

IMPERIAL COMMUNITY COLLEGE DISTRICT

SPECIFICATIONS

FOR

TENNIS COURTS REPLACEMENT, SHADES, AND NEW LIGHTING

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IMPERIAL COMMUNITY COLLEGE DISTRICT

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IMPERIAL COMMUNITY COLLEGE DISTRICT

00 11 16 – NOTICE INVITING BIDS

1.1 Submittal of Bids.

- A. Imperial Community College District (“District”) will receive sealed bids received at the **Administrative Services Office, 380 E. Aten Road, Imperial, CA 92251, Building 10, Room 16** for the Tennis Court Replacement, Shades, and New Lighting project, no later than 2:00 P.M. on November 15, 2022, at which time or thereafter bids will be opened and read aloud. Bids shall remain valid for 60 Days after the bid opening date.

1.2 Pre-Bid Conference

- A. A Mandatory Pre-Bid Conference and Site Walk will be held at 380 E. Aten Road, Building 2000, Imperial, CA 92251 on the following date and time: Wednesday, October 26, 2022 at 10:00 A.M.
- B. District’s Representative will be present to discuss the Project. Bidders are required to attend and participate in the conference. Any Addenda issued by District in response to questions arising at the conference will be issued through Request for Information (RFI). Oral statements may not be relied upon and will not be binding or legally effective.

1.3 Bid Opening.

- A. Bids will be opened in public and read aloud at the closing time and place set forth above, as adjusted by District.
- B. Bids shall be valid for sixty (60) Days after the bid opening date.

1.4 Bid Documents.

- A. Bids must be submitted on District’s Bid Forms.
- B. Bidders may obtain a copies of the Contract Documents at <https://www.imperial.edu/about/request-for-proposals/>. To the extent required by section 20103.7 of the Public Contract Code, upon request from a contractor plan room service, District shall provide an electronic copy of the Contract Documents at no charge to the contractor plan room service.
- C. It is the responsibility of each prospective bidder to download and print all Bid Documents for review and to verify the completeness of Bid Documents before submitting a bid. Any Addenda will be posted at <https://www.imperial.edu/about/request-for-proposals/>. It is the responsibility of each prospective bidder to check the website on a daily basis through the close of bids for any applicable addenda or updates. District does not assume any liability or responsibility based on any defective or incomplete copying, excerpting, scanning, faxing, downloading or printing of the Bid Documents. Information on the bid documents may change without notice to prospective bidders. Please submit all

questions and comments electronically to the District by email to: construction-facilities@imperial.edu, including the Project name in the subject of the email.

1.5 Bid Security.

- A. Each Bid must be accompanied by cash, a certified or cashier's check, or a Bid Bond in favor of District in an amount not less than ten percent (10%) of the Total Bid Price. The Bid Security must be submitted in hard copy directly to District prior to the specified date and time for bid opening as set forth in the Instructions to and Information for Bidders.

1.6 Bonds.

- A. The successful bidder will be required to furnish District with Payment and Performance Bonds equal to 100% of the Contract Price. Bonds shall be on the forms included in the Contract Documents; District will not accept bonds on any other form.

1.7 Retention.

- A. District will withhold retention in the amount of 5% of each progress payment.
- B. Pursuant to Public Contract Code section 22300, the successful bidder may substitute certain securities for funds withheld by District to ensure his performance under the Contract.

1.8 Labor and Personnel.

- A. Pursuant to section 1770, et seq. of the California Labor Code, the Contractor and all Subcontractors shall pay not less than the prevailing rate of per diem wages as determined by the Director of the California Department of Industrial Relations and comply with all applicable Labor Code provisions, which include, but are not limited to the employment of apprentices, the hours of labor and the debarment of contractors and subcontractors.
- B. Pursuant to Labor Code sections 1725.5 and 1771.1, all contractors and subcontractors that wish to bid on, be listed in a bid proposal, or enter into a contract to perform public work must be registered with the Department of Industrial Relations. No bid will be accepted, nor any contract entered into without proof of the contractor's and subcontractors' current registration with the Department of Industrial Relations to perform public work. If awarded a Contract, the Bidder and its subcontractors, of any tier, shall maintain active registration with the Department of Industrial Relations for the duration of the Project.
- C. This Project is subject to compliance monitoring and enforcement by the Department of Industrial Relations. In bidding on this project, it shall be the Bidder's sole responsibility to evaluate and include the cost of complying with all labor compliance requirements under this contract and applicable law in its bid.

1.9 Licensing of Contractor.

- A. Unless otherwise provided in the Contract Documents, Contractor shall possess, at the time its Bid is submitted, at the time the Contract is awarded, and at all times when Work is performed, a valid license in accordance with the provisions of the Contractor's State License Law (Bus. & Prof. Code § 7000 et seq.) with the following California license classification: B - General Building Contractors' License.

1.10 Insurance for Acts of God

- A. The successful bidder shall provide Installation Floater/Builders Risk insurance including Acts of God for the total replacement cost of the Project, as described in Section 5 of the General Conditions.

1.11 Award of Contract.

- A. A Contract will be awarded to the responsible Bidder submitting the lowest responsive Bid. 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.
- B. If alternate bid items are called for in the Contract Documents, the lowest bid will be determined on the basis of the base bid and all alternates.

IMPERIAL COMMUNITY COLLEGE DISTRICT

Dated: October 14, 2022

By: 

Javier Luna
Director of Facilities, Planning, and Construction

END OF NOTICE INVITING BIDS

IMPERIAL COMMUNITY COLLEGE DISTRICT

00 21 13 - INSTRUCTIONS TO AND INFORMATION FOR BIDDERS

1.1 Preparation and Submission of Bid.

- A. Bids shall be submitted at the Administrative Services Office, 380 E. Aten Road, Imperial, CA 92251, Building 10, Room 16. No other method of submitting bids will be accepted. Bidders may not submit bids by fax, email, telephone, or other means.
- B. Bid shall be submitted on the Bid Forms provided with the Contract Documents and available at <https://www.imperial.edu/about/request-for-proposals/>. Bid shall be properly executed, all blank spaces shall be filled in, and any interlineations, alterations, or erasures shall be formally explained and initialed by the Bidder. Failure to comply with this requirement may be cause for rejection of Bid.
- C. Partial or incomplete Bids will not be considered. Bids shall be in strict conformity with the Contract Documents and any addenda thereto.
- D. It is the responsibility solely of Bidder to see that its Bid is properly submitted to Administrative Services Office in proper form and prior to the stated closing time.
- E. Bid shall show the full legal name and business address and California license number of Bidder, including its street address if different from its mailing address, shall be signed with the usual signature of the person or persons authorized to bind Bidder, and shall be dated. Bid by a partnership or joint venture shall list the full names and addresses of all partners or joint venturers. The State of Incorporation shall be stated and the corporate seal shall be affixed to any Bid to which a corporation is a party as a Bidder. The name of each signatory shall be typed or otherwise clearly imprinted below each signature. When requested by District, satisfactory evidence of the authority of any signatory on behalf of Bidder shall be furnished.
- F. The preparation of Bid shall be by and at the expense of Bidder.
- G. Bid shall be submitted in accordance with the directions set forth in the Notice Inviting Bids.
- H. Bids shall be firm for sixty (60) days from and after the stated closing time, or until a Contract is fully executed by District and Bidder, whichever is earlier.

1.2 Qualification of Bidder.

- A. If so indicated in the Notice Inviting Bids, only bids from pre-qualified bidders will be accepted.
- B. Bidder shall submit with its Bid an Experience Statement, substantially in the form set forth in the Bid Forms provided with the Contract Documents.
- C. District expressly reserves the right to reject any or all Bids.

1.3 Contractor's Performance.

- A. Bidder must self-perform a minimum of twenty percent (20%) of the work on the Project.

1.4 Examination of Contract Documents and Explanation to Bidder.

- A. Any Bidder planning to submit a Bid is responsible for examining with care the complete Contract Documents and all addenda and is also responsible for informing itself with respect to all conditions which might in any way affect the cost of performance of any Work. Failure to do so will be at the sole risk of Bidder, and no relief will be given for errors or omissions by Bidder.
- B. All questions relative to the Contract Documents shall be emailed electronically to the District by email at: construction-facilities@imperial.edu. Questions sent directly to District Staff will not be addressed and you will be directed to submit your questions online.
- C. Should Bidder find discrepancies in or omissions from the Contract Documents or should the intent or meaning of the Contract Documents appear unclear or ambiguous to Bidder, Bidder shall notify the District of such finding, by submission of request for an interpretation or correction to District. Any such submission must be sent to construction-facilities@imperial.edu. Questions sent directly to District Staff will not be addressed and you will be directed to submit your questions online. Such a finding must be submitted no later than the time specified in Section 00 21 13 Item 1.19 B. Replies to such notices may be made in the form of addenda duly issued and posted at <https://www.imperial.edu/about/request-for-proposals/>.
- D. Any interpretation of the Bid or Contract Documents will be made only by written addenda from District duly issued and posted at <https://www.imperial.edu/about/request-for-proposals/>. District will not be responsible for any explanations or interpretations provided in any other manner. No person is authorized to make any oral interpretation of any provision in the Bid or Contract Documents to any bidder, and no Bidder should rely on any such oral interpretation.

1.5 Site Inspection and Conditions, Surface and Subsurface Exploration Data.

- A. In addition to examination of the Contract Documents, Bidder shall become fully informed regarding all existing and expected conditions and matters which could affect any work or performance of any work in any way, and especially the cost of performing any work. Arrangements may be made for visiting the Site by contacting District's Representative.
- B. Any failure to fully investigate the Site or the foregoing conditions shall not relieve Bidder from responsibility for estimating the difficulty or cost of successfully performing any work. Neither District nor any of its representatives or agents assume any responsibility for any understanding or representation not in the Contract Documents with respect to the Site, surface and subsurface conditions made by District or any of its representatives or agents prior to the execution of a Contract pursuant to the Contract Documents.

- C. If available, limited data on surface and subsurface exploration may be reviewed without charge at District's office, during normal business hours. Whether or not such data are available will be indicated in the Special Conditions.
- D. Such surface and subsurface exploration data are not intended as representations or warranties of actual conditions to be encountered, but are furnished for information only. It is expressly understood that a Bidder using any data furnished to it, or made available to it for inspection, shall make its own interpretation of any and all such data and District will not be responsible for the accuracy or completeness of such data or interpretations.

1.6 District's Modification of the Contract Documents (Addenda).

- A. District reserves the right to revise the Bid and Contract Documents prior to the bid opening date. Revisions, if any, shall be made by written addenda. All addenda issued by District shall be made part of the Contract Documents. Addenda will be issued by District at <https://www.imperial.edu/about/request-for-proposals/>. Bidders are responsible for ensuring that they have received any and all addenda. Addenda shall also be acknowledged on the Bid Forms.

1.7 Alternate Bids.

- A. If alternate bid items are called for in the Contract Documents, the lowest bid will be determined on the basis of the base bid and all add alternates unless otherwise specified in the Notice Inviting Bids. The time required for completion of the alternate bid items has been factored into the Contract Time and no additional time will be allowed for performing any of the alternate bid items. Regardless of whether the alternates bid items will be considered in determining the low bid, District may elect to include one or more of the alternate bid items, or to otherwise remove certain work from the scope of Work. Accordingly, each Bidder must ensure that each bid item contains a proportionate share of profit, overhead and other costs or expenses which will be incurred by the Bidder.

1.8 Bidder's Modification and Withdrawal of Bid.

- A. Bidder may, without prejudice to itself, electronically modify or withdraw its Bid prior to the stated bid closing time. Following withdrawal of its Bid, Bidder may submit a new Bid, provided that such new Bid is received prior to the stated closing time.
- B. Any request to withdraw a bid after bid opening must be made in accordance with Public Contract Code section 5100 et seq. and must be submitted in writing within five (5) working days, excluding Saturdays, Sundays and State holidays, specifying in detail how the mistake was made.

1.9 Bid Forms.

- A. Schedule of Pay Items.
 - 1. The Schedule of Pay Items will be incorporated into the Contract Documents.
 - 2. Failure to submit the Schedule of Pay Items will render a bid nonresponsive.

3. Bidders must provide pricing for every bid item. The costs of any Work shown or required in the Plans and Specifications, but not specifically identified as a Pay Item are to be included in related Pay Items and no additional compensation shall be due Contractor by virtue of Contractor's compliance with the Plans and Specifications.
4. The estimated quantities for unit price items are for purposes of comparing bids only and District makes no representation that the actual quantities of work performed will not vary from the estimates.

B. Bid Security.

1. No Bid will be considered unless it is accompanied by a Bid Security of not less than ten percent (10%) of the Total for Comparison of Bids, as set forth in the Schedule of Pay Items. The Bid Security shall be in the form of (a) cash, (b) a cashier's check made payable to District, (c) a certified check made payable to District, or (d) a Bid Bond, in the form set forth in Section 00 41 43, Article 1.8 (with notary acknowledgement), executed by an admitted surety insurer, as defined in Code of Civil Procedure section 995.120, in favor of District.
2. The Bid Security must be submitted with the Bid Proposal.
3. Within a reasonable period of time after execution of a Contract pursuant to the Contract Documents, and in any event not later than sixty (60) days from the time the Contract is awarded, District will return to each Bidder the Bid Security which accompanied its Bid, except such Bid Security as may have been forfeited in accordance with the provisions of the Contract Documents.

C. All Other Bid Forms.

1. The following Bid Forms shall be completed by the Bidder:
 - a. Bidder shall sign and submit the Bid Acknowledgment on the form provided in Section 00 41 43, Article 1.1.
 - b. Bidder shall sign and submit a Noncollusion Declaration (with notary acknowledgement) on the form provided in Section 00 41 43, Article 1.3.
 - c. Bidder shall sign and submit a Designation of Subcontractors on the form provided in Section 00 41 43, Article 1.4.
 - d. Bidder shall sign and submit the Information Required of Bidders on the form provided in Section 00 41 43, Article 1.5.
 - e. Bidder shall sign and submit the Drug-Free Workplace Certification on the form provided in Section 00 41 43, Article 1.6.
 - f. Bidder shall sign and submit the Public Works Contractor Registration Certification on the form provided in Section 00 41 43, Article 1.7.
2. Failure to submit any of the forms listed above may render the Bid non-responsive.

1.10 Bonds; Certificates of Insurance and Endorsement Forms; Escrow Agreement; Taxpayer Identification Number.

- A. Successful Bidder shall furnish to District a Performance Bond and a Payment Bond on the forms provided in Section 00 61 13, Articles 1.1 and 1.2. The entire cost of these bonds shall be borne by successful Bidder.
- B. Successful Bidder shall furnish to District Certificates of Insurance and Endorsement Forms satisfactory to District attesting to the fact that the policies of insurance provided for in Article 5 of the General Conditions have been obtained.
- C. Successful Bidder may substitute securities in place of any funds withheld by District provided successful Bidder furnishes to District the Escrow Agreement on the form provided in the Contract Documents, as provided for in Public Contract Code section 22300. The entire cost of this Escrow Account shall be borne by successful Bidder.
- D. Successful Bidder shall furnish to District the Taxpayer Identification Number on the form provided in Section 00 61 13, Article 1.5, certifying the facts contained therein.

1.11 Bid Opening and Award of Contract.

- A. Bids will be kept unopened until the time stated for opening of Bids. At such time, the contents of Bid will be made public. No responsibility shall attach to District or any of its officers, employees or representatives for the premature opening of a Bid. All Bidders or their authorized representatives are invited to be present at Bid opening.
- B. The Contract will be awarded as a whole, as soon as practicable to lowest responsible Bidder submitting a responsive Bid, price and other factors considered, provided its Bid is reasonable and is in the best interest of District to accept.
- C. District expressly reserves the right to reject any or all Bids and to waive any minor irregularity in Bids received.
- D. Any Bid which, as determined by District, is so unbalanced among the various items in the Schedule of Pay Items, as to be detrimental to the interest of District may be rejected as non-responsive.
- E. The low Bidder shall execute the Contract and deliver it to District within 48 hours of receipt of District staff's notification of its intent to recommend award of the Contract.
- F. Successful Bidder will be notified in writing by District of the award of contract within sixty (60) days after opening of Bids. The successful Bidder will be required to submit to District properly executed Performance Bond, Payment Bond, Certificates of Insurance and Endorsement Forms, and Taxpayer Identification Number within ten (10) days after date of receipt of such Notice of Award. District will promptly determine whether such Bonds and Certificates of Insurance and Endorsement Forms are as required by the Contract Documents, and upon such determination will forward a fully signed copy of the Contract to successful Bidder.

G. The successful Bidder's failure to submit the required documents within the stated time may result in loss of the Contract and forfeiture of its bid security. The 10-day period shall be considered part of the Contract Time.

1.12 Licensing of Contractor.

A. Contractor shall possess, at the time its Bid is submitted, at the time the Contract is awarded, and at all times when Work is performed, a valid license in accordance with the provisions of the Contractor's State License Law (Bus. & Prof. Code § 7000 et seq.) with the license classification specified in Section 00 11 16, Article 1.9.

1.13 Retention and Substitution of Security

A. District will make monthly progress payments based upon work performed in accordance with the Contract Documents. Unless otherwise specified in the Notice Inviting Bids, District will retain five percent (5%) of each progress payment as provided by the Contract Documents. At the request and expense of the successful Bidder, the Contractor may substitute securities for the amount so retained in accordance with Public Contract Code section 22300. The escrow agreement in regard to Public Contract Code section 22300 is set forth in the Contract Documents.

1.14 Prevailing Wages.

A. District has obtained from the Director of the Department of Industrial Relations the general prevailing rate of per diem wages in the locality in which this work is to be performed for each craft or type of worker needed to execute the Contract. These rates are on file and available at District or may be obtained online at <http://www.dir.ca.gov/dlsr>. Bidders are advised that a copy of these rates must be posted by the successful Bidder at the job site(s).

1.15 Debarment of Contractors and Subcontractors.

A. In accordance with the provisions of the Labor Code, contractors or subcontractors may not perform work on a public works project with a subcontractor who is ineligible to perform work on a public project pursuant to section 1777.1 or section 1777.7 of the Labor Code. Any contract on a public works project entered into between a contractor and a debarred subcontractor is void as a matter of law. A debarred subcontractor may not receive any public money for performing work as a subcontractor on a public works contract. Any public money that is paid to a debarred subcontractor by the Contractor shall be returned to District. The Contractor shall be responsible for the payment of wages to workers of a debarred subcontractor used on the Work.

