with the authority having jurisdiction prior to installation. The Contractor shall install each firestop assembly/system in accordance with the manufacturer's printed instructions.

3. Each fire stop assembly/system shall be labeled with fire stop manufacturer-furnished label on each side of the fire stopping systems depicting UL # etc.

G. Housekeeping Pads

General Electrical Provisions 16010-35
1. Provide a minimum 3" high housekeeping pad above finished floor/finished grade for all exterior floor mounted switchgear, switchboards, distribution boards, transformers, motor control centers etc flush with the face of the equipment. Provide a minimum 3" high housekeeping pad for all floor mounted switchgear, distribution boards, transformers, motor control centers, transfer switches etc located in mechanical central plant(s) and other mechanical spaces flush with the face of the equipment. Confirm pad dimensions with local inspector prior to forming pad to ensure any local code interpretations/conditions regarding housekeeping pads are met.

2. Unless otherwise noted above, provide a minimum 1-1/2" high housekeeping pad above finished floor/finished grade for all interior floor mounted switchgear, switchboards, distribution boards, transformers, motor control centers, transfer switches etc flush with the face of the equipment. All housekeeping pad heights are as measured from finished floor or grade. Confirm pad dimensions with local inspector prior to forming pad to ensure any local code interpretations/conditions regarding housekeeping pads are met.

3. Provide a 1-1/2" high housekeeping pad above finished floor/finished for service equipment. Prior to pad rough-in, Contractor shall verify serving utility company's maximum meter height requirements and, if necessary, adjust height of housekeeping pad to comply with those requirements. In indoor applications, the pad shall be flush the face of the switchgear. In outdoor applications, the housekeeping pad shall extend a minimum of 4 feet from the front of switchgear/switchboard's weatherproof enclosure. Confirm pad dimensions with local inspector prior to forming pad to ensure any local code interpretations/conditions regarding housekeeping pads are met.

4. All housekeeping pads located in, on or attached to a building shall be seismically braced/connected to the building structure.

END OF SECTION
APPENDIX A:
• Project Geotechnical Report
December 16, 2009

South Orange County Community College District
28000 Marguerite Parkway
Mission Viejo, CA 92692-3635

Attention: Ms. Brandy D'Lena

Subject: Geotechnical Engineering Report
Proposed Great Lawn/Pedestrian Path Improvements
Irvine Valley College Campus Area
Irvine, California

Dear Ms. D'Lena:

Pursuant to your authorization, the accompanying geotechnical report has been prepared for the purpose of providing conclusions and recommendations with regard to the proposed improvements. Results of our investigation indicated that the proposed improvements are geotechnically-feasible provided that the recommendations contained herein are incorporated during design and construction of the project.

This geotechnical report should be reviewed and approved by the relevant governing agencies such as Department of State Architects (DSA) prior to proceeding with the planned development.

Should you have any questions regarding the information contained herein, please do not hesitate to call.

Respectfully submitted.

Civil Engineering Material Laboratory

[Signatures and seals]

Distribution: 4 – Addressee
1. **Introduction**

This report presents the geotechnical engineering conclusions and recommendations, provided by Civil Engineering Material Laboratory (C.E.M.) for the proposed Great Lawn/Pedestrian Path improvements adjacent to the performing Art Center at the Irvine Valley College Campus in Irvine, California. The proposed project location is the existing landscape area immediately adjacent to the Performing Arts Building. The approximate limits of the proposed improvements area identified on Plate 1.

2. **Project Description**

The project area is presently vacant and is covered by sparse vegetation. The proposed project improvements are as follows:

- Required earthwork for construction of the Great Lawn and Pedestrian Path improvements.
- Construct a system of pedestrian concrete walkways throughout the project area.
- Construct a system of pedestrian lighting throughout the project site.
- Install concrete benches and trash recepticals.
- Provide site drainage improvements.
- Provide site landscaping improvements.

3. **Purpose and Scope**

The purpose of C.E.M.'s geotechnical consulting was to provide geotechnical input for the design and construction of the proposed improvements. The scope of our services consisted of following tasks:

- Perform a limited site review.
- Meeting and discussions with the Project Architect with regard to the proposed improvements.
- Review of the available geotechnical data.
- Preparation of this report, presenting our conclusions and recommendations for the proposed improvements.
4. Geology and Seismicity

Site Geology

Information obtained from previous investigations at the Irvine Valley College, as well as the existing reports for the immediate surrounding buildings (i.e., Performing Art Center and Business Technology Building), indicated that the site is underlain by fill and alluvial soil. Up to 2 feet of fill soil has been encountered within the immediate area. The fill soil was generally comprised of mottled brown-gray, moist, soft to medium stilt, silty clay. Alluvial deposits are generally consist of interbedded layers of brown or gray to mottled brown-gray, moist to saturated, silty to sandy clay and clayey sands, and silty sands.