1.16 Concerning Subcontractors, Suppliers, and Others.

A. **Contractor shall self-perform at least twenty percent (20%) of the Work.**

B. Bidder's attention is directed to Public Contract Code section 4100 et seq. for requirements and provisions relative to Subcontractors.

- C. Pursuant to Public Contract Code section 4100 et seq., Bidder shall set forth in its Bid the name, contractor's license number, and the location of the place of business of each Subcontractor who will perform work or labor or render service to Bidder in or about the construction of the work or improvement, or a Subcontractor licensed by the State of California who, under subcontract to the Bidder, specially fabricates and installs a portion of the work or improvement according to detailed drawings contained in the plans and Contract Documents, in an amount in excess of one-half of 1 percent of the Bidder's total Bid, as well as the portion of the work which will be done by each Subcontractor. Bidder shall list only one Subcontractor for each portion as is defined by Bidder in its Bid. Bidder shall furnish information regarding its Subcontractors in substantially the form set forth in Section 00 41 43, Article 1.4. If no Subcontractors are to be used, other than within the limit set forth in this section, Bidder shall so state.
- D. Each Subcontractor shall possess at all times when it is performing Work, a valid license in accordance with the provisions of the Contractor's State License Law (Bus. & Prof. Code § 7000 et seq.) for the appropriate classification necessary to perform all Work to be performed by that Subcontractor.
- E. Pursuant to Labor Code sections 1725.5 and 1771.1, all contractors and subcontractors that wish to bid on, be listed in a bid proposal, or enter into a contract to perform public work must be registered with the Department of Industrial Relations. Bidder shall furnish evidence of registration by listing each listed subcontractor's DIR registration number in the form set forth in Section 00 41 43, Article 1.4.

1.17 Utilities.

- A. Where underground main distribution conduits such as water, gas, sewer, electric power, telephone or cable television are shown, Bidder, for the purpose of preparing its Bid, shall assume that every property parcel will be served by a service connection for each type of utility. All Work associated with the protection, removal, and/or replacement of such service laterals shall be deemed included in Schedule A of the Schedule of Pay Items, and Bidder shall not be compensated for such Work under Schedule B of the Schedule of Pay Items.

1.18 Bid Requirements and Understanding.

- A. Bids are to be submitted for the entire Work. All Bid items must be filled out, and extensions carried out as appropriate. A blank space will be considered nonresponsive. If zero is intended then a "0" must be entered for both unit price and amount.
- B. Bidder further agrees to accept as full payment for the Work specified herein, the amounts contained in the Schedule of Pay Items, based on the lump sum and unit price amounts, it being expressly understood that the unit prices are independent of the exact quantities involved. Bidder agrees that the lump sum amounts and unit price amounts represent a true measure of the labor, material, and equipment required to perform the Work, including all allowances for overhead and profit. If so requested by District, Bidder shall substantiate any price or prices with additional detailed price breakdown.
- C. Quantities for lump sum items are shown as "LS" under the unit column and shown as one (1), however all required Work for that item is inclusive. For example, a lump sum

item for potholing may involve several potholes in order to perform the required Work, and the price of that lump sum item shall remain unchanged for the duration of this Contract.

1.19 Pre-Bid Conference.

- A. A pre-Bid conference, if any, will be held as set forth in Section 00 11 16, Article 1.2. District's Representative will transmit to all prospective Bidders of record such Addenda as District's Representative considers necessary in response to questions arising at the conference. Oral statements may not be relied upon and will not be binding or legally effective.
- B. Bidders must submit any questions or requests for clarification electronically to the District by email to: construction-facilities@imperial.edu no later than 5:00 p.m. on November 2, 2022.

1.20 Bid Protest Procedure.

- A. Any bid protest relating to the form or content of the Bid or Contract Documents must be submitted in writing to District's Representative at least ten (10) business days before the original date set for the bid opening. Any bidder who submits a bid without making a protest shall be deemed to have waived any objection to the form or content of the Bid or Contract Documents not previously stated in writing.
- B. Submitted bids will be timely made available for review upon written request of any bidder. Bidders may file a "protest" of a Bid with District's Representative.
- C. The protest must:
 - 1. Be filed in writing within five (5) business days after the bid opening date;
 - 2. Clearly identify the alleged irregularity or other basis for the protest;
 - 3. Specify, in detail, the factual and legal grounds for the protest; and
 - 4. Include all relevant, supporting documentation with the protest at time of filing.
- D. If the protest does not meet all of these requirements, District may reject it without further review.
- E. If the protest is timely and complies with all of the above requirements, District's Representative, or other designated District staff member, shall review the protest, any response from the challenged bidder, and all relevant information. District will provide a written response to the protestor.
- F. The procedure and time limits set forth in this paragraph are mandatory and are the sole and exclusive remedy in the event of a bid protest. Failure to comply with these procedures shall constitute a failure to exhaust administrative remedies and a waiver of any right to further pursue the bid protest, including filing a Government Code Claim or legal proceedings.

END OF INSTRUCTIONS TO AND INFORMATION FOR BIDDERS

IMPERIAL COMMUNITY COLLEGE DISTRICT

00 41 43 - BID FORMS

1.1 Bid Acknowledgement.

FOR: Tennis Courts Replacement, Shades, and New Lighting

BIDDER: _____

- A. In response to the Notice Inviting Bids dated October 14, 2022, and in accordance with the accompanying Instructions to and Information for Bidders, the undersigned hereby proposes to District to furnish all plant, labor, technical and professional services, supervision, materials and equipment, other than materials and equipment specified as furnished by District, and to perform all operations necessary and required to construct the Project in accordance with the provisions of the Contract Documents and any addenda thereto, and at the prices stated opposite the respective items set forth in the Schedule of Pay Items.
- B. This Bid constitutes a firm offer to District which cannot be withdrawn for 60 days after the date set for opening of Bids, or until a Contract is executed by District and a third party, whichever is earlier.
- C. The undersigned certifies that it has examined and is fully familiar with all of the provisions of the Contract Documents and any addenda thereto; that it has carefully checked all of the words and figures shown in its Schedule of Pay Items; that it has carefully reviewed the accuracy of all statements in this Bid and attachments hereto; and that it understands and agrees that District will not be responsible for any errors or omissions on the part of the undersigned in preparing this Bid; and that it shall self-perform at least twenty percent (20%) of the Work.
- D. The undersigned has by careful examination of the Specification and any addenda thereto, and by examination of the actual Site conditions, satisfied itself as to the nature and location of all Work, the general and local conditions to be encountered in the performance of any Work, the requirements of the Contract and all other matters which can in any way affect the Work or the cost thereof.
- E. The low Bidder shall execute the Contract and deliver it to District within 48 hours of receipt of District staff's notification of its intent to recommend award of the Contract. If awarded a Contract, the undersigned agrees to execute and deliver to District within ten (10) days after date of receipt of Notice of Award, the necessary Performance Bond, Payment Bond, Certificates of Insurance and Endorsements, Escrow Agreement (if used) and Tax Identification Number. This 10-day period shall be considered part of the Contract Time.
- F. The following forms from the Specification, which have been completed and executed by undersigned Bidder, are incorporated by this reference and made a part of this Bid:

SCHEDULE OF PAY ITEMS
NONCOLLUSION DECLARATION
DESIGNATION OF SUBCONTRACTORS

INFORMATION REQUIRED OF BIDDERS
DRUG-FREE WORKPLACE CERTIFICATION
PUBLIC WORKS CONTRACTOR REGISTRATION CERTIFICATION
BID SECURITY

- G. Undersigned also acknowledges receipt, understanding, and full consideration of the following addenda to the Specification in preparing its bid:

Addenda Nos. _____ |

- H. The undersigned is hereby representing that it is and will be properly licensed both at the time that it submits a Bid as well as at the time the Contract is awarded, if the Contract is awarded to the undersigned.

1. Individual Contractor. Undersigned certifies that it is now licensed in accordance with the provisions of the Contractor's License Law of the State of California.

License number _____

Expiration date _____

License classification _____

2. Joint Venture. Undersigned certifies that the individual members of the joint venture are now licensed in accordance with the provisions of the Contractor's License Law of the State of California.

Member No. 1

Name _____

License number _____

Expiration date _____

License classification _____

Member No. 2

Name _____

License number _____

Expiration date _____

License classification _____

(If there are more than two members of the joint venture, attach a page for the additional member(s) with the above information.) |

I. The undersigned acknowledges that the representations made herein are made under penalty of perjury under the laws of the State of California.

BIDDER:

Bidder's Business Address:

(Company Name)

By _____
(Signature)

(Type or print name)

(Title)

(Where signed) (City, State)

(corporate seal)

Dated: _____, 20_____
State of Incorporation: _____

Names and addresses of all partners or joint venturers:

Statement of the authority of signatory to bind Bidder:

1.2 Bid Proposal.

IMPORTANT:

FAILURE TO COMPLETE THE BID PROPOSAL WILL RESULT IN AN INCOMPLETE AND NON-RESPONSIVE BID.

A. Bid Items Identified on the Contract Drawings.

The undersigned Bidder proposes and agrees to furnish and install the Work including, without limitation, providing and furnishing any and all labor, materials, tools, equipment and services necessary to complete, in a workmanlike manner in accordance with the Contract Documents for the sum of _____ Dollars (\$ _____).

The Bid Proposal Amount includes all Allowances set forth in Paragraph b. The Bidder confirms that it has checked all of the above figures and understands that neither the District nor any of its agents, employees or representatives shall be responsible for any assumptions, errors or omissions on the part of the undersigned Bidder in preparing and submitting this Bid Proposal.

Pay Items in Schedule A of the Bid Proposal are described in the Specifications and are identified on the Contract Drawings as to location.

In the case of unit price items, District reserves the right to increase or decrease the quantities up to twenty-five percent (25%) using the bid unit price (unless otherwise stated in the Contract Documents) to accommodate conditions encountered on the Project. These adjustments are considered to be within the original Contract scope and as such will not be considered as a basis for a change in the bid unit price or Contract Times.

If the actual quantities of a Pay Item exceeds twenty-five percent (25%), District and the Contractor will negotiate an equitable increase or decrease in the bid unit price in accordance with the Contract Documents.

B. Anticipated Scope Not Identified on the Contract Drawings.

The Bidder and District acknowledge that the Bid Proposal Price set forth above includes an Allowance Amount in the aggregate amount of One Hundred Sixty Thousand Dollars (\$160,000.00) for unforeseen conditions, as shown in Section 01 21 00 – Allowances of the Technical Conditions.

Although included in the Bid Proposal Price, Allowances belong solely to the District and shall be expended only upon written direction by the District, to be granted or denied in its sole discretion. Any Allowance amount not fully consumed shall belong solely to the District and shall be refunded to the District by a deductive change order. By submitting this Bid Proposal, the Bidder confirms that the Bid Price proposed in Paragraph 1.2.A is inclusive of all Allowances.

C. Additive or Deductive Bid Alternate Items.

The Bidder's proposed pricing for each Alternate Bid Item, if any, are set forth in the accompanying form of Alternate Bid Items Proposal, Attachment A. Failure of a Bidder to propose pricing for each Alternate Bid Item set forth in the accompanying Alternate Bid Items Proposal will result in the Bid Proposal being deemed non-responsive and rejected.

These pay items may be added to, or deducted from, the original Contract scope at the sole discretion of District. However, these alternates are considered to be within the original Contract scope and as such will not be considered as a basis for a change in the Contract Times.

1.3 Non-Collusion Declaration.

TO BE EXECUTED BY BIDDER AND SUBMITTED WITH BID

The undersigned declares:

I am the _____ of _____, the party making the foregoing bid.

The bid is not made in the interest of, or on behalf of, any undisclosed person, partnership, company, association, organization, or corporation. The bid is genuine and not collusive or sham. The bidder has not directly or indirectly induced or solicited any other bidder to put in a false or sham bid. The bidder has not directly or indirectly colluded, conspired, connived, or agreed with any bidder or anyone else to put in a sham bid, or to refrain from bidding. The bidder has not in any manner, directly or indirectly, sought by agreement, communication, or conference with anyone to fix the bid price of the bidder or any other bidder, or to fix any overhead, profit, or cost element of the bid price, or of that of any other bidder. All statements contained in the bid are true. The bidder has not, directly or indirectly, submitted his or her bid price or any breakdown thereof, or the contents thereof, or divulged information or data relative thereto, to any corporation, partnership, company, association, organization, bid depository, or to any member or agent thereof to effectuate a collusive or sham bid and has not paid, and will not pay, any person or entity for such purpose.

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

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

Signed: _____

Print Name: _____

1.4 Designation of Subcontractors.

In compliance with the Subletting and Subcontracting Fair Practices Act of the Public Contract Code of the State of California, sections 4100 et seq., each bidder shall set forth below: (a) the name and the location of the place of business and (b) the portion of the work which will be done by each subcontractor who will perform work or labor or render service to the Contractor in or about the construction of the work in an amount in excess of one-half of one percent (1/2%) of the Contractor's Total Bid Price. Notwithstanding the foregoing, if the work involves streets and highways, then the Contractor shall list each subcontractor who will perform work or labor or render service to Contractor in or about the work in an amount in excess of one-half of one percent (1/2%) of the Contractor's total Bid Price or \$10,000, whichever is greater. No additional time shall be granted to provide the below requested information.

If no subcontractor is specified, for a portion of the work, or if more than one subcontractor is specified for the same portion of Work, then the Contractor shall be deemed to have agreed that it is fully qualified to perform that Work, and that it shall perform that portion itself.

Portion of Work	Subcontractor Name <u>AND</u> CSLB License Number	Location of Business	DIR Registration Number

Portion of Work	Subcontractor Name <u>AND</u> CSLB License Number	Location of Business	DIR Registration Number

Name of Bidder _____

Signature _____

Name and Title _____

Dated _____

1.5 Information Required of Bidders.

A. Information About Bidder.

Failure to complete all information may render your bid non-responsive.
[***Indicate not applicable ("N/A") where appropriate.***]

NOTE: Where Bidder is a joint venture, pages shall be duplicated and information provided for all parties to the joint venture.

1. Name of Bidder: _____

2. Type, if Entity: _____

3. Bidder Address: _____

Facsimile Number Telephone Number E-Mail

4. How many years has Bidder's organization been in business as a Contractor?

5. How many years has Bidder's organization been in business under its present name? _____

a. Under what other or former names has Bidder's organization operated?:

6. If Bidder's organization is a corporation, answer the following:

a. Date of Incorporation: _____

b. State of Incorporation: _____

c. President's Name: _____

d. Vice-President's Name(s): _____

e. Secretary's Name: _____

f. Treasurer's Name: _____

7. If an individual or a partnership, answer the following:

a. Date of Organization: _____

b. Name and address of all partners (state whether general or limited partnership):

8. If other than a corporation or partnership, describe organization and name principals:

9. List other states in which Bidder's organization is legally qualified to do business.

10. What type of work does the Bidder normally perform with its own forces?

11. Has Bidder ever failed to complete any work awarded to it? If so, note when, where, and why:

12. Within the last five years, has any officer or partner of Bidder's organization ever been an officer or partner of another organization when it failed to complete a contract? If so, attach a separate sheet of explanation:

13. List Trade References:

14. List Bank References (Bank and Branch Address):

15. Name of Bonding Company and Name and Address of Agent:

B. List of Current Projects.

[***Duplicate Page if needed for listing additional current projects.***]

Project	Description of Bidder's Work	Completion Date	Cost of Bidder's Work	Contact Name & Phone

Project	Description of Bidder's Work	Completion Date	Cost of Bidder's Work	Contact Name & Phone

C. List of Completed Projects – Last Three Years.

[***Duplicate Page if needed for listing additional completed projects.***]

Please include only projects that are similar in size, scope and complexity to the Work to demonstrate Bidder's ability to perform the required Work.

Work Client	Description of Bidder's Work	Period of Performance	Cost of Bidder's Work	Contact Name & Phone

Work Client	Description of Bidder's Work	Period of Performance	Cost of Bidder's Work	Contact Name & Phone

D. Experience and Technical Qualifications Questionnaire.

The Bidder shall identify the key personnel to be assigned to this project in a management, construction supervision or engineering capacity. The Bidder may provide a current resume for each key personnel that is fully responsive to each question below.

1. List each person's job title, name and percent of time to be allocated to this project:

2. Summarize each person's specialized education:

3. List each person's years of construction experience relevant to the project:

4. Summarize such experience:

Bidder agrees that personnel named in this Bid will remain on this project in their designated capacities until completion of all relevant Work, unless replaced by personnel of equivalent experience and qualifications approved in advance by District.

E. Additional Bidder's Statements.

If the Bidder feels that there is additional information which has not been included in the questionnaire above, and which would contribute to the qualification review, it may add that information in a statement here or on an attached sheet, appropriately marked:

F. Verification and Execution.

These Bid Forms shall be executed only by a duly authorized official of the Bidder:

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

Name of Bidder_____

Signature_____

Name and Title_____

Dated_____

1.6 Drug-Free Workplace Certification.

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

(Contractor Name)

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

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

fulfill, satisfy and discharge all provisions of and obligations under the Drug-Free Workplace Act of 1990.

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

Executed at _____ this _____ day of _____, 20____.
(City and State)

(Signature)

(Printed or Typed Name)

1.7 Public Works Contractor Registration Certification

If this bid is due on or after March 1, 2015, then pursuant to Labor Code sections 1725.5 and 1771.1, all contractors and subcontractors that wish to bid on, be listed in a bid proposal, or enter into a contract to perform public work must be registered with the Department of Industrial Relations. See <http://www.dir.ca.gov/Public-Works/PublicWorks.html> for additional information.

No bid will be accepted nor any contract entered into without proof of the contractor's and subcontractors' current registration with the Department of Industrial Relations to perform public work.

Bidder hereby certifies that it is aware of the registration requirements set forth in Labor Code sections 1725.5 and 1771.1 and is currently registered as a contractor with the Department of Industrial Relations.

Name of Bidder: _____

DIR Registration Number: _____

Bidder further acknowledges:

1. Bidder shall maintain a current DIR registration for the duration of the project.
2. Bidder shall include the requirements of Labor Code sections 1725.5 and 1771.1 in its contract with subcontractors and ensure that all subcontractors are registered at the time of bid opening and maintain registration status for the duration of the project.
3. Failure to submit this form or comply with any of the above requirements may result in a finding that the bid is non-responsive.

Signature: _____

Name and Title: _____

Dated: _____

1.8 Bid Bond.

KNOW ALL PERSONS BY THESE PRESENTS that, _____ hereinafter called the Principal, and _____, a corporation duly organized under the laws of the State of _____, having its principal place of business at _____ in the State of _____, and authorized to do business in the State of California, hereinafter call the Surety, are held and firmly bound unto the Imperial Community College District, hereinafter called the Obligee, on order, in the sum of _____ Dollars (\$ _____) (being at least ten percent (10%) of the total amount of Principal's Bid price) lawful money of the United States, for the payment of which we bind ourselves, our heirs, executors, administrators, successors, and assigns, jointly and severally, firmly by these present.

THE CONDITIONS OF THIS OBLIGATION ARE SUCH THAT:

WHEREAS, the Principal has submitted its Bid for the project entitled _____ to the Obligee, the Bid, by reference thereto; being hereby made a part hereof.

NOW, THEREFORE, if Principal's Bid is rejected or, in the alternate, if the Proposal is accepted and the Principal signs and delivers a Contract and furnishes a Performance Bond and Payment Bond, all in the form and within the time required by the Bid and the Contract Documents, then this obligation shall become null and void, otherwise the same shall remain in full force and effect and upon default of the Principal shall be forfeited to the Obligee, it being expressly understood and agreed that the liability of the Surety for any and all default of the Principal shall be the amount of this obligation as herein stated, as liquidated damages.

The Surety, for value received, hereby agrees that its obligations and its bond shall not be impaired or affected by any extension of the time within which the Obligee may accept such Proposal, and the Surety hereby waives notice of any such extension.

In the event suit is brought upon this bond by the Obligee and judgment is recovered, the Surety shall pay, in addition to the sum set forth above, all costs incurred by the Obligee in such suit, including reasonable attorney's fees and expert witness fees, to be fixed by the court, in addition to the penal sum of the Bond.

Signed this _____ day of _____, 20____.

BY: SURETY

BY: PRINCIPAL

Notary Acknowledgment

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

STATE OF CALIFORNIA
 COUNTY OF _____

On _____, 20____, before me, _____, Notary Public, personally appeared _____, who proved to me on the basis of satisfactory

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

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

WITNESS my hand and official seal.

Signature of Notary Public _____

OPTIONAL

Though the information below is not required by law, it may prove valuable to persons relying on the document and could prevent fraudulent removal and reattachment of this form to another document.

CAPACITY CLAIMED BY SIGNER

- Individual
- Corporate Officer

_____ Title(s)

- Partner(s) Limited
- General

- Attorney-In-Fact
- Trustee(s)
- Guardian/Conservator
- Other:

Signer is representing:
 Name Of Person(s) Or Entity(ies)

DESCRIPTION OF ATTACHED DOCUMENT

_____ Title or Type of Document

_____ Number of Pages

_____ Date of Document

_____ Signer(s) Other Than Named Above

Note: Signature of person executing for Surety must be notarized and evidence of corporate authority attached.

END OF BID FORMS

IMPERIAL COMMUNITY COLLEGE DISTRICT

00 52 13 – CONTRACT

1.1 Contract for Construction.

This Contract is effective as of the _____ day of _____, 20____, by and between Imperial Community College District, a district organized and existing under the laws of the State of California ("District"), and _____ (Contractor).

The parties agree as follows:

- A. Contractor, for and in consideration of the payment to be made to Contractor as hereinafter provided, shall furnish all plant, labor, technical and professional services, supervision, materials and equipment, other than such materials and equipment as may be specified to be furnished by District, and perform all operations necessary to complete the Work in strict conformance with the Contract Documents (defined below) for the public work of improvement titled:

TENNIS COURTS REPLACEMENT, SHADES, AND NEW LIGHTING

Contractor is an independent contractor and not an agent of District. The Contractor and its surety shall be liable to District for any damages arising as a result of the Contractor's failure to comply with this obligation.

- B. Time is of the essence in the performance of the Work. The Work shall be commenced by the date stated in District's Notice to Proceed. The Contractor shall complete all Work required by the Contract Documents within one hundred twenty (120) calendar days following District's issuance of the Notice of Award, hereafter the Contract Times.
- C. Contractor has ten (10) Days following District's issuance of the Notice of Award to provide a properly executed Performance Bond, Payment Bond, Certificates of Insurance and Endorsements, Escrow Agreement (if used), and Taxpayer Identification Number. A Notice to Proceed will not be issued prior to District's receipt of the aforementioned items.
- D. District shall pay to the Contractor as full compensation for the performance of the Contract, subject to any additions or deductions as provided in the Contract Documents, and including all applicable taxes and costs, the sum of _____ Dollars (\$ _____), hereinafter, the Contract Price. Payment shall be made as set forth in the General Conditions. District will pay to Contractor compensation based upon the prices set forth in the Schedule of Pay Items.
- E. Contractor shall provide indemnification and defense as set forth in the General Conditions.
- F. No oral agreement or conversation with any representative or employee of District, either before or after the execution of the Contract shall affect or modify any of the terms or obligations herein contained. This Contract constitutes the entire agreement

between the parties hereto and no changes, alterations or modifications hereof shall be effective unless in writing and signed by District.

- G. The "Contract Documents" include only the following documents, each of which is incorporated into this Contract by reference:

- Notice Inviting Bids
- Instructions to Bidders
- Bid Acknowledgement
- Schedule of Pay Items
- Bid Security
- Designation of Subcontractors
- Information Required of Bidders
- Non-Collusion Declaration Form
- Iran Contracting Act Certification
- Public Works Contractor Registration Certification
- Performance Bond
- Payment (Labor and Materials) Bond
- General Conditions
- Special Provisions (or Special Conditions)
- Technical Specifications prepared by Sanders, Inc., dated June 2022
- Standard Specifications (Excluding sections 1-9 in their entirety)
- Addenda
- Plans prepared by Sanders, Inc. dated June 2022
- Change Orders executed by District

The Contactor shall complete the Work in strict accordance with all of the Contract Documents.

All of the Contract Documents are intended to be complementary. Work required by one of the Contract Documents and not by others shall be done as if required by all. In the event of a conflict, the various Contract Documents will be given effect in the order set forth in the General Conditions.

- H. Each and every provision of law required to be included in these Contract Documents shall be deemed to be included in these Contract Documents. The Contractor shall comply with all requirements of applicable federal, state and local laws, rules and regulations, including, but not limited to, the provisions of the California Labor Code and California Public Contract Code which are applicable to this Work.
- I. By my signature hereunder, as Contractor, I certify that I am aware of the provisions of Section 3700 of the Labor Code which require every employer to be insured against liability for worker's compensation or to undertake self-insurance in accordance with the provisions of that code, and I will comply with such provisions before commencing the performance of the work of this contract.

IN WITNESS WHEREOF, this Contract has been duly executed by the above-named parties, on the day and year above written.

IMPERIAL COMMUNITY COLLEGE DISTRICT

CONTRACTOR

By: _____

By: _____
(Authorized Representative of Contractor)

Printed Name: _____

Printed Name: _____

Title: _____

Title: _____
(Attach Acknowledgment for Authorized Representative of Contractor)

Dated: _____

License No.

Dated: _____

ATTEST:

Clerk of the Board

END OF CONTRACT

**00 61 13 - BOND FORMS;
CERTIFICATES OF INSURANCE AND ENDORSEMENT FORMS; TAXPAYER
IDENTIFICATION NUMBER**

1.1 Performance Bond.

KNOW ALL PERSONS BY THESE PRESENTS:

THAT WHEREAS, the Imperial Community College District (hereinafter referred to as "District") has awarded to _____, (hereinafter referred to as the "Contractor") an agreement for _____ (hereinafter referred to as the "Project").

WHEREAS, the work to be performed by the Contractor is more particularly set forth in the Contract Documents for the Project dated _____, (hereinafter referred to as "Contract Documents"), the terms and conditions of which are expressly incorporated herein by reference; and

WHEREAS, the Contractor is required by the Contract Documents to perform the terms thereof and to furnish a bond for the faithful performance of the Contract Documents.

NOW, THEREFORE, we, _____, the undersigned Contractor and _____ as Surety, a corporation organized and duly authorized to transact business under the laws of the State of California, are held and firmly bound unto District in the sum of _____ DOLLARS, (\$_____), the sum being not less than one hundred percent (100%) of the total amount of the Contract, for which amount well 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 the Contractor, his or its heirs, executors, administrators, successors or assigns, shall in all things stand to and abide by, and well and truly keep and perform the covenants, conditions and agreements in the Contract Documents and any alteration thereof made as therein provided, on its 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 all obligations including the one-year guarantee of all materials and workmanship; and shall indemnify and save harmless District, its officers and agents, as stipulated in the Contract Documents, then this obligation shall become null and void; otherwise it shall be and remain in full force and effect.

As a condition precedent to the satisfactory completion of the Project, unless otherwise provided for in the Contract Documents, the guarantee obligation shall hold good for a period of one (1) year after the acceptance of the work by District, during which time if Contractor shall fail to make full, complete, and satisfactory repair and replacements and totally protect District from loss or damage resulting from or caused by defective materials or faulty workmanship the above obligation in penal sum thereof shall remain in full force and effect. However, anything in this paragraph to the contrary notwithstanding, the obligations of Surety hereunder shall continue so long as any obligation of Contractor remains. Nothing herein shall limit District's rights or the Contractor or Surety's obligations under the Contract, law or equity, including, but not limited to, California Code of Civil Procedure section 337.15.

As a part of the obligation secured hereby and in addition to the face amount specified therefor, there shall be included costs and reasonable expenses and fees including reasonable attorney's fees, incurred by District in enforcing such obligation.

Whenever Contractor shall be, and is declared by District to be, in default under the Contract Documents, the Surety shall remedy the default pursuant to the Contract Documents, or shall promptly, at District's option:

1. Take over and complete the Project in accordance with all terms and conditions in the Contract Documents; or
2. Obtain a bid or bids for completing the Project in accordance with all terms and conditions in the Contract Documents and upon determination by Surety of the lowest responsive and responsible bidder, arrange for a Contract between such bidder, the Surety and District, and make available as work progresses sufficient funds to pay the cost of completion of the Project, less the balance of the contract price, including other costs and damages for which Surety may be liable. The term "balance of the contract price" as used in this paragraph shall mean the total amount payable to Contractor by District under the Contract and any modification thereto, less any amount previously paid by District to the Contractor and any other set offs pursuant to the Contract Documents.
3. Permit District to complete the Project in any manner consistent with California law and make available as work progresses sufficient funds to pay the cost of completion of the Project, less the balance of the contract price, including other costs and damages for which Surety may be liable. The term "balance of the contract price" as used in this paragraph shall mean the total amount payable to Contractor by District under the Contract and any modification thereto, less any amount previously paid by District to the Contractor and any other set offs pursuant to the Contract Documents.

Surety expressly agrees that District may reject any contractor or subcontractor which may be proposed by Surety in fulfillment of its obligations in the event of default by the Contractor.

Surety shall not utilize Contractor in completing the Project nor shall Surety accept a bid from Contractor for completion of the Project if District, when declaring the Contractor in default, notifies Surety of District's objection to Contractor's further participation in the completion of the Project.

The Surety, for value received, hereby stipulates and agrees that no change, extension of time, alteration or addition to the terms of the Contract to be performed thereunder, shall in any way affect its obligations on this bond, and it does hereby waive notice of any such change, extension of time, alteration or addition to the terms of Contract. including but not limited to the provisions of Sections 2819 and 2845 of the California Civil Code.

[Remainder of Page Left Intentionally Blank.]

IN WITNESS WHEREOF, we have hereunto set our hands and seals this _____ day of _____, 20__.

CONTRACTOR/PRINCIPAL

Name

By _____

SURETY:

By: _____
Attorney-In-Fact

Signatures of those signing for the Contractor and Surety must be notarized and evidence of corporate authority attached.

The rate of premium on this bond is _____ per thousand. The total amount of premium charges, \$_____.
(The above must be filled in by corporate attorney.)

THE FOLLOWING INFORMATION IS MANDATORY

Any claims under this bond may be addressed to:

(Name and Address of Surety) _____

(Name and Address of Agent or Representative for service of process in California, if different from above) _____

(Telephone number of Surety and Agent or Representative for service of process in California) _____

Notary Acknowledgment

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

STATE OF CALIFORNIA
 COUNTY OF _____

On _____, 20____, before me, _____, Notary Public, personally appeared _____, who proved to me on the basis of satisfactory

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

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

WITNESS my hand and official seal.

Signature of Notary Public _____

OPTIONAL

Though the information below is not required by law, it may prove valuable to persons relying on the document and could prevent fraudulent removal and reattachment of this form to another document.

CAPACITY CLAIMED BY SIGNER

- Individual
- Corporate Officer

_____ Title(s)

- Partner(s) Limited
- General

- Attorney-In-Fact
- Trustee(s)
- Guardian/Conservator
- Other:

Signer is representing:
 Name Of Person(s) Or Entity(ies)

DESCRIPTION OF ATTACHED DOCUMENT

_____ Title or Type of Document

_____ Number of Pages

_____ Date of Document

_____ Signer(s) Other Than Named Above

END OF PERFORMANCE BOND

1.2 Payment Bond (Labor and Materials).

KNOW ALL PERSONS BY THESE PRESENTS:

THAT WHEREAS, the Imperial Community College District (hereinafter referred to as "District") has awarded to _____, (hereinafter referred to as the "Contractor") _____ an agreement for _____ (hereinafter referred to as the "Project").

WHEREAS, the work to be performed by the Contractor is more particularly set forth in the Contract Documents for the Project dated _____, (hereinafter referred to as "Contract Documents"), the terms and conditions of which are expressly incorporated herein by reference; and

WHEREAS, Principal is required to furnish a bond in connection with the contract described above; providing that if Principal or any of its Subcontractors shall fail to pay for any materials, provisions, provender, equipment, or other supplies used in, upon, for or about the performance of the work contracted to be done, or for any work or labor done thereon of any kind, or for amounts due under the Unemployment Insurance Code or for any amounts required to be deducted, withheld, and paid over to the Employment Development Department from the wages of employees of Principal and its Subcontractors with respect to such work or labor the Surety on this bond will pay for the same to the extent hereinafter set forth.

NOW THEREFORE, we, the Principal and _____ as Surety, are held and firmly bound unto District in the penal sum of _____ Dollars (\$ _____) lawful money of the United States of America, for the payment of which sum well and truly to be made, we bind ourselves, our heirs, executors, administrators, successors and assigns, jointly and severally, firmly by these presents.

THE CONDITION OF THIS OBLIGATION IS SUCH that if Principal, his or its subcontractors, heirs, executors, administrators, successors or assigns, shall fail to pay any of the persons named in Section 9100 of the Civil Code, 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 amounts due under the Unemployment Insurance Code with respect to work or labor performed under the contract, or for any amounts required to be deducted, withheld, and paid over to the Employment Development Department or Franchise Tax Board from the wages of employees of the contractor and his subcontractors pursuant to Section 18663 of the Revenue and Taxation Code, with respect to such work and labor the Surety or Sureties will pay for the same, in an amount not exceeding the sum herein above specified, and also, in case suit is brought upon this bond, all litigation expenses incurred by District in such suit, including reasonable attorneys' fees, court costs, expert witness fees and investigation expenses.

This bond shall inure to the benefit of any of the persons named in Section 9100 of the Civil Code so as to give a right of action to such persons or their assigns in any suit brought upon this bond.

It is further stipulated and agreed that the Surety on this bond shall not be exonerated or released from the obligation of this bond by any change, extension of time for performance, addition, alteration or modification in, to, or of any contract, plans, 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 the time for any payment pertaining or relating to any

scheme or work of improvement herein above described, nor by any rescission or attempted 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 Surety be released from liability to those for whose benefit such bond has been given, by reason of any breach of contract between District and original contractor or on the part of any obligee named in such bond, but the sole conditions of recovery shall be that claimant is a person described in Section 9100 of the Civil Code, and has not been paid the full amount of his claim.

The Surety, for value received, hereby stipulates and agrees that no change, extension of time, alteration or addition to the terms of the Contract to be performed thereunder, shall in any way affect its obligations on this bond, and it does hereby waive notice of any such change, extension of time, alteration or addition to the terms of Contract. including but not limited to the provisions of Sections 2819 and 2845 of the California Civil Code.

IN WITNESS WHEREOF, two (2) identical counterparts of this instrument, each of which shall for all purposes be deemed an original thereof, have been duly executed by the Principal and Surety above named, on the _____ day of _____ 20____ the name and corporate seal of each corporate party being hereto affixed and these presents duly signed by its undersigned representative pursuant to authority of its governing body.

(Corporate Seal of Principal,
if corporation)

Principal (Property Name of Contractor)

By _____
(Signature of Contractor)

(Seal of Surety)

Surety

By _____
Attorney in Fact

Signatures of those signing for the Contractor and Surety must be notarized and evidence of corporate authority attached. A Power-of-Attorney authorizing the person signing on behalf of the Surety to do so must be attached hereto.

Notary Acknowledgment

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

STATE OF CALIFORNIA
 COUNTY OF _____

On _____, 20____, before me, _____, Notary Public, personally appeared _____, who proved to me on the basis of satisfactory

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

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

WITNESS my hand and official seal.

Signature of Notary Public _____

OPTIONAL

Though the information below is not required by law, it may prove valuable to persons relying on the document and could prevent fraudulent removal and reattachment of this form to another document.