Ground Water

Ground water was generally encountered in the previous investigations, at an approximate depth of 25 feet below the existing ground surface. Based on a review of the State of California, Seismic Hazard Zone report and Seismic Hazard Zone Map for the Tustin Quadrangle, the highest historic ground water level at the site is shown as approximately 50 feet below the existing ground surface.

Geologic Setting

The proposed building is located within the Irvine Valley College campus in the city of Irvine.

Regionally, the subject site is located within the northern portion of the Peninsular Ranges Geomorphic Province of Southern California. The Peninsular Ranges Geomorphic Province consists of a series of northwest-trending mountain ranges and valleys and similarly oriented faults. The province extends from the Transverse Ranges southward to the tip of the Baja California Peninsula. The width of the province in Southern California extends from the Pacific Ocean on the west to the Colorado Desert on the east.

The Transverse Ranges Province is a seismically active region characterized by structural blocks separated by a series of northwest-trending strike-slip faults. These faults area a part of or related to the San Andreas Fault System.
The most prominent of these faults within the site area are the Whittier, Elsinore and Newport-Ingleswood Fault Zones, all of which are known to be active during Quaternary time.

Locally, the subject site is located within the Tustin Plain portion of the Orange County Coastal Plain. The Orange County Coastal Plain is considered a part of the larger Los Angeles Basin. The Tustin Plain is a relatively flat, alluvial plain located between two upland regions, the Santa Ana Mountains to the north and the San Joaquin Hills to the south. Several hundred feet of alluvial deposits underlie the site. These relatively recent alluvial sediments were generally deposited by local streams as active channel deposits and during times of flooding across the flood plains. These deposits generally consist of various mixtures of sand, silt, clay, and gravel.

**Faulting and Seismicity**

A risk common to all areas of Southern California that should not be overlooked is the potential for damage resulting from seismic events (earthquakes). The site is located within a seismically active area, as is all of Southern California. Although we are not aware of any active or potentially active faults on or within the immediate vicinity of the site, earthquakes generated on large regional faults such as the Newport-Inglewood, Elsinore, San Andreas, etc., could affect the site. The closest known active fault to the site is the northwest-trending Newport-Inglewood Fault Zone, located approximately 10 miles (15 km) southwest of the subject site.

The Newport-Inglewood Fault Zone is generally considered part of the larger, continuous Newport-Inglewood – Rose Canyon Fault Zone, which extends for a distance of approximately 150 miles from its onshore, northwestern termination along the Santa Monica fault near West Los Angeles and then southeast offshore. The fault zone reappears onshore near La Jolla and then continues southward into the San Diego Bay where it either terminates or continues into Baja, California. Motion along this fault zone is generally considered to be right-lateral, strike-slip with some component of vertical slip. This fault zone has an estimated slip rate of 0.8 to 2.1 millimeters per year and is thought to be capable of producing earthquakes between a moment magnitude 6.0 and 7.2 (Jennings, 1994).

The closest historically recorded moderate to large earthquake is moment magnitude 4.0 earthquake that had an epicenter located approximately 7 miles (11 km) from the site and occurred on August 22, 1936. This earthquake generated a peak ground acceleration of 0.037g at the site.
The largest recorded historical earthquake to affect the site was the March 11, 1933, Long Beach Earthquake, which had an epicenter located approximately 12 miles (19 km) southwest of the site on the offshore segment of the Newport-Inglewood Fault Zone. This earthquake had a moment magnitude of approximately 6.3 and generated an estimated peak ground acceleration of about 0.157g at the subject site.

The subject site is not located within a currently designated State of California Earthquake Fault Zone. Based on a review of the existing geologic information, no major surface fault crosses through or extends toward the site. The potential for surface rupture resulting from the movement of nearby major faults is not known with certainty but is considered low.

**Liquefaction Potential**

Liquefaction is a sudden loss of strength of a saturated, cohesionless soil caused by cyclic loading (i.e., earthquake shaking). Generally, liquefaction occurs in predominantly poorly consolidated granular soil where the groundwater depth is less than 50 feet. Even though the groundwater at the site is relatively shallow, the soil encountered in the project area is relatively cohesive soil and not susceptible for liquefaction. According to the Seismic Hazard Zone Map for the Tustin Quadrangle, the site is not mapped within a zone of potential liquefaction.

5. **Earth Work**

Prior to start of any grading operations, utility lines within the project area, if any, should be located and marked in the field so they can be rerouted or protected during site development. All debris and perishable material should also be removed from the site. It is anticipated that approximately 12 inches of removal will be required to discard the existing grass, vegetations and organic material. When fill is to be placed, the upper 8 inches of the exposed subgrade should be scarified, moisture-conditioned to about 2 to 4% above optimum moisture content, and compacted to minimum 90% relative compaction (1). Any loose soil that cannot be compacted should be removed and replaced. Fill soil should then be placed in

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1 Relative compaction refers to the in-place dry density of soil expressed as a percentage of the maximum dry density of the same material, as determined by the ASTM (D1557-00) test method. Optimum moisture content corresponding to the maximum dry density, as determined by the ASTM (D557-00) test method.
layers less than 8 inches in loose thickness, moisture conditioned, and compacted to at least 90% relative compaction.