CAPACITY CLAIMED BY SIGNER

- Individual
- Corporate Officer

_____ Title(s)

- Partner(s) Limited
- General

- Attorney-In-Fact
- Trustee(s)
- Guardian/Conservator
- Other:

Signer is representing:
 Name Of Person(s) Or Entity(ies)

DESCRIPTION OF ATTACHED DOCUMENT

_____ Title or Type of Document

_____ Number of Pages

_____ Date of Document

_____ Signer(s) Other Than Named Above

END OF PAYMENT (LABOR AND MATERIALS) BOND

1.3 Certificates of Insurance and Endorsement Forms.

Contractor shall furnish to District Certificates of Insurance and Endorsement Forms satisfactory to District attesting to the fact that the policies of insurance provided for in Article 5 of the General Conditions have been obtained.

1.4 Taxpayer Identification Number.

Contractor must complete and submit the Internal Revenue Service Form W-9 on the following page.

Request for Taxpayer Identification Number and Certification

**Give Form to the
requester. Do not
send to the IRS.**

Print or type See Specific Instructions on page 2.	Name (as shown on your income tax return)	
	Business name/disregarded entity name, if different from above	
	Check appropriate box for federal tax classification: <input type="checkbox"/> Individual/sole proprietor <input type="checkbox"/> C Corporation <input type="checkbox"/> S Corporation <input type="checkbox"/> Partnership <input type="checkbox"/> Trust/estate <input type="checkbox"/> Limited liability company. Enter the tax classification (C=C corporation, S=S corporation, P=partnership) ▶ _____ <input type="checkbox"/> Other (see instructions) ▶ _____	Exemptions (see instructions): Exempt payee code (if any) _____ Exemption from FATCA reporting code (if any) _____
	Address (number, street, and apt. or suite no.)	Requester's name and address (optional)
	City, state, and ZIP code	
List account number(s) here (optional)		

Part I Taxpayer Identification Number (TIN)

Enter your TIN in the appropriate box. The TIN provided must match the name given on the "Name" line to avoid backup withholding. For individuals, this is your social security number (SSN). However, for a resident alien, sole proprietor, or disregarded entity, see the Part I instructions on page 3. For other entities, it is your employer identification number (EIN). If you do not have a number, see *How to get a TIN* on page 3.

Social security number									

Note. If the account is in more than one name, see the chart on page 4 for guidelines on whose number to enter.

Employer identification number									

Part II Certification

Under penalties of perjury, I certify that:

- The number shown on this form is my correct taxpayer identification number (or I am waiting for a number to be issued to me), and
- I am not subject to backup withholding because: (a) I am exempt from backup withholding, or (b) I have not been notified by the Internal Revenue Service (IRS) that I am subject to backup withholding as a result of a failure to report all interest or dividends, or (c) the IRS has notified me that I am no longer subject to backup withholding, and
- I am a U.S. citizen or other U.S. person (defined below), and
- The FATCA code(s) entered on this form (if any) indicating that I am exempt from FATCA reporting is correct.

Certification instructions. You must cross out item 2 above if you have been notified by the IRS that you are currently subject to backup withholding because you have failed to report all interest and dividends on your tax return. For real estate transactions, item 2 does not apply. For mortgage interest paid, acquisition or abandonment of secured property, cancellation of debt, contributions to an individual retirement arrangement (IRA), and generally, payments other than interest and dividends, you are not required to sign the certification, but you must provide your correct TIN. See the instructions on page 3.

Sign Here	Signature of U.S. person ▶	Date ▶
------------------	----------------------------	--------

General Instructions

Section references are to the Internal Revenue Code unless otherwise noted.

Future developments. The IRS has created a page on www.irs.gov/w9 for information about Form W-9, at www.irs.gov/w9. Information about any future developments affecting Form W-9 (such as legislation enacted after we release it) will be posted on that page.

Purpose of Form

A person who is required to file an information return with the IRS must obtain your correct taxpayer identification number (TIN) to report, for example, income paid to you, payments made to you in settlement of payment card and third party network transactions, real estate transactions, mortgage interest you paid, acquisition or abandonment of secured property, cancellation of debt, or contributions you made to an IRA.

Use Form W-9 only if you are a U.S. person (including a resident alien), to provide your correct TIN to the person requesting it (the requester) and, when applicable, to:

- Certify that the TIN you are giving is correct (or you are waiting for a number to be issued),
- Certify that you are not subject to backup withholding, or
- Claim exemption from backup withholding if you are a U.S. exempt payee. If applicable, you are also certifying that as a U.S. person, your allocable share of any partnership income from a U.S. trade or business is not subject to the

withholding tax on foreign partners' share of effectively connected income, and

4. Certify that FATCA code(s) entered on this form (if any) indicating that you are exempt from the FATCA reporting, is correct.

Note. If you are a U.S. person and a requester gives you a form other than Form W-9 to request your TIN, you must use the requester's form if it is substantially similar to this Form W-9.

Definition of a U.S. person. For federal tax purposes, you are considered a U.S. person if you are:

- An individual who is a U.S. citizen or U.S. resident alien,
- A partnership, corporation, company, or association created or organized in the United States or under the laws of the United States,
- An estate (other than a foreign estate), or
- A domestic trust (as defined in Regulations section 301.7701-7).

Special rules for partnerships. Partnerships that conduct a trade or business in the United States are generally required to pay a withholding tax under section 1446 on any foreign partners' share of effectively connected taxable income from such business. Further, in certain cases where a Form W-9 has not been received, the rules under section 1446 require a partnership to presume that a partner is a foreign person, and pay the section 1446 withholding tax. Therefore, if you are a U.S. person that is a partner in a partnership conducting a trade or business in the United States, provide Form W-9 to the partnership to establish your U.S. status and avoid section 1446 withholding on your share of partnership income.

END OF BOND FORMS

IMPERIAL COMMUNITY COLLEGE DISTRICT

00 72 13 – GENERAL CONDITIONS

ARTICLE 1 -DEFINITIONS AND TERMINOLOGY

1.1 Defined Terms.

A. Wherever used in the Contract Documents and printed with initial capital letters, the terms listed below will have the meanings indicated which are applicable to both the singular and plural thereof. In addition to terms specifically defined below, terms with initial capital letters in the Contract Documents include references to identified articles and paragraphs, and the titles of other documents or forms.

1. Act of God -- Act of God is an earthquake of magnitude 3.5 or higher on the Richter scale or a tidal wave.
2. Addenda -- Written or graphic instruments issued prior to the submission of Bids which clarify, correct, or change the Contract Documents.
3. Additional Work -- New or unforeseen work will be classified as “Additional Work” when District’s Representative determines that it is not covered by the Contract.
4. Allowance -- A Bid Item contained in the Schedule of Pay Items contained in Section 00 41 43, for a specific element of the Work which may or may not be required for the completion of the Project. The Bid Item may include a predetermined cost for the specific element of the Work, or may require that Bidder estimate its cost, which District may unilaterally direct the Contractor to perform, or elect not to have performed. The Contractor will not be compensated for any portion of any Allowance not used.
5. Applicable Laws -- The laws, statutes, ordinances, rules, codes, regulations, permits, and licenses of any kind, issued by local, state or federal governmental authorities or private authorities with jurisdiction (including utilities), to the extent they apply to the Work.
6. Application for Payment -- The form acceptable to District’s Representative which is to be used by Contractor during the course of the Work in requesting progress or final payments and which is to be accompanied by such supporting documentation as is required by the Contract Documents.
7. Bid -- The offer or proposal of a Bidder submitted on the prescribed form setting forth the prices and other terms for the Work to be performed.
8. Bidder -- The individual or entity who submits a Bid directly to District.
9. Bidding Documents -- The Bidding Requirements and the proposed Contract Documents (including all Addenda).

10. Change Order ("CO") -- A document that authorizes an addition, deletion, or revision in the Work or an adjustment in the Contract Price or the Contract Times, issued on or after the Effective Date of the Contract, in accordance with the Contract Documents and in the form contained in the Contract Documents.
11. Change Order Request ("COR") -- A request made by the Contractor for an adjustment in the Contract Price and/or Contract Times as the result of a Contractor-claimed change to the Work. This term may also be referred to as a Change Order Proposal ("COP"), or Request for Change ("RFC").
12. Claim -- A demand or assertion by District or Contractor seeking an adjustment of Contract Price or Contract Times, or both, or other relief with respect to the terms of the Contract. A demand for money or services by a third party is not a Claim.
13. Contract -- The entire integrated written agreement between District and Contractor concerning the Work. "Contract" may be used interchangeably with "Agreement" in the Contract Documents. The Contract supersedes prior negotiations, representations, or agreements, whether written or oral, and includes all Contract Documents.
14. Contract Documents -- The documents listed in Section 00 52 13, Article 1.1.F. Some documents provided by District to the Bidders and Contractor, including but not limited to reports and drawings of subsurface and physical conditions are not Contract Documents.
15. Contract Price -- Amount to be paid by District to the Contractor as full compensation for the performance of the Contract and completion of the Work, subject to any additions or deductions as provided in the Contract Documents, and including all applicable taxes and costs.
16. Contract Times -- The number of days or the dates stated in the Contract Documents to: achieve defined Milestones, if any; and to complete the Work so that it is ready for final payment.
17. Contractor -- The individual or entity with which District has contracted for performance of the Work.
18. Contractor's Designated On-Site Representative -- The Contractor's Designated On-Site Representative will be as identified in Section 00 72 13, Article 2.6.B and shall not be changed without prior written consent of District.
19. District's Representative -- The individual or entity as identified in the Special Conditions to act as District's Representative.
20. Daily Rate -- The Daily Rate stipulated in the Contract Documents as full compensation to the Contractor due to District's unreasonable delay to the Project that was not contemplated by the parties.
21. Day -- A calendar day of 24 hours measured from midnight to the next midnight.

22. Defective Work -- Work that is unsatisfactory, faulty, or deficient; or that does not conform to the Contract Documents; or that does not meet the requirements of any inspection, reference standard, test, or approval referenced in the Contract Documents.
23. Demobilization -- The complete dismantling and removal by the Contractor of all of the Contractor's temporary facilities, equipment, and personnel at the Site.
24. Drawings -- That part of the Contract Documents prepared by of the Engineer of Record which graphically shows the scope, extent, and character of the Work to be performed by Contractor. Shop Drawings and other Contractor submittals are not Drawings as so defined.
25. Effective Date of the Contract -- The date indicated in the Contract on which it becomes effective, but if no such date is indicated, it means the date on which the Contract is signed and delivered by the last of the two parties to sign and deliver.
26. Engineer of Record -- The individual, partnership, corporation, joint venture, or other legal entity named as such in Section 00 73 13, Article 1.1. or any succeeding entity designated by District.
27. Green Book -- The current edition of the Standard Specifications for Public Works Construction promulgated by the Joint Cooperative Committee of the Southern California Chapter American Public Works Association and the Southern California Districts of the Associated General Contractors of California.
28. Hazardous Environmental Condition -- The presence at the Site of Hazardous Waste.
29. Hazardous Waste -- The term "Hazardous Waste" shall have the meaning provided in Section 104 of the Solid Waste Disposal Act (42 U.S.C. § 6903) as amended from time to time or, 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, whichever is more restrictive.
30. Holidays -- The Holidays occur on:
- New Year's Day - January 1
 - Memorial Day - Last Monday in May
 - Independence Day - July 4
 - Labor Day - First Monday in September
 - Veteran's Day - November 11
 - Thanksgiving Day - Fourth Thursday in November
 - Friday after Thanksgiving
 - Christmas Day - December 25

If any Holiday listed above falls on a Saturday, Saturday and the preceding Friday are both Holidays. If the Holiday should fall on a Sunday, Sunday and the following Monday are both Holidays.

31. Interfacing Work -- Work which connects to, abuts, or meets with work of another contractor
32. Liens -- Charges, security interests, or encumbrances upon Project funds, or personal property, including without limitation Stop Payment Notices.
33. Milestone -- A principal event specified in the Contract Documents associated with a required completion date or time prior to Completion of all the Work. Failure to achieve Milestones may result in Liquidated Damages as described in the Contract Documents.
34. Notice of Award -- The written notice by District to the Successful Bidder stating that upon timely compliance by the Successful Bidder with the conditions precedent listed therein, District will sign and deliver the Contract.
35. Notice of Completion -- The form which may be executed by District and recorded by the county where the Project is located constituting final acceptance of the Project.
36. Notice to Proceed -- A written notice given by District to Contractor fixing the date on which the Contractor may proceed with the Work and when Contract Times will commence to run.
37. Partial Utilization -- Use by District of a substantially completed part of the Work prior to Completion of all the Work.
38. Project -- The total construction of which the Work to be performed under the Contract Documents may be the whole, or a part.
39. Project Manual -- The bound documentary information prepared for bidding and constructing the Work. A listing of the contents of the Project Manual, which may be bound in one or more volumes, is contained in the table(s) of contents. The Project Manual may include documents that are not part of the Contract Documents.
40. Recyclable Waste Materials shall mean materials removed from the Site which are required to be diverted to a recycling center rather than an area landfill. Recyclable Waste Materials include asphalt, concrete, brick, concrete block, and rock.
41. Request for Information ("RFI") -- A written request made by the Contractor to District when requesting information or clarification related to the Contract Documents or the Work.
42. Request for Proposal ("RFP") -- A request made by District's Representative for a proposal from the Contractor for proposed changes in the Work.
43. Samples -- Physical examples of materials, equipment, or workmanship that are representative of some portion of the Work and which establish the standards by which such portion of the Work will be judged.
44. Schedule of Pay Items -- The form set forth in Section 00 41 43, Article 1.2.

45. Schedule of Submittals -- A schedule, prepared and maintained by Contractor, of required submittals and the time requirements to facilitate scheduled performance of related construction activities.
46. Shop Drawings -- All drawings, diagrams, illustrations, schedules, and other data or information which are specifically prepared or assembled by or for Contractor and submitted by Contractor to illustrate some portion of the Work.
47. Site -- Lands or areas indicated in the Contract Documents as being furnished by District upon which the Work is to be performed, including rights-of-way and easements for access thereto, and such other lands furnished by District which are designated for the use of Contractor.
48. Specifications -- That part of the Contract Documents consisting of written requirements for materials, equipment, systems, standards and workmanship as applied to the Work, and certain administrative requirements and procedural matters applicable thereto.
49. Stop Payment Notice -- A written notice as defined in Civil Code section 8044.
50. Subcontractor -- An individual or entity other than a Contractor having a contract with any other entity than District for performance of any portion of the Work at the Site.
51. Submittal -- Written and graphic information and physical samples prepared and supplied by the Contractor demonstrating various portions of the Work.
52. Successful Bidder -- The Bidder submitting a responsive Bid to whom District makes an award.
53. Supplier -- A manufacturer, fabricator, supplier, distributor, material man, or vendor having a direct contract with Contractor or with any Subcontractor to furnish materials or equipment used in the performance of the Work or to be incorporated in the Work.
54. Underground Facilities -- All underground pipelines, conduits, ducts, cables, wires, manholes, vaults, tanks, tunnels, or other such facilities or attachments, and any encasements containing such facilities, including those that convey electricity, gases, steam, liquid petroleum products, telephone or other communications, cable television, water, wastewater, storm water, other liquids or chemicals, or traffic or other control systems.
55. Unit Price Work -- Work to be paid for on the basis of unit prices as provided by the Contractor in its bid or as adjusted in accordance with the Contract Documents.
56. Warranty -- A written guarantee provided to District by the Contractor that the Work will remain free of defects and suitable for its intended use for the period required by the Contract Documents or the longest period permitted by the law of this State, whichever is longer.
57. Work -- The entire construction or the various separately identifiable parts thereof required to be provided under the Contract Documents. Work includes and is the result of performing or providing all labor, services, and documentation necessary

to produce such construction, and furnishing, installing, and incorporating all materials and equipment into such construction, all as required by the Contract Documents.

1.2 Terminology.

A. The words and terms below are not defined but, when used in the Contract Documents, have the indicated meaning.

B. Furnish, Install, Perform, Provide.

1. The word “furnish,” when used in connection with services, materials, or equipment, shall mean to supply and deliver said services, materials, or equipment to the Site (or some other specified location) ready for use or installation and in usable or operable condition.
2. The word “install,” when used in connection with services, materials, or equipment, shall mean to put into use or place in final position said services, materials, or equipment complete and ready for intended use.
3. The words “perform” or “provide,” when used in connection with services, materials, or equipment, shall mean to furnish and install said services, materials, or equipment complete and ready for intended use.
4. Regardless of whether “furnish,” “install,” “perform,” or “provide” is used in connection with services, materials, or equipment, an obligation of Contractor is implied.

C. Unless stated otherwise in the Contract Documents, words or phrases that have a well-known technical or construction industry or trade meaning are used in the Contract Documents in accordance with such recognized meaning.

ARTICLE 2 -PRELIMINARY MATTERS

2.1 Delivery of Contract Documents.

A. Within ten (10) days after receipt of the Notice of Award and before District will execute the Contract, the Contractor shall furnish and file with District the necessary Performance Bond, Payment Bond, Certificates of Insurance and Endorsements, Escrow Agreement (if used) and Tax Identification Number, as well as any other documents specified in the Contract Documents. This 10-day period shall be considered part of the Contract Times.

2.2 Bonds.

- A. Contractor shall submit the bonds on the forms provided with the Contract Documents, duly executed by a responsible corporate surety admitted to transact surety business in the State of California, as defined in Code of Civil Procedure section 995.120, and listed in the United States Department of the Treasury circular entitled "Companies Holding Certificates of Authority as Acceptable Sureties on Federal Bonds and as Acceptable Reinsuring Companies," authorized to do business in the State of California and acceptable to District conditioned upon the faithful performance by the Contractor of all requirements of the Contract Documents. Each of the bonds shall be in a sum no less than one hundred percent (100%) of the Contract Price.

2.3 Evidence of Insurance.

- A. Contractor shall obtain, at its sole cost and expense, all insurance required by Article 5. Certificates of such insurance and copies of the insurance policies and endorsements shall be delivered to District within ten (10) Days after receipt of the Notice of Award and before execution of the agreement for construction by District.

2.4 Execution of Contract.

- A. Upon receipt of the required Contract Documents, District will execute the Contract, establishing the Effective Date of the Contract.

2.5 Contractor's Failure to Perform.

- A. Should Contractor fail to comply with timelines provided above, District shall retain the right to enforce and collect on the Contractor's Bid Bond, rescind award to the Contractor and award the Contract to the next lowest responsive, responsible bidder as determined by District.