6. **Foundation Design**

Foundation for the minor structures, i.e., light poles, planter retaining walls, etc. should be designed in accordance with the following criteria:

- Minimum footing embedment below subgrade 2 feet
- Minimum footing width 1.5 feet
- Allowable bearing capacity ($F_s \geq 3$).
  - Sustained loads (pounds per square foot) 2000 psf
  - Transient loads ($1/3$ allowable increase for wind and seismic) 2650 psf
- Resistance to lateral loads
  - Passive soil resistance (pounds per cubic foot) 200 pcf
  - Coefficient of sliding friction 0.4

The lateral resistance for footings may be calculated using the minimum of 50% of passive resistance plus 50% of base friction, 100% passive resistance only, or 100% base friction only. The upper one-foot of passive resistance should be neglected where the soil is not confined by the pavement or slab.

For properly constructed foundations in accordance with the foregoing criteria, total static post-construction settlement is estimated to be less than 1/2 -inch.

7. **Retaining Walls**

Cantilever retaining walls should be designed to resist an active-equivalent fluid pressure of 40 and 60 pounds per cubic foot (pcf) for horizontal and sloping (2:1 horizontal : vertical) back fill respectively. Appropriate allowances should be made for anticipated surcharge loading from adjacent structures. The recommended earth pressures assume that non-expansive, i.e., granular material will be utilized as back-fill, and a properly designed wall back drain system for mitigating the potential for hydrostatic forces will be installed.
8. Pedestrian Concrete Walkways

Due to the highly expansive nature of the site soils, it is recommended that a minimum 5-inch thick slab reinforced with No. 4 bars spaced at 18 inches on centers, both ways, be constructed. At the exterior edges of the walkways, a thickened edge is recommended. The thickened edges should be a minimum of 6 inches deep and 6 inches wide and reinforced with two No. 4 bars.

Proper installation of the control joints should be considered to reduce the risk of shrinkage cracking within the concrete. Construction joints (i.e. saw cut or form) should be provided at a maximum spacing of about 12 ½ feet or 1.25 times the minimum dimension of any panel. The depth of the joints should be at least one-quarter to one-third of the slab thickness and planned such as not to interrupt the steel.

9. Concrete

Laboratory testing of the soils within the immediate vicinity of the proposed improvement areas indicated that the surface soil at the site has negligible levels of sulfates. It is recommended that the concrete for the site improvements utilize at least type II cement with maximum 0.5 water/cement ratio. Good quality, type-F fly ash may be substituted for type II cement, but not more than one sack per cubic yard of concrete and not more than 20% of the total cementitious material.

Concrete mix design, materials, placement, curing, and finishing should be in conformance with the standard specifications for public works construction “Greenbook”, and American Concrete Institute (ACI) specifications.

10. Drainage

The site should be drained to provide for positive drainage away from structure in conformance with the applicable building codes and local requirements. Minimum 5% drainage is recommended directly away from the structures. Unpaved areas should slope a minimum of 2% away from structures. Paved areas should slope no less than 1% away from structures. Roof and surface drainage should be collected in engineered, non-erosive drainage devices and directed away from structures to a safe point of discharge.

The Project Civil Engineer is responsible for design of the site drainage.
11. Project Safety

The Contractor is the party responsible for providing safe site. The Geotechnical consultant will not direct the Contractor’s operations and will not be responsible for the personnel safety other than the Consultant’s representatives at the site. The Contractor is responsible to notify the project owner should he be aware and/or anticipate any unsafe conditions.
12. Limitations

This report has been prepared for this project in accordance with generally accepted geotechnical engineering practices common to the local area. No other warranty, expressed or implied, is made as to the conclusions and recommendations included in this report. The analyses and recommendations presented in this report are based on the literature review, field investigation, and laboratory testing conducted in the immediate vicinity of the project area as well as on our experience and judgment.

The recommendations and other information presented in this report area based on assumption that subsurface conditions do not vary appreciably at the site.

Observations during construction can help to confirm such assumptions. If different conditions are encountered during construction, recommendations presented in this report will be re-evaluated and modified as necessary. C.E.M. should be retained to provide construction services for the project in order to help confirm the validity of our assumptions and recommendations and to modify them if it becomes necessary. In accordance with CBC Chapter 17, Section 1704A, C.E.M. cannot assume responsibility or liability for the adequacy of recommendations if we do not provide construction services.

This report has been prepared for the exclusive use and benefit of our client. The intent of the report is to advise our client on geotechnical issues involved in the proposed construction project. It should be understood that the geotechnical conclusions and recommendations presented as well as contents of this report are not perfect. Any errors and/or omissions should be reported to C.E.M. in a timely fashion.