2.6 Commencement of Contract Times; Notice to Proceed.

- A. The Contract Times begin to run on the Day the Notice of Award is issued. District will not issue a Notice to Proceed until after the Effective Date of the Contract upon District's receipt of a properly executed Performance Bond, Payment Bond, Certificates of Insurance and Endorsements, Escrow Agreement (if used), and Taxpayer Identification Number. Work shall commence within fifteen (15) days of this date.
- B. No Work shall be done at the Site prior to the date stated in the Notice to Proceed.

2.7 Copies of Documents.

- A. District shall furnish to Contractor up to six (6) printed or hard copies of the Drawings and Project Manual. Additional copies will be furnished upon request at the cost of reproduction.

2.8 Substitution Requests, Preliminary Schedules and Schedule of Submittals.

- A. Substitution Requests.

1. Within fifteen (15) Days after Notice of Award (unless otherwise specified in the Contract Documents), Contractor shall provide all Substitution Requests as further described in Section 00 72 13, Article 6.6.

B. Preliminary Schedules and Schedule of Submittals.

1. Within ten (10) Days after the Effective Date of the Contract (unless otherwise specified in the Contract Documents) Contractor shall submit to District's Representative:
 - a. A preliminary Cost-Loaded CPM Progress Schedule indicating the times (numbers of Days or dates) for starting and completing each of the various stages of the Work, including any Milestones specified in the Contract Documents. Each activity shall be priced and include an appropriate amount of overhead and profit applicable to each item of Work, and represent a discreet element of Work to be performed by no more than one Contractor, Subcontractor or Supplier. Schedule constraints imposed by the Contract are found in the Special Conditions. If Contractor fails to incorporate these constraints into its schedule, Contractor will be solely liable for any delays or impacts resulting from this failure to comply; and
 - b. A preliminary Schedule of Submittals that conforms with the requirements of Section 00 72 13, Article 6.7.

2.9 Preconstruction Conference; Designation of Authorized Representatives.

Before any Work at the Site is started, a conference attended by District, Contractor, District's Representative, and others as appropriate will be held to establish a working understanding among the parties as to the Work and to discuss the schedules referred to herein, procedures for handling Shop Drawings and other submittals, processing Applications for Payment, and maintaining required records.

At this conference District and Contractor each shall designate, in writing, a specific individual to act as its authorized representative with respect to the services and responsibilities under the Contract. Such individuals shall have the authority to transmit instructions, receive information, render decisions relative to the Contract, and otherwise act on behalf of each respective party.

2.10 Initial Acceptance of Schedules.

- A. At least ten (10) Days before submission of the first Application for Payment a conference attended by Contractor, District's Representative, and others as appropriate will be held to review for acceptability to District's Representative the schedules submitted, as required by the Contract Documents. Contractor shall have an additional ten (10) Days to make corrections and adjustments and to complete and resubmit the schedules. No progress payment shall be made to Contractor until acceptable schedules are submitted to District's Representative.
- B. Acceptance of the schedules by District's Representative will not impose on responsibility for accuracy, for sequencing, scheduling, or progress of the Work, or

compliance with the Contract Documents. Acceptance will not interfere with or relieve Contractor from Contractor's full responsibility therefor.

2.11 Subcontractor Mobilization Meeting.

Prior to the start of each major Subcontractor's Site Work, the Contractor, the involved Subcontractor, and District's Representative shall attend a pre-start meeting to discuss the schedule, coordination, procedures, and other administrative issues.

ARTICLE 3 -CONTRACT DOCUMENTS: INTENT, AMENDING, REUSE

3.1 Intent.

- A. The Contract Documents are complementary; what is required by one is as binding as if required by all.
- B. It is the intent of the Contract Documents to describe a functionally complete Project (or part thereof) to be constructed in accordance with the Contract Documents. Any labor, documentation, services, materials, or equipment that reasonably may be inferred from the Contract Documents or from prevailing custom or trade usage as being required to produce the indicated result will be provided whether or not specifically called for, at no additional cost to District.
- C. Clarifications and interpretations of the Contract Documents shall be issued by District's Representative as provided in these General Conditions.
- D. If utilities to equipment/fixtures are not shown but are necessary to operate the equipment/fixtures, the utilities service installation is considered to be part of the Work. The implied Work will conform to the appropriate sections of the Contract Documents.
- E. Organization of the Contract Documents into divisions, sections, and articles, and arrangement of drawings shall not control the Contractor in dividing Work among subcontractors or in establishing the extent of Work to be performed by any trade.

3.2 Reference Standards.

A. Standards, Specifications, Codes, Laws, and Regulations.

- 1. Reference to Federal Specifications, Federal Standards, other standards, specifications, manuals, or codes of any technical society, organization, or association, or to Applicable Laws, whether such reference be specific or by implication, shall mean the standard, specification, manual, code, or Applicable Laws in effect at the time of opening of Bids (or on the Effective Date of the Contract if there were no Bids), except as may be otherwise specifically stated in the Contract Documents.
- 2. No provision of any such standard, specification, manual, or code, or any instruction of a Supplier, shall be effective to change the duties or responsibilities of District, Contractor, or District's Representative, or any of their subcontractors, consultants, agents, or employees, from those set forth in the Contract Documents. No such provision or instruction shall be effective to assign to District or District's

Representative, or any of their officers, directors, members, partners, employees, agents, consultants, or subcontractors, any duty or authority to supervise or direct the performance of the Work or any duty or authority to undertake responsibility inconsistent with the provisions of the Contract Documents.

3.3 Reporting and Resolving Discrepancies; Order of Precedence.

A. Reporting Discrepancies.

1. Before undertaking each part of the Work, Contractor shall carefully study and compare the Contract Documents and check and verify pertinent figures therein and all applicable field measurements. Contractor shall promptly report in writing to District's Representative any conflict, error, ambiguity, or discrepancy which Contractor discovers, should have discovered, or has actual knowledge of, and shall obtain a written interpretation or clarification from District's Representative before proceeding with any Work affected thereby.
2. If, during the performance of the Work, Contractor discovers any conflict, error, ambiguity, or discrepancy within the Contract Documents, or between the Contract Documents and (i) any applicable Law or Regulation, (ii) any standard, specification, manual, or code, or (iii) any instruction of any Supplier, then Contractor shall promptly submit a written RFI to District's Representative. Contractor shall not proceed with the Work affected thereby (except in an Emergency) until an amendment or supplement to the Contract Documents has been issued by one of the methods indicated in the Contract Documents, and any Work performed by Contractor before receipt of an amendment or supplement shall be at Contractor's own risk.

B. Resolving Discrepancies; Order of Precedence.

1. Except as may be otherwise specifically stated in the Contract Documents, the provisions of the Contract Documents shall take precedence in resolving any conflict, error, ambiguity, or discrepancy between the provisions of the Contract Documents and:
 - a. the provisions of any standard, specification, manual, or code, or the instruction of any Supplier (whether or not specifically incorporated by reference in the Contract Documents); or
 - b. the provisions of any Applicable Laws (unless such an interpretation of the provisions of the Contract Documents would result in violation of such Applicable Law).
2. In resolving conflicts among any of the Contract Documents, the order of precedence shall be as follows:
 - a. Permits from other agencies as may be required by law;
 - b. Change Orders or Pending Change Orders, most recent first
 - c. Contract;
 - d. Addenda, most recent first;
 - e. Special Conditions;
 - f. Technical Conditions;
 - g. Drawings;
 - h. General Conditions;
 - i. Instructions to and Information for Bidders;
 - j. Invitation to Bid;
 - k. Contractor's Bid (Bid Forms);
 - l. Green Book (except Section 1 – 9, which are specifically excluded);
 - m. Referenced District Standard Specifications.
3. With reference to the Drawings the order of precedence shall be as follows:
 - a. Figures govern over scaled dimensions;
 - b. Detail drawings govern over general drawings;
 - c. Addenda/Change Order drawings govern over Drawings;
 - d. Drawings govern over standard drawings.

4. Notwithstanding the orders of precedence established above, in the event of conflicts, the higher standard, higher quality and most expensive shall always apply.

3.4 Amending and Supplementing Contract Documents.

- A. The Contract Documents may be amended to provide for additions, deletions, and revisions in the Work or to modify the terms and conditions thereof only by a Change Order.
- B. The requirements of the Contract Documents may be supplemented, and minor variations and deviations in the Work may be authorized at no cost to District, by one or more of the following ways:
 1. District's Representative's review of a Submittal, Shop Drawing, Sample or Substitution Request without exception (subject to the provisions of the Contract Documents); or
 2. District's Representative's issuance of a response to an RFI.

However, no review or RFI response will reduce or modify the Contractor's obligation to fully satisfy and comply with the requirements of the Contract Documents.

3.5 Reuse of Documents.

- A. Contractor and any Subcontractor or Supplier shall not:
 1. have or acquire any title to or Ownership rights in any of the Drawings, Specifications, or other documents (or copies of any thereof) prepared by or bearing the seal of Engineer of Record or its consultants, including electronic media editions; or
 2. reuse any such Drawings, Specifications, other documents, or copies thereof on extensions of the Project or any other project without written consent of District and Engineer of Record and specific written verification or adaptation by Engineer of Record.
- B. The prohibitions of this Article 3.5 will survive final payment, or termination of the Contract. Nothing herein shall preclude Contractor from retaining copies of the Contract Documents for record purposes.

3.6 Electronic Data.

- A. Unless otherwise stated in the Special Conditions, the data furnished by District or District's Representative to Contractor, or by Contractor to District or District's Representative, that may be relied upon are limited to the printed copies (also known as hard copies). Files in electronic media format of text, data, graphics, or other types are furnished only for the convenience of the receiving party. Any conclusion or information obtained or derived from such electronic files will be at the user's sole risk. If there is a discrepancy between the electronic files and the hard copies, the hard copies govern.

- B. Because data stored in electronic media format can deteriorate or be modified inadvertently or otherwise without authorization of the data's creator, the party receiving electronic files agrees that it will perform acceptance tests or procedures within sixty (60) Days, after which the receiving party shall be deemed to have accepted the data thus transferred. Any errors detected within the 60-Day acceptance period will be corrected by the transferring party.
- C. When transferring documents in electronic media format, the transferring party makes no representations as to long term compatibility, usability, or readability of documents resulting from the use of software application packages, operating systems, or computer hardware differing from those used by the data's creator.

**ARTICLE 4 -AVAILABILITY AND OWNERSHIP OF LANDS AND MATERIALS;
SUBSURFACE AND PHYSICAL CONDITIONS; UNDERGROUND UTILITIES;
TRENCHING; HAZARDOUS ENVIRONMENTAL CONDITIONS; REFERENCE POINTS**

4.1 Availability of Lands.

- A. District shall furnish the Site. District shall notify Contractor of any encumbrances or restrictions not of general application but specifically related to use of the Site with which Contractor must comply in performing the Work. District will obtain in a timely manner and pay for easements for permanent structures or permanent changes in existing facilities.
- B. Contractor shall provide for all additional lands and access thereto that may be required for temporary construction facilities or storage of materials and equipment at no additional cost to District.

4.2 Ownership of Site Materials Found.

- A. The title to water, soil, rock, gravel, sand, minerals, timber and any other materials developed or obtained in the excavation or other operations of Contractor or any of its Subcontractors in the performance of the Contract, and the right to use said items in carrying out the Contract, or to dispose of same, is hereby expressly reserved by District. Neither Contractor nor any of its Subcontractors nor any of their representatives or employees shall have any right, title, or interest in said materials, nor shall they assert or make any claim thereto. Contractor will, as determined by District's Representative, be permitted to use in the Work without charge, any such materials which meet the requirements of the Contract Documents, provided District shall have the right to use or consume these materials without payment to a third party.

4.3 Subsurface and Physical Conditions.

- A. Reports and Drawings. The Special Conditions identify:
 - 1. those reports known to District of explorations and tests of subsurface conditions at or contiguous to the Site; and
 - 2. those drawings known to District of physical conditions relating to existing surface or subsurface structures at the Site (except Underground Facilities).

- B. Limited Reliance by Contractor on Technical Data Authorized. Contractor may rely upon the accuracy of the “technical data” contained in such reports and drawings, which were expressly not created or obtained to evaluate or assist in the evaluation of constructability, and are not Contract Documents. Contractor shall make its own interpretation of the “technical data” and shall be solely responsible for any such interpretations. Except for reliance on the accuracy of such “technical data,” Contractor may not rely upon or make any claim against District, District’s Representative, or Engineer of Record, or any of their officers, directors, members, partners, employees, agents, consultants, or subcontractors, with respect to:
1. the completeness of such reports and drawings for Contractor’s purposes, including without limitation any aspects of the means, methods, techniques, sequences, and procedures of construction to be employed by Contractor, and safety precautions and programs incident thereto; or
 2. other data, interpretations, opinions, conclusions and information contained in such reports or shown or indicated in such drawings; or
 3. any Contractor interpretation of or conclusion drawn from any “technical data” or any such other data, interpretations, opinions, or information.
- C. Groundwater Elevation. It is Contractor’s responsibility to determine and allow for the elevation of groundwater at the date of Project construction. It is expressly acknowledged by Contractor that groundwater elevations fluctuate and that the elevations shown in borings may not reflect conditions at time of construction. A difference in elevation between groundwater shown in soil boring logs and groundwater actually encountered during construction will not be considered as a basis for Additional Work or Claim.
- D. Unauthorized Use of Technical Data. Contractor is prohibited from utilizing any information, including but not limited to “technical data” provided in conjunction with this Project. District, District’s Representative, or any of their officers, directors, members, partners, employees, agents, consultants, or subcontractors, shall not be liable to Contractor for any claims, costs, losses, or damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) sustained by Contractor on or in connection with any other project or anticipated project.

4.4 Differing Subsurface or Physical Conditions.

- A. Notice. If Contractor believes that any subsurface or physical condition that is uncovered or revealed either:
1. is of such a nature as to establish that any “technical data” on which Contractor is entitled to rely as provided in Section 00 72 13, Article 4.3.B is materially inaccurate; or
 2. is of such a nature as to require a change in the Contract Documents; or
 3. differs materially from that shown or indicated in the Contract Documents; or

4. is of an unusual nature, and differs materially from conditions ordinarily encountered and generally recognized as inherent in work of the character provided for in the Contract Documents;

then Contractor shall, promptly, but in no case more than five (5) Days after becoming aware thereof and before further disturbing the subsurface or physical conditions or performing any Work in connection therewith (except in an Emergency), notify District and District's Representative in writing about such condition. Contractor shall not further disturb such condition or perform any Work in connection therewith (except as aforesaid) until receipt of written order to do so.

4.5 Underground Facilities.

A. Shown or Indicated. The information and data shown or indicated in the Contract Documents with respect to existing Underground Facilities at or contiguous to the Site is based on information and data furnished to District or District's Representative by the owners of such Underground Facilities, including District, or by others. Unless it is otherwise expressly provided in the Special Conditions:

1. District and District's Representative shall not be responsible for the accuracy or completeness of any such information or data provided by others; and
2. The cost of all of the following will be included in the Contract Price, and Contractor shall have full responsibility for:
 - a. reviewing and checking all such information and data;
 - b. locating all Underground Facilities shown or indicated in the Contract Documents. Contractor shall determine the location and depth of all utilities, including service connections, which have been marked by the respective owners and which may affect or be affected by its operations. Full compensation for such Work shall be considered as included in Contractor's Bid price;
 - c. coordination of the Work with the owners of such Underground Facilities, including District, during construction; and
 - d. the safety and protection of all such Underground Facilities and repairing any damage thereto resulting from the Work.

B. Not Shown or Indicated.

1. If an Underground Facility is uncovered or revealed at or contiguous to the Site which was not shown or indicated, or not shown or indicated with reasonable accuracy in the Contract Documents, Contractor shall, promptly, but in no case more than five (5) Days after becoming aware thereof and before further disturbing conditions affected thereby or performing any Work in connection therewith (except in an emergency as required by Section 00 72 13, Article 6.20), identify the owner of such Underground Facility and give written notice to that owner and to District and District's Representative. District's Representative will promptly review the Underground Facility and determine the extent, if any, to which a

change is required in the Contract Documents to reflect and document the consequences of the existence or location of the Underground Facility. During such time, Contractor shall be responsible for the safety and protection of such Underground Facility.

- C. Notice of Underground Excavation. As provided in Government Code section 4216.2, at least two (2) work days, but not more than 14 Days prior to commencing any excavation, if the excavation will be conducted in an area which is known, or reasonably should be known, to contain subsurface installations, Contractor shall contact the appropriate regional notification center and shall request all affected utility owners to mark or otherwise indicate the approximate locations of their subsurface installations.
1. After the utility survey is completed, the Contractor shall commence “potholing” or hand digging to determine the actual location of the pipe, duct, or conduit. District shall be given written notice prior to commencing potholing operations. The Contractor shall uncover all piping and conduits, to a point one (1) foot below the pipe, where crossings, interferences, or connections are shown on the Drawings, prior to trenching or excavating for any pipe or structures, to determine actual elevations. New pipelines shall be laid to such grade as to clear all existing facilities, which are to remain in service for any period subsequent to the construction of the run of pipe involved.
 2. A “High Priority Subsurface Installation” is defined in section 4216 (e) as “high-pressure natural gas pipelines with normal operating pressures greater than 415kPA gauge (60psig) or greater than six inches nominal pipe diameter, petroleum pipelines, pressurized sewage pipelines, high-voltage electric supply lines, conductors, or cables that have a potential to ground of greater than or equal to 60kv, or hazardous materials pipelines that are potentially hazardous to workers or the public if damaged.”
 3. The Contractor's attention is directed to the requirements of Government Code section 4216.2 (a)(2) which provides: “When the excavation is proposed within 10 feet of a High Priority Subsurface Installation, the operator of the high priority subsurface installation shall notify the excavator of the existence of the high priority subsurface installation prior to the legal excavation start date and time, as such date and time are authorized pursuant to paragraph (1) of subdivision (a) of section 4216.2. The excavator and the operator or its representative shall conduct an onsite meeting at a mutually-agreed-on time to determine actions or activities required to verify the location of the high priority subsurface installation prior to start time.” The Contractor shall notify District in advance of this meeting.
- D. Protection of Utilities. Contractor shall not interrupt the service function or disturb the support of any utility, without authority from District or order from the utility owner. All valves, switches, vaults, and meters shall be maintained readily accessible for emergency shutoff. Where protection is required to ensure support of utilities shown in the Contract Documents, Contractor shall, unless otherwise provided, furnish and place the necessary protection at its expense.
- E. Notification Requirements If Utility Disturbed. Contractor shall immediately notify District's Representative and the utility owner if any utility is disturbed or damaged.

Contractor shall bear the costs of repair or replacement of any utility damaged by Contractor.

- F. Removal of Abandoned Utilities. Unless otherwise specified, Contractor shall remove all interfering portions of utilities shown in the Contract Documents or indicated in the Bidding Documents as “abandoned”. Before starting removal operations, Contractor shall ascertain from the utility owner whether the abandonment is complete. The costs involved in the removal and disposal shall be included in the price for the item of Work necessitating such removals.
- G. Relocation of Utilities.
1. When the Contract Documents provide for Contractor to alter, relocate, or reconstruct a utility, all costs for such Work shall be included in the Contract Price.
 2. Temporary or permanent relocation or alteration of indicated utilities requested by Contractor for Contractor’s convenience shall be Contractor’s responsibility, and Contractor shall make all arrangements and bear all costs.
 3. After award of the Contract, portions of utilities not indicated in the Contract Documents which are found to interfere with the Work may be relocated, altered, or reconstructed by the utility owner, or District’s Representative may order changes in the Work to avoid interference. Such changes will be paid for in accordance with these General Conditions.
- H. Access to the Work. When necessary, Contractor shall so conduct its operations as to permit access to the Site and provide time for utility work to be accomplished during normal work hours during the progress of the Work.

4.6 Trenches or Other Excavations.

- A. If any portion of the Work involves digging trenches or other excavations that extend deeper than four feet below the surface:
1. Contractor shall promptly, and before the following conditions are disturbed, notify District’s Representative, in writing, of any:
 - a. provide District’s representative with a copy of any required permits;
 - b. material that Contractor believes may be material that is Hazardous Waste;
 - c. subsurface or latent physical conditions at the Site differing from those indicated by information about the Site made available to bidders prior to the deadline for submitting bids; or
 - d. 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. Upon such notification, District’s Representative 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 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 this Contract.

3. In the event that a dispute arises between District and Contractor whether the conditions materially differ, or involve Hazardous Waste, or cause a decrease or increase in Contractor's cost of, or time required for, performance of any part of the Work, Contractor shall not be excused from any scheduled completion date provided for by the Contract, but shall proceed with all Work to be performed under the Contract. 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.

4.7 Hazardous Environmental Conditions at Site.

- A. Reports and Drawings. The Special Conditions identify those reports and drawings known to District relating to Hazardous Environmental Conditions that have been identified at the Site.
- B. Limited Reliance by Contractor on Technical Data Authorized. Contractor may rely upon the accuracy of the "technical data" contained in such reports and drawings, but such reports and drawings are not Contract Documents. Such "technical data" is identified in the Special Conditions. Contractor shall make its own interpretation of the "technical data" and shall be solely responsible for any such interpretations. Except for reliance on the accuracy of such "technical data," Contractor may not rely upon or make any claim against District or District's Representative, or any of their officers, directors, members, partners, employees, agents, consultants, or subcontractors, with respect to:
 1. the completeness of such reports and drawings for Contractor's purposes, including without limitation any aspects of the means, methods, techniques, sequences, and procedures of construction to be employed by Contractor and safety precautions and programs incident thereto; or
 2. other data, interpretations, opinions and information contained in such reports or shown or indicated in such drawings; or
 3. any Contractor interpretation of or conclusion drawn from any "technical data" or any such other data, interpretations, opinions or information.
- C. Contractor shall not be responsible for any Hazardous Environmental Condition uncovered or revealed at the Site which was not shown or indicated in Drawings or Specifications or identified in the Contract Documents to be within the scope of the Work. Contractor shall be responsible for a Hazardous Environmental Condition created with any materials brought to the Site by Contractor, Subcontractors, Suppliers, or anyone else for whom Contractor is responsible.

- D. If Contractor encounters a Hazardous Environmental Condition or if Contractor or anyone for whom Contractor is responsible creates a Hazardous Environmental Condition, Contractor shall immediately: (i) secure or otherwise isolate such condition; (ii) stop all Work in connection with such condition and in any area affected thereby (except in an Emergency); and (iii) notify District and District's Representative (and promptly thereafter confirm such notice in writing). District shall promptly consult with District's Representative concerning the necessity for District to retain a qualified expert to evaluate such condition or take corrective action, if any.
- E. Contractor shall not be required to resume Work in connection with such condition or in any affected area until after District has obtained any required permits related thereto and delivered written notice to Contractor: (i) specifying that such condition and any affected area is or has been rendered safe for the resumption of Work; or (ii) specifying any special conditions under which such Work may be resumed safely.
- F. If after receipt of such written notice Contractor does not agree to resume such Work based on a reasonable belief it is unsafe, or does not agree to resume such Work under such special conditions, then District may order the portion of the Work that is in the area affected by such condition to be deleted from the Work in accordance with the Contract Documents. District may have such deleted portion of the Work performed by District's own forces or others.
- G. To the fullest extent permitted by Applicable Laws, Contractor shall indemnify, defend, and hold harmless District and District's Representative, and the officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them, from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to a Hazardous Environmental Condition created, in whole or in part, by Contractor or by anyone for whom Contractor is responsible. Nothing in this Section shall obligate Contractor to indemnify any individual or entity from and against the consequences of that individual's or entity's own negligence.

4.8 Protection and Restoration of Existing Improvements and Reference Points.

- A. In the event that any historical stamps/impressions or survey monuments are located on existing sidewalks or curbs, which may be affected by the Work or construction activities, the disposition or reestablishment of those stamps/impressions shall be determined by District.
- B. District shall provide engineering surveys to establish reference points for construction which in District's Representative's judgment are necessary to enable Contractor to proceed with the Work. Contractor shall be responsible for laying out the Work, shall protect and preserve the established reference points and property monuments, and shall make no changes or relocations without the prior written approval of District. Contractor shall report to District's Representative whenever any reference point or property monument is lost or destroyed or requires relocation because of necessary changes in grades or locations, and shall be responsible for the accurate replacement or relocation of such reference points or property monuments by professionally qualified personnel.

ARTICLE 5 -BONDS AND INSURANCE

5.1 Time for Compliance. Contractor shall not commence Work under this Agreement until it has provided evidence to District that it has secured all insurance required under this Section. Contractor shall require and verify that all subcontractors maintain insurance meeting all the requirements stated herein. Contractor shall not allow any subcontractor to commence work on any subcontract until it has provided evidence to District that the subcontractor has secured all insurance required under this Section.

5.2 Minimum Requirements. Contractor shall, at its expense, procure and maintain for the duration of the Agreement insurance against claims for injuries to persons or damages to property which may arise out of or result from the performance of the Work and Contractor’s other obligations under the Contract Documents whether by Contractor, its agents, representatives, employees or subcontractors. Contractor shall also require all of its subcontractors to procure and maintain the same insurance for the duration of the Agreement and verify the subcontractors’ compliance. Contractor’s and subcontractors’ insurance shall meet at least the following minimum levels of coverage:

A. Minimum Scope of Insurance. Coverage shall be at least as broad as the latest version of the following: (1) General Liability: Insurance Services Office Commercial General Liability coverage (occurrence form CG 0001); (2) Automobile Liability: Insurance Services Office Business Auto Coverage form number CA 0001, code 1 (any auto) or if Contractor has no owned autos, non-owned, leased or hired autos Code 8 (hired) and Code 9 (non-owned); (3) Workers’ Compensation and Employer’s Liability: Workers’ Compensation insurance as required by the State of California and Employer’s Liability Insurance; and (4) Installation Floater/Builder’s Risk: “All Risk All Perils” form. The policies shall not contain any exclusion contrary to the Agreement, including but not limited to endorsements or provisions limiting coverage for (1) contractual liability or (2) cross liability for claims or suits by one insured against another. In addition, Contractor shall, if required in the Special Provisions, have and maintain the following insurance: Professional Liability/Errors and Omissions, and Pollution Liability, as described below.

B. Minimum Limits of Insurance. Contractor shall maintain limits no less than:

1. For Commercial General Liability, Contractor shall have limits of at least the amount that corresponds to the Contract Price in the following table:

<u>Contract Price</u>	<u>Amount of Liability Insurance</u> (per occurrence)
\$ 0 - \$ 2 million	\$ 2 million
\$ 2 million - \$ 5 million	\$ 3 million
\$ 5 million - \$ 10 million	\$ 5 million
\$10 million - \$ 20 million	\$10 million

If Commercial General Liability Insurance or other form with general aggregate limit is used including, but not limited to, form CG 25 03, either the general aggregate limit shall apply separately to the Project or the general aggregate limit shall be twice the required occurrence limit. Should any of the Work involve aircraft (fixed wing or helicopter) owned or operated by Contractor, liability insurance with limits of not less

than \$5,000,000 per occurrence for bodily injury and property damage is required. Should any of the Work involve watercraft owned or operated by Contractor, liability insurance with limits of not less than \$5,000,000 per occurrence for bodily injury and property damage is required.

2. Automobile Liability: \$1 million per accident for bodily injury and property damage.

3. Workers' Compensation and Employer's Liability:

a. Workers' Compensation: statutory limits.

b. Employer's Liability limits of \$1 million per accident for bodily injury or disease.

c. Should any of the Work be upon or contiguous to navigable bodies of water, Contractor shall carry insurance covering its employees for benefits available under the Federal Longshoremen's and Harbor Worker's Act to the extent required by law;

4. Excess/Umbrella Liability Policy may be provided to insure the total limits required for Commercial General Liability and Automobile Liability and must apply to all primary coverage afforded, including but not limited to general liability, owned and non-owned automobiles, leased and hired cars.

5. Notwithstanding the minimum limits set forth above, any available insurance proceeds in excess of the specified minimum limits of coverage shall be available to the parties required to be named as additional insureds.

C. Notices; Cancellation or Reduction of Coverage. At least fifteen (15) days prior to the expiration of any such policy, evidence showing that such insurance coverage has been renewed or extended shall be filed with District. If such coverage is cancelled or materially reduced, Contractor shall, within ten (10) days after receipt of written notice of such cancellation or reduction of coverage, file with District evidence of insurance showing that the required insurance has been reinstated or has been provided through another insurance company or companies. In the event any policy of insurance required under this Agreement does not comply with these specifications or is canceled and not replaced, District has the right but not the duty to obtain the insurance it deems necessary and any premium paid by District will be promptly reimbursed by Contractor or District may withhold amounts sufficient to pay premium from Contractor payments. In the alternative, District may suspend or terminate this Agreement.

5.3 Insurance Endorsements. The insurance policies shall contain the following provisions, or Contractor shall provide endorsements on forms approved by District to add the following provisions to the insurance policies:

A. General Liability. The general liability policy shall include or be endorsed (amended) to state that: (1) using ISO CG forms 20 10 and 20 37 (including completed operations), or endorsements providing the exact same coverage, District, its directors, officials, officers, employees, agents, and volunteers and any other additional insureds named in the Special Provisions shall be covered as additional insureds with respect to the Work or ongoing and completed operations performed by

or on behalf of the Contractor, including materials, parts or equipment furnished in connection with such work; and (2) using ISO form 20 01, or endorsements providing the exact same coverage, the insurance coverage shall be primary insurance as respects District, its directors, officials, officers, employees, agents, and volunteers and any other additional insureds named in the Special Provisions, or if excess, shall stand in an unbroken chain of coverage excess of the Contractor's scheduled underlying coverage. Any excess insurance shall contain a provision that such coverage shall also apply on a primary and noncontributory basis for the benefit of District, before District's own primary insurance or self-insurance shall be called upon to protect it as a named insured. Any insurance or self-insurance maintained by District, its directors, officials, officers, employees, agents, and volunteers and any other additional insureds named in the Special Provisions shall be excess of the Contractor's insurance and shall not be called upon to contribute with it in any way.

- B. Automobile Liability. The automobile liability policy shall include or be endorsed (amended) to state that: (1) District, its directors, officials, officers, employees, agents, and volunteers and any other additional insureds named in the Special Provisions shall be covered as additional insureds with respect to the ownership, operation, maintenance, use, loading or unloading of any auto owned, leased, hired or borrowed by the Contractor or for which the Contractor is responsible; and (2) the insurance coverage shall be primary insurance as respects District, its directors, officials, officers, employees, agents, and volunteers and any other additional insureds named in the Special Provisions, or if excess, shall stand in an unbroken chain of coverage excess of the Contractor's scheduled underlying coverage. Any insurance or self-insurance maintained by District, its directors, officials, officers, employees, agents, and volunteers and any other additional insureds named in the Special Provisions shall be excess of the Contractor's insurance and shall not be called upon to contribute with it in any way.
- C. Workers' Compensation and Employer's Liability Coverage. The insurer shall agree, using WC 00 03 13 or the exact equivalent, to waive all rights of subrogation against District, its directors, officials, officers, employees, agents, and volunteers and any other additional insureds named in the Special Provisions for losses paid under the terms of the insurance policy.
- D. All Coverages. Each insurance policy required by this Agreement shall be endorsed to include the following provisions:
1. coverage shall not be suspended, voided, reduced or canceled except after thirty (30) days (10 days for nonpayment of premium) prior written notice by mail has been given to District and all additional insureds.
 2. any failure to comply with reporting or other provisions of the policies, including breaches of warranties, shall not affect coverage provided to District and any other additional insureds.
 3. standard separation of insureds provisions.
 4. No special limitations on the scope of protection afforded to District, its directors, officials, officers, employees, agents, and volunteers and any other additional insureds named in the Special Provisions.

5. waiver of any right of subrogation of the insurer against District, its officials, officers, employees, agents, and volunteers, or any other additional insureds, or shall specifically allow Contractor or others providing insurance in compliance with these specifications to waive their right of recovery prior to a loss. By signing this agreement, Contractor hereby waives its own right of recovery against District or any other additional insureds, and shall require similar written express waivers and insurance clauses from each of its subcontractors.

5.4 Installation Floater Insurance shall be for the total value of project. The policy shall be written on an “All Risk, All Perils” form, to include coverage for earthquake, flood, and Acts of God (as defined in public Contract Code Section 7105), insuring for physical loss or damage to the Work, false work, completed work, work in progress, material, supplies, and equipment of the Work Site, but also to property at off-site storage locations and in transit, without regard to the location of the covered property. The policy shall be issued on a replacement cost basis, and shall insure against at least the following perils or causes of loss: fire, lightning, weather damage, explosion, extended replacement cost coverage, theft, vandalism, malicious mischief, collapse, debris removal, aircraft, demolition occasioned by enforcement of Applicable Laws, water damage from any source), snow, sleet, hail, wind, acts of terrorism, and such other perils not specifically listed. The policy shall include expenses incurred in the repair or replacement of any insured property (including but not limited to fees and charges of engineers and architects), allow for Partial Utilization of the Work by District, and include testing and startup.

If the replacement cost increases during the course of construction, additional insurance limits must be purchased by Contractor.

Should any of the Work involve construction or remodeling of, or addition to, a building or buildings, then Builder’s Risk/Course of Construction Coverage shall be added to the Installation Floater Insurance. The Builder’s Risk/Course of Construction coverage shall also include the perils of flood and earthquake.

Installation Floater Insurance deductible amounts may be selected by Contractor, but shall not exceed the maximum allowable deductible for the Contract Price of the Project in the table set forth below. The maximum allowable deductibles for the perils of earthquake and flood shall not be greater than five percent of the value at risk at the time of loss.

<u>Contract Price</u>	<u>All Risk Perils Maximum Deductible</u>
\$ 0 - \$ 2,000,000	\$ 10,000
\$ 2,000,001 - \$ 5,000,000	\$ 20,000
\$ 5,000,001 - \$ 10,000,000	\$ 50,000
\$ 10,000,001 - \$ 50,000,000	\$ 100,000

Installation Floater Insurance policy shall name District, Contractor and Subcontractors as insureds, with deductible amounts, if any, for the sole account of and payable by Contractor. Loss under Installation Floater Insurance shall be adjusted with and payable to District for the interest of all parties.

The amount of Installation Floater Insurance shall be sufficient to protect against such loss or damage in full until all Work is accepted by District. The premium for Installation Floater

Insurance will be paid at the lump sum price set forth in Schedule A of the Schedule of Pay Items.

5.5 Professional Liability. Professional Liability/Errors and Omissions Insurance, in the amounts set forth in the Special Provisions, if the Work includes engineering or architectural design work beyond that covered by Contractor's General Liability policy.

5.6 Pollution Liability insurance is required should any of the Work involve pollutants. Liability coverage shall include coverage for the environmental risk associated with the project and expenses related to such, including bodily injury, property damage, on and off site clean-up, transporting, carrying, or storing pollutants, coverage for non-owned disposal site in an amount not less than that set forth in the Special Provisions.

Pollutants include, but are not limited to, asbestos, mold, microbial matter, solid, liquid, gaseous or thermal irritants or contaminants, including smoke, vapor, soot, fumes, acids, alkalis, chemicals, and waste. Waste includes materials to be recycled, reconditioned, or reclaimed.

5.7 Receipt and Application of Insurance Proceeds.

Any insured loss under the policies of insurance required by Section 00 72 13, Article 5.4 will be adjusted with District and made payable to District as fiduciary for the loss payees, as their interests may appear, subject to the requirements of any applicable mortgage clause and of Section 00 72 13, Article 5.4. District shall deposit in a separate account any money so received and shall distribute it in accordance with such agreement as the parties in interest may reach. If no other special agreement is reached, the damaged Work shall be repaired or replaced, the moneys so received applied on account thereof, and the Work and the cost thereof covered by an appropriate Change Order.

District as fiduciary shall have power to adjust and settle any loss with the insurers unless one of the parties in interest shall object in writing to District's exercise of this power within fifteen (15) Days after the occurrence of loss. If such objection be made, District as fiduciary shall make settlement with the insurers in accordance with such agreement as the parties in interest may reach. If no such agreement among the parties in interest is reached, District as fiduciary shall adjust and settle the loss with the insurers and, if required in writing by any party in interest, District as fiduciary shall give bond for the proper performance of such duties.

5.8 Partial Utilization, Acknowledgment of Property Insurer.

If District finds it necessary to occupy or use a portion or portions of the Work prior to Completion of all the Work, no such use or occupancy shall commence before the insurers providing the property insurance have acknowledged notice thereof and in writing effected any changes in coverage necessitated thereby. The insurers providing the property insurance shall consent by endorsement on the policy or policies, but the property insurance shall not be canceled or permitted to lapse on account of any such partial use or occupancy.

5.9 Deductibles and Self-Insurance Retentions. Any deductibles or self-insured retentions must be declared to and approved by District. Contractor shall guarantee that, at the option of District, either: (1) the insurer shall reduce or eliminate such deductibles or self-insured retentions as respects District, its directors, officials, officers, employees, agents, and volunteers and any other additional insureds named in the Special Provisions; or (2) the Contractor shall procure a bond guaranteeing payment of losses and related investigation costs, claims, and administrative and defense expenses.

5.10 Claims Made Policies. Claims made policies are not acceptable other than for Professional Liability. In addition to the requirements above, for any claims made policy:

- A. The Retroactive Date must be shown and must be before the date of the contract or the beginning of contract work.
- B. Insurance must be maintained and evidence of insurance must be provided for at least five (5) years after District's acceptance of the Work.
- C. If coverage is canceled or non-renewed, and not replaced with another claims-made policy form with a Retroactive Date prior to the contract effective date, the Contractor must purchase "extended reporting" coverage for a minimum of five (5) years District's acceptance of the Work.

5.11 Subcontractor Insurance Requirements. Contractor shall not allow any subcontractors to commence work on any subcontract relating to the Work until Contractor has verified that all subcontractors maintain insurance meeting all requirements under this Section and provided evidence to District of such insurance. For Commercial General Liability coverage subcontractors shall provide coverage with a format at least as broad as CG 20 38 04 13. If requested by Contractor, District may approve different scopes or minimum limits of insurance for particular subcontractors. Contractor shall confirm that District and entities identified in the Special Provisions shall be named as additional insureds on all subcontractors' policies of Commercial General Liability Insurance and Commercial Automobile Insurance.

5.12 Acceptability of Insurers. Insurance is to be placed with insurers with a current A.M. Best's rating no less than A:VIII, licensed to do business in California, and satisfactory to District.

- 5.13 Verification of Coverage. Contractor shall furnish District with original certificates of insurance and endorsements effecting coverage required by this Agreement on forms satisfactory to District. The certificates and endorsements for each insurance policy shall be signed by a person authorized by that insurer to bind coverage on its behalf. All certificates and endorsements must be received and approved by District before work commences. District reserves the right to require complete, certified copies of all required insurance policies, at any time.
- 5.14 Reservation of Rights. District reserves the right to modify these requirements, including limits, based on the nature of the risk, prior experience, insurer, coverage, or other special circumstances.

ARTICLE 6 -CONTRACTOR'S RESPONSIBILITIES

6.1 Supervision and Superintendence.

- A. Contractor shall supervise, inspect, and direct the Work competently and efficiently, devoting such attention thereto and applying such skills and expertise as may be necessary to perform the Work in accordance with the Contract Documents. Contractor shall be solely responsible for the means, methods, techniques, sequences, and procedures of construction.
- B. At all times during the progress of the Work, Contractor shall assign a competent resident superintendent who shall not be replaced without written notice to District and District's Representative except under extraordinary circumstances. Superintendent must be able to proficiently speak, read and write in English.

6.2 Labor; Working Hours.

- A. Contractor shall provide competent, suitably qualified personnel to survey and lay out the Work and perform construction as required by the Contract Documents. Contractor shall at all times maintain good discipline and order at the Site.
- B. Except as otherwise required for the safety or protection of persons or the Work or property at the Site or adjacent thereto, and except as otherwise stated in the Contract Documents, all Work at the Site shall be performed during regular working hours, which are defined as hours between 7:00 a.m. and 3:30 p.m. any day Monday through Friday of any week except on Holidays and/or during Schedule Constraints defined in the Contract Documents. Contractor will not permit the performance of Work on a Saturday, Sunday, any Holiday or during identified Schedule Constraints without District's written consent given after prior written notice to District's Representative. Contractor shall be responsible for, and shall reimburse District for, all inspection costs outside regular working hours, including overtime.
- C. The Contractor will provide all labor needed to complete the Work within the Contract Times.

6.3 Progress Meetings.

- A. The Contractor shall schedule and hold regular on-Site progress meetings at least weekly and at other times as requested by Engineer or as required by progress of the Work. The Contractor, District's Representative, and all Subcontractors active on the Site shall attend each meeting. Contractor may at its discretion request attendance by representatives of its Suppliers, manufacturers, and other Subcontractors.
- B. District's Representative will preside at the progress meetings and will arrange for keeping and distributing the minutes. The purpose of the meetings is to review the progress of the Work, maintain coordination of efforts, discuss changes in scheduling, and resolve other problems which may develop. During each meeting, the Contractor shall present any issues which may impact its progress with a view to resolve these issues expeditiously.

6.4 Cost-Loaded CPM Progress Schedule and Recovery Schedule.

- A. Contractor shall adhere to the Cost-Loaded CPM Progress Schedule established in accordance with the Contract Documents as it may be adjusted from time to time as provided below.
 - 1. Contractor shall submit to District's Representative for acceptance proposed adjustments in the Cost-Loaded CPM Progress Schedule that will not result in changing the Contract Times. Such adjustments will comply with any provisions of the General Requirements applicable thereto.
 - 2. Proposed adjustments in the Cost-Loaded CPM Progress Schedule that will change the Contract Times or Milestones shall be submitted in accordance with the requirements of the Contract Documents. Adjustments in Contract Times or Milestones may only be made by a Change Order.
 - 3. Should any of the following conditions exist, District may require Contractor to prepare, at no extra cost to District, a plan of action and a Recovery Schedule for completing the Work and achieving all contractual milestones within the allotted Contract Time:
 - a. The Contractor's monthly progress report indicates delays that are, in the opinion of District, of sufficient magnitude that District questions the Contractor's ability to complete the Work;
 - b. The CPM schedule shows the Contractor to be thirty (30) or more days behind the critical path at any time during construction;
 - c. The Contractor desires to make changes in the logic or the planned duration of future activities of the CPM schedule which, in the opinion of District, are major in nature.

- d. The recovery schedule shall include proposed revisions to the Construction Schedule, demonstrating how Contractor intends to achieve all contractual milestones including contract completion within the allotted Contract Time. The submittal shall include a narrative describing the actions planned by the Contractor to recover the schedule.
 - e. Contractor shall submit the Recovery Schedule within seven (7) Days of District's request.
 - (i) If Contractor asserts that District is responsible for the delay, failure to submit the Recovery Schedule within seven (7) Days of District's request, will be considered a concurrent delay event attributable to Contractor, and Contractor shall only be entitled to non-compensable adjustments to Contract Times.
 - (ii) If Contractor is responsible for the delay, this provision will not limit or affect Contractor's liability and failure to submit the Recovery Schedule with seven (7) Days of District's request may result in District withholding progress payments or other amounts due under the Contract Documents.
 - f. Contractor is responsible for all costs associated with the preparation and execution of the Recovery Schedule, including any necessary recovery actions, which may include, but are not limited to, assignment of additional labor, and/or equipment, shift or overtime work, expediting of submittals or deliveries, overlapping of activities or sequencing changes to increase activity concurrence.
 - g. Regardless of whether District directs Contractor to prepare a Recovery Schedule pursuant to this Section, Contractor shall promptly undertake appropriate action at no additional cost to District to recover the schedule whenever the current Construction Schedule shows that the Contractor will not achieve a milestone and/or complete the Work within the allotted Contract Time. Services, Materials, and Equipment.
- B. Unless otherwise specified in the Contract Documents, Contractor shall provide and assume full responsibility for all services, materials, equipment, labor, transportation, construction equipment and machinery, tools, appliances, fuel, power, light, heat, telephone, water, sanitary facilities, temporary facilities, and all other facilities and incidentals necessary for the performance, testing, start-up, and completion of the Work within the Contract Times.

6.5 Materials.

- A. All materials and equipment incorporated into the Work shall be as specified or, if not specified, shall be of good quality and new, except as otherwise provided in the Contract Documents. All materials furnished by the Contractor shall be of the most suitable grade for the purpose intended considering strength, ductility, durability, and best industry practice.

- B. All special warranties and guarantees required by the Contract Documents shall expressly run to the benefit of District. If required by District's Representative, Contractor shall furnish satisfactory evidence (including reports of required tests) as to the source, kind, and quality of materials and equipment.
- C. All materials and equipment shall be stored, applied, installed, connected, erected, protected, used, cleaned, and conditioned in accordance with instructions of the applicable Supplier, except as otherwise may be provided in the Contract Documents.
- D. Materials shall be furnished in ample quantities and at such times as to ensure uninterrupted progress of the Work and shall be stored properly and protected as required by the Contract Documents. Contractor shall be entirely responsible for damage or loss by weather or other causes to materials or Work until District has accepted the Work.
- E. No materials, supplies, or equipment for Work under this Contract 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 the seller or supplier. Contractor warrants good title to all material, supplies, and equipment installed or incorporated in the work and agrees upon completion to deliver the Work to District free from any claims, liens, or encumbrances.
- F. Materials shall be stored on the Site in such manner so as not to interfere with any operations of District or any independent contractor.

6.6 Substitution of Equipment, Materials or Construction Methodology.

- A. Pursuant to Public Contract Code section 3400(b) District may make a finding that is referenced in the invitation for bids that designates certain products, things, or services by specific brand or trade name.
- B. Whenever an item of material or equipment is specified or described in the Contract Documents by using the name of a proprietary item or the name of a particular Supplier, the specification or description is intended to establish the type, function, appearance, and quality required. Unless the specification or description contains or is followed by words reading that no like, equivalent, or "or-equal" item or no substitution is permitted, other items of material or equipment or material or equipment of other Suppliers may be submitted to District's Representative for review within fifteen (15) Days after Notice of Award.
- C. If in District's Representative's sole discretion an item of material or equipment proposed by Contractor is functionally equal to that named and sufficiently similar so that no change in related Work will be required, it may be considered by District's Representative as an "or-equal" item, in which case review and acceptance of the proposed item may, in District's Representative's sole discretion, be utilized and incorporated into the Work. A proposed item of material or equipment will be considered functionally equal to an item so named if:
 - 1. in District's Representative's sole discretion:

- a. it is at least equal in materials of construction, quality, durability, appearance, strength, and design characteristics;
 - b. it will reliably perform at least equally well the function and achieve the results imposed by the design concept of the completed Project as a functioning whole; and
 - c. it has a proven record of performance and availability of responsive service; and
2. Contractor certifies that, if approved and incorporated into the Work:
- a. there will be no increase in cost to District or increase in Contract Times; and
 - b. it will conform substantially to the detailed requirements of the item named in the Contract Documents.
- D. Substitute Construction Methods or Procedures. If a specific means, method, technique, sequence, or procedure of construction is expressly required by the Contract Documents, Contractor may furnish or utilize a substitute means, method, technique, sequence, or procedure of construction accepted by District's Representative. Contractor shall submit in writing sufficient information to allow District's Representative, in District's Representative's sole discretion, to determine that the substitute proposed is equivalent to that expressly called for by the Contract Documents. District's Representative will advise Contractor in writing of any acceptance or rejection of the proposed substitution.
- E. District's Representative's Evaluation. District's Representative will be allowed a reasonable time within which to evaluate each proposed substitution. District's Representative may require Contractor to furnish additional data about the proposed substitute item. District's Representative will be the sole judge of acceptability. No "or equal" or substitute will be ordered, installed, or utilized until District's Representative's review is complete, District's Representative will advise Contractor in writing of any acceptance or rejection of the proposed substitution.
- F. Special Guarantee. District may require Contractor to furnish at Contractor's expense a special performance guarantee or other surety with respect to any substitute.
- G. District's Representative's Cost Reimbursement. Whether or not District's Representative approves a substitute proposed or submitted by Contractor, Contractor shall reimburse District for the reasonable charges of evaluating each such proposed substitute. Contractor shall also reimburse District for the reasonable charges for making changes in the Contract Documents (or in the provisions of any other direct contract with District) resulting from the acceptance of any proposed substitute.
- H. Contractor's Expense. Contractor shall provide all data in support of any proposed substitute or "or-equal" at Contractor's expense.

6.7 Submittals.

A. Schedule of Submittals.

Within ten (10) Days after the Effective Date of the Contract (unless otherwise specified in the Contract Documents), Contractor will prepare and deliver a Schedule of Submittals to District's Representative that has been fully integrated with the Cost-Loaded CPM Progress Schedule and identifies each Submittal required by the Contract Documents as well as the date on which Contractor will deliver each Submittal to District's Representative. Each Submittal must be delivered to District's Representative at least thirty (30) Days prior to the date the material or equipment is scheduled to be incorporated into the Work. The Contractor is responsible for any schedule delays resulting from the Submittal process.

B. Submittal Procedures.

1. Contractor will follow the following procedures for each Submittal, Shop Drawing and Sample required by the Contract Documents:
 - a. Transmit three (3) copies of each with form _____ Submittal Transmittal.
 - b. Transmittals will be sequentially numbered. Contractor to mark revised submittals with original number and sequential alphabetic suffix.
 - c. Each submittal will identify the Project, Contractor, Subcontractor and supplier, pertinent Drawing and detail number, and Specification Section number appropriate to submittal.
 - d. Contractor must sign each submittal, certifying that it has reviewed and approved the submittal, verified products required, field dimensions, adjacent construction Work, and that coordination of information is according to requirements of the Work and Contract Documents.
 - e. Identify variations in Contract Documents and product or system limitations that may differ and/or be detrimental to successful performance of completed Work.
 - f. When Submittal is revised for resubmission, Contractor shall promptly address District comments and resubmit. Contractor shall identify changes made since previous submission.
 - g. District's review of shop drawings shall not relieve Contractor from responsibility for deviations from the Contract Documents unless Contractor has, in writing, called District's attention to such deviations at time of submission and District has taken no exception to the deviation. District's review of shop drawings shall not relieve Contractor from responsibility for errors in shop drawings.
 - h. Submittals not required by the Contract Documents or requested by District's Representative will not be acknowledged or processed.
 - i. Incomplete Submittals will not be reviewed by District's Representative. Delays resulting from incomplete submittals are not the responsibility of District's Representative.

- j. Contractor shall not be entitled to any extension of the Contract Times as a result of the Submittal process.
2. Where a Submittal, Shop Drawing or Sample is required by the Contract Documents or the Schedule of Submittals, any related Work performed prior to District's Representative's review and approval of the pertinent submittal will be at the sole expense and responsibility of Contractor.
3. Schedule Milestone for Submittals. Contractor must submit all submittals required by the Contract Documents in accordance with the Schedule of Submittals. If Contractor fails to submit the submittals in accordance with the Schedule of Submittals, Contractor will be solely liable for any delays or impacts caused by the delayed submittal, whether direct or indirect. Contractor will be liable for the time calculated from the date the submittal is due until the date a compliant submittal is made. A compliant submittal will be one that is complete and satisfies the requirements of the Contract Documents.

6.8 Shop Drawing and Sample Submittal Procedures.

- A. Before submitting each Shop Drawing or Sample, Contractor shall have:
 1. reviewed and coordinated each Shop Drawing or Sample with other Shop Drawings and Samples and with the requirements of the Work and the Contract Documents;
 2. determined and verified all field measurements, quantities, dimensions, specified performance and design criteria, installation requirements, materials, catalog numbers, and similar information with respect thereto;
 3. determined and verified the suitability of all materials offered with respect to the indicated application, fabrication, shipping, handling, storage, assembly, and installation pertaining to the performance of the Work; and
 4. determined and verified all information relative to Contractor's responsibilities for means, methods, techniques, sequences, and procedures of construction, and safety precautions and programs incident thereto.
- B. With each submittal, Contractor shall give District's Representative specific written notice of any variations that the Shop Drawing or Sample may have from the requirements of the Contract Documents. This notice shall be both a written communication separate from the Shop Drawings or Sample submittal and, in addition, a specific notation made on each Shop Drawing or Sample submitted to District's Representative for review and approval of each such variation.

C. Shop Drawings.

1. Data shown on the Shop Drawings will be complete with respect to quantities, dimensions, specified performance and design criteria, materials, and similar data to show District's Representative the services, materials, and equipment Contractor proposes to provide and to enable District's Representative to review the information Representative for assessing conformance with information given and design concept expressed in Contract Documents.
2. When required by individual Specification Sections, provide Shop Drawings signed and sealed by a professional Engineer responsible for designing components shown on Shop Drawings. Shop Drawings must include signed and sealed calculations to support design in a form suitable for submission to and approval by authorities having jurisdiction.
3. Contractor shall make revisions and provide additional information when required by authorities having jurisdiction.

D. Samples.

1. Clearly identify each Sample as to material, Supplier, pertinent data such as catalog numbers, the use for which intended and other data as required to enable District's Representative to review the submittal for assessing conformance with information given and design concept expressed in Contract Documents.
2. Samples should be of appropriate size and detail to assess functional, aesthetic, color, texture, patterns and finish selection.

E. District's Representative's Review.

1. District's Representative will review of Shop Drawings and Samples in accordance with the Schedule of Submittals. District's Representative's review and acceptance will be only to determine if the items covered by the submittals will, after installation or incorporation in the Work, conform to the information given in the Contract Documents and be compatible with the design concept of the completed Project as a functioning whole as indicated by the Contract Documents.
2. District's Representative's review and approval will not extend to means, methods, techniques, sequences, or procedures of construction (except where a particular means, method, technique, sequence, or procedure of construction is specifically and expressly called for by the Contract Documents) or to safety precautions or programs incident thereto. The review and approval of a separate item as such will not indicate approval of the assembly in which the item functions.
3. District's Representative's review and acceptance shall not relieve Contractor from responsibility for any variation from the requirements of the Contract Documents unless District's Representative has given written approval of each such variation by specific written notation thereof incorporated in or accompanying the Shop Drawing or Sample.

F. Resubmittal Procedures.

1. Contractor shall make corrections required by District's Representative and shall return three (3) corrected copies of Shop Drawings and submit, as required, new Samples for review and approval. Contractor shall direct specific attention in writing to revisions other than the corrections called for by District's Representative on previous submittals.

6.9 Concerning Subcontractors, Suppliers, and Others.

- A. Contractor shall self-perform at least thirty percent (30%) of the Work.
- B. Contractor shall not employ any Subcontractor, Supplier, or other individual or entity, whether initially or as a replacement, against whom District may have reasonable objection.
- C. Contractor shall be fully responsible to District for all acts and omissions of the Subcontractors, Suppliers, and other individuals or entities performing or furnishing any of the Work just as Contractor is responsible for Contractor's own acts and omissions. Nothing in the Contract Documents:
 1. shall create for the benefit of any such Subcontractor, Supplier, or other individual or entity any contractual relationship between District or District's Representative and any such Subcontractor, Supplier, or other individual or entity; nor
 2. shall create any obligation on the part of District or District's Representative to pay or to see to the payment of any moneys due any such Subcontractor, Supplier, or other individual or entity except as may otherwise be required by Applicable Laws.
- D. Contractor shall be solely responsible for scheduling and coordinating the Work of Subcontractors, Suppliers, and other individuals or entities performing or furnishing any of the Work under a direct or indirect contract with Contractor.
- E. Contractor shall require all Subcontractors, Suppliers, and such other individuals or entities performing or furnishing any of the Work to communicate with District's Representative through Contractor.
- F. The divisions and sections of the Specifications and the identifications of any Drawings shall not control Contractor in dividing the Work among Subcontractors or Suppliers or delineating the Work to be performed by any specific trade.
- G. All Work performed for Contractor by a Subcontractor or Supplier will be pursuant to an appropriate agreement between Contractor and the Subcontractor or Supplier which specifically binds the Subcontractor or Supplier to the terms and conditions of the Contract Documents for the benefit of District and District's Representative. Whenever any such agreement is with a Subcontractor or Supplier who is listed as a loss payee on the property insurance provided in Section 00 72 13, the agreement between the Contractor and the Subcontractor or Supplier will contain provisions whereby the Subcontractor or Supplier waives all rights against District, Contractor, District's Representative, and all other individuals or entities identified in the Special Conditions to be listed as insured or loss payees (and the officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them) for all losses and damages caused by, arising out of, relating to, or resulting

from any of the perils or causes of loss covered by such policies and any other property insurance applicable to the Work. If the insurers on any such policies require separate waiver forms to be signed by any Subcontractor or Supplier, Contractor will obtain the same.

6.10 Dust Control.

- A. Contractor, at its expense, shall maintain all excavations, embankments, haul roads, permanent access roads, plant sites, waste disposal areas, borrow areas, and all other work areas free from dust. Industry accepted methods of dust control suitable for the area involved, such as sprinkling, chemical treatment, light bituminous treatment or similar methods, will be permitted.

6.11 Air Pollution.

- A. Contractor shall not discharge into the atmosphere from any source whatever smoke, dust, or other air contaminants in violation of the laws, rules, and regulations of the governmental entities having jurisdiction.

6.12 Patent Fees and Royalties.

- A. Contractor shall pay all license fees and royalties and assume all costs incident to the use in the performance of the Work or the incorporation in the Work of any invention, design, process, product, or device which is the subject of patent rights or copyrights held by others. If a particular invention, design, process, product, or device is specified in the Contract Documents for use in the performance of the Work and if, to the actual knowledge of District or District's Representative, its use is subject to patent rights or copyrights calling for the payment of any license fee or royalty to others, the existence of such rights shall be disclosed by District in the Contract Documents.
- B. To the fullest extent permitted by Applicable Laws, Contractor shall indemnify, defend, and hold harmless District and District's Representative, and the officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them, from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to any infringement of patent rights or copyrights incident to the use in the performance of the Work or resulting from the incorporation in the Work of any invention, design, process, product, or device not specified in the Contract Documents or specified in the Contract Documents and identified as being subject to payment of any license fee or royalty to others required by patent rights or copyrights.

6.13 Permits and Licenses.

Permits and licenses necessary for prosecution of the Work shall be secured and paid for by Contractor, unless otherwise specified in the Contract Documents.

- A. Contractor shall obtain and pay for all other permits and licenses required for the Work, including excavation permit and permits for plumbing, mechanical and electrical work and for operations in or over public streets or right of way under jurisdiction of public agencies other than District.

- B. The Contractor shall arrange and pay for all off-site inspection of the Work related to permits and licenses, including certification, required by the specifications, drawings, or by governing authorities, except for such off-site inspections identified as District's responsibility in the Contract Documents.
- C. Before acceptance of the Work, the Contractor shall submit all licenses, permits, certificates of inspection and required approvals to District.

6.14 Applicable Laws.

- A. Contractor shall give all notices required by and shall comply with all Applicable Laws applicable to the performance of the Work. Except where otherwise expressly required by Applicable Laws, neither District nor District's Representative shall be responsible for monitoring Contractor's compliance with any Applicable Laws.
- B. If Contractor performs any Work knowing or having reason to know that it is contrary to Applicable Laws, Contractor shall bear all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to such Work.

6.15 Labor Laws and Contractor's Obligations.

- A. Hours of Work. Eight (8) hours of work shall constitute a legal day's work. Contractor and each subcontractor shall forfeit, as penalty to District, twenty-five dollars (\$25) for each worker employed in the execution of Work by the Contractor or any subcontractor for each day during which such worker is required or permitted to work more than eight (8) hours in any one day and forty (40) hours in any week in violation of the provisions of the Labor Code, and in particular, section 1810 to section 1815, except as provided in Labor Code section 1815.
- B. Prevailing Wages. The Contractor is aware of the requirements of Labor Code sections 1720 et seq. and 1770 et seq., as well as California Code of Regulations, Title 8, section 16000 et seq. ("Prevailing Wage Laws"), which require the payment of prevailing wage rates and the performance of other requirements on certain "public works" and "maintenance" projects. Since this Work involves an applicable "public works" or "maintenance" project, as defined by the Prevailing Wage Laws, and since the total compensation is \$1,000 or more, Contractor agrees to fully comply with such Prevailing Wage Laws. District has obtained the prevailing wage rates from the Director of the Department of Industrial Relations, State of California. Copies of the prevailing wage rates are on file at District's office and shall be made available to any interested party on request. Contractor shall make copies of the prevailing rates of per diem wages for each craft, classification or type of worker needed to perform the Work available to interested parties upon request, and shall post copies at the Contractor's principal place of business and at the Site. Contractor shall defend, indemnify and hold District, its elected officials, officers, employees and agents free and harmless from any claims, liabilities, costs, penalties or interest arising out of any failure or alleged failure to comply with the Prevailing Wage Laws.
 - 1. Pursuant to Labor Code section 1775, Contractor is hereby advised that in the event that Contractor fails to pay prevailing wages, Contractor will be held liable

for penalties and for shortfalls in wages and such amounts may be withheld from progress payments. Contractor and each subcontractor shall forfeit as a penalty to District not more than two hundred dollars (\$200) for each Day, or portion thereof, for each worker paid less than the stipulated prevailing wage rate for any work done by him, or by any subcontract under him, in violation of the provisions of the Labor Code. The difference between such stipulated prevailing wage rate and the amount paid to each worker for each Day or portion thereof for which each worker was paid less than the stipulated prevailing wage rate shall be paid to each worker by the Contractor.

2. Contractor shall post, at appropriate conspicuous points on the Site, a schedule showing all determined general prevailing wage rates and all authorized deductions, if any, from unpaid wages actually earned.
- C. Payroll Records. Pursuant to Labor Code section 1776, the Contractor and each subcontractor shall maintain weekly certified payroll records showing the name, address, social security number, work classification, straight time and overtime hours paid each day and week, and the actual per diem wages paid to each journeyman, apprentice, worker or other employee employed in connection with the Work. The Contractor shall certify under penalty of perjury that records maintained and submitted by the Contractor are true and accurate. The Contractor shall also require subcontractor(s) to certify weekly payroll records under penalty of perjury.
1. In accordance with Labor Code section 1771.4, the Contractor and each subcontractor shall furnish the certified payroll records directly to the Department of Industrial Relations (“DIR”) on a weekly basis and in the format prescribed by the DIR. This may include electronic submission. The Contractor shall ensure full compliance with all requirements and regulations from the DIR relating to labor compliance monitoring and enforcement and all other applicable labor law.
 2. If not subject to paragraph (1), above, the certified payroll records shall be on forms provided by the Division of Labor Standards Enforcement (“DLSE”) of the DIR.
 3. In the event of noncompliance with the requirements of this section, the Contractor shall have ten (10) days in which to comply subsequent to receipt of written notice specifying any item or actions necessary to ensure compliance with this section. Should noncompliance still be evident after such ten (10) day period, the Contractor shall, as a penalty to the District, forfeit One Hundred Dollars (\$100.00) for each day, or portion thereof, for each worker until strict compliance is effectuated. Upon the request of the DIR, such penalties shall be withheld from contract payments.
- D. Employment of Apprentices. The Contractor’s attention is directed to the provisions of sections 1777.5, 1777.6, and 1777.7 of the Labor Code concerning employment of apprentices by the Contractor or any subcontractor. The Contractor shall obtain a certificate of apprenticeship before employing any apprentice pursuant to sections 1777.5, 1777.6, and 1777.7 of the Labor Code. Information relative to apprenticeship standards, wage schedules, and other requirements may be obtained from the Director of Industrial Relations, the Administrator of Apprenticeships, San Francisco, California, or from the Division of Apprenticeship Standards and its branch offices.

- E. Nondiscrimination. Pursuant to Labor Code section 1735 and other applicable provisions of law, the Contractor and its subcontractors shall not discriminate against any employee or applicant for employment because of race, color, religion, sex, national origin, age, political affiliation, marital status, or handicap on this Work. The Contractor will take affirmative action to insure that employees are treated during employment or training without regard to their race, color, religion, sex, national origin, age, political affiliation, marital status, or handicap.
- F. Workers Compensation. Pursuant to Labor Code section 1860, the Contractor shall secure the payment of workers' compensation to its employees in accordance with the provisions of Labor Code section 3700. Prior to commencement of work, the Contractor shall sign and file with District the following certification:

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

6.16 Taxes.

- A. The Contractor shall pay all sales, consumer, use, and other similar taxes required to be paid in accordance with the Applicable Laws of the place of the Project which are applicable during the performance of the Work.
- B. In accordance with Revenue and Taxation Code section 107.6, the Contract Documents may create a possessory interest subject to personal property taxation for which the Contractor will be responsible.
- C. The Contractor shall include in its bid amount the patent fees or royalties on any patented article or process furnished or used in the Work. The Contractor shall assume all liability and responsibility arising from the use of any patented, or allegedly patented, materials, equipment, devices or processes used in or incorporated with the Work, and shall defend, indemnify and hold harmless District, its officials, officers, agents, employees and representatives from and against any and all liabilities, demands, claims, damages, losses, costs and expenses, of whatsoever kind or nature, arising from such use.

6.17 Use of Site and Other Areas.

A. Limitation on Use of Site and Other Areas.

- 1. The Contractor shall confine construction equipment, the storage of materials and equipment, and the operations of workers to the Site and other areas permitted by Applicable Laws, and shall not unreasonably encumber the Site and other areas with construction equipment or other materials or equipment. The Contractor shall assume full responsibility for any damage to any such land or area, or to District or occupant thereof, or of any adjacent land or areas resulting from the performance of the Work.
- 2. Should any claim be made by any such District or occupant because of the performance of the Work, the Contractor shall promptly settle with such other party

by negotiation or otherwise resolve the claim by arbitration or other dispute resolution proceeding or at law.

- B. Removal of Debris During Performance of the Work. During the progress of the Work Contractor shall keep the Site and other areas free from accumulations of waste materials, rubbish, and other debris. Removal and disposal of such waste materials, rubbish, and other debris shall conform to Applicable Laws.
- C. Cleaning. Prior to Completion of the Work, the Contractor shall clean the Site and the Work and make it ready for utilization by District. At the completion of the Work, the Contractor shall remove from the Site all tools, appliances, construction equipment and machinery, and surplus materials and shall restore to original condition all property not designated for alteration by the Contract Documents.
- D. Loading Structures. The Contractor shall not load nor permit any part of any structure to be loaded in any manner that will endanger the structure, nor shall Contractor subject any part of the Work or adjacent property to stresses or pressures that will endanger it.

6.18 Utility Usage.

- A. All temporary utilities, including but not limited to electricity, water, gas, and telephone, used on the Work shall be furnished and paid for by the Contractor. The Contractor shall provide necessary temporary distribution systems, including meters, if necessary, from distribution points to points on the Work where the utility is needed. Upon completion of the Work, the Contractor shall remove all temporary distribution systems.
- B. The Contractor shall provide necessary and adequate utilities and pay all costs for water, electricity, gas, oil, and sewer charges required for completion of the Work, including but not limited to startup and testing required in the Contract Documents.
- C. All permanent meters installed shall be listed in the Contractor's name until the Work is accepted.
- D. If Work is to be performed in existing District facilities, the Contractor may, to the extent authorized by District in writing, use District's existing utilities. If the Contractor uses District utilities, it shall compensate District for utilities used.

6.19 Record Documents.

- A. The Contractor shall maintain in a safe place at the Site one record copy of all Drawings, Specifications, Addenda, Change Orders, and written interpretations and clarifications in good order and annotated to show changes made during construction. These record documents together with all approved Samples and a counterpart of all approved Shop Drawings will be available to District's Representative for reference. Upon completion of the Work, these record documents, Samples, and Shop Drawings will be delivered to District. See 01 00 00 for additional Record Drawing requirements.

6.20 Safety and Protection.

- A. The Contractor shall be solely responsible for all safety precautions and programs in connection with the Work. Such responsibility does not relieve Subcontractors of their responsibility for the safety of persons or property in the performance of their work, nor for compliance with applicable safety laws. The Contractor shall take all necessary precautions for the safety of, and shall provide the necessary protection to prevent damage, injury or loss to:
 - 1. all persons on the Site or who may be affected by the Work;
 - 2. all the Work and materials and equipment to be incorporated therein, whether in storage on or off the Site; and
 - 3. other property at the Site or adjacent thereto, including trees, shrubs, lawns, walks, pavements, roadways, structures, utilities, and Underground Facilities not designated for removal, relocation, or replacement in the course of construction.
- B. The Contractor shall comply with all Applicable Laws relating to the safety of persons or property, or to the protection of persons or property from damage, injury, or loss; and shall erect and maintain all necessary safeguards for such safety and protection. The Contractor shall notify owners of adjacent property and of Underground Facilities and other utility owners when prosecution of the Work may affect them, and shall cooperate with them in the protection, removal, relocation, and replacement of their property.
- C. The Contractor shall comply with the applicable requirements of the of the District's safety programs, if any. The Special Conditions identify the District's safety programs that are applicable to the Work.
- D. The Contractor shall inform the District and the District's Representative of the specific requirements of Contractor's safety program with which District and District's Representative's employees and representatives must comply while at the Site.
- E. All damage, injury, or loss to any property caused, directly or indirectly, in whole or in part, by the Contractor, any Subcontractor, Supplier, or any other individual or entity directly or indirectly employed by any of them to perform any of the Work, or anyone for whose acts any of them may be liable, shall be remedied by the Contractor.
- F. The Contractor's duties and responsibilities for safety and for protection of the Work shall continue until District files the Notice of Completion in accordance with Contract Documents.

6.21 Safety Representative.

- A. The Contractor shall designate an OSHA-certified and experienced safety representative at the Site whose duties and responsibilities shall be the prevention of accidents and the maintaining and supervising of safety precautions and programs. The Contractor shall provide the District Representative the name and contract information of the safety representative in writing.

6.22 Hazard Communication Programs.

- A. The Contractor shall be responsible for coordinating any exchange of material safety data sheets or other hazard communication information required to be made available to or exchanged between or among employers at the Site in accordance with Applicable Laws.

6.23 Emergencies.

- A. In an emergency affecting safety of life or of Work or of adjoining property, the Contractor, without special instruction or authorization from District, shall act to prevent such threatened loss or injury; and the Contractor shall so act, without appeal, if directed or instructed by the District. Any compensation claimed by the Contractor on account of emergency work shall be determined in accordance with the Contract Documents.

6.24 Continuing the Work.

- A. The Contractor shall carry on the Work during negotiation of all Change Orders and all disputes or disagreements with District. No Work shall be delayed or postponed pending resolution of any Change Orders, disputes or disagreements, unless District and Contractor otherwise agree in writing.

6.25 Contractor's General Warranty and Guarantee.

- A. The Contractor warrants and guarantees to the District that all Work will be in accordance with the Contract Documents and will not be defective. The District and District's Representative, and their officers, directors, members, partners, employees, agents, consultants, and subcontractors, shall be entitled to rely on representation of the Contractor's warranty and guarantee.
- B. The Contractor's obligation to perform and complete the Work in accordance with the Contract Documents shall be absolute. None of the following will constitute an acceptance of Work that is not in accordance with the Contract Documents or a release of Contractor's obligation to perform the Work in accordance with the Contract Documents:
1. Observation or inspection by the District's Representative;
 2. approval of a payment application or payment by District of any progress or final payment;
 3. use or occupancy of the Work or any part thereof by District;
 4. any review and/or acceptance of a Submittal, Shop Drawing or Sample;
 5. any inspection, test, or approval by others; or
 6. any correction of Defective Work by District.

6.26 Indemnification.

- A. To the fullest extent allowed by law, the Contractor shall defend (with counsel of the District's choosing), indemnify and hold the District, its officials, officers, agents, employees, and representatives free and harmless from any and all claims, demands, causes of action, costs, expenses, liabilities, losses, damages or injuries, in law or in equity, to property or persons, including wrongful death, regardless of whether the allegations are false, fraudulent, or groundless, arising out of, related to, or in connection with the Work or this Contract, including claims made by subcontractors for nonpayment, and including without limitation the payment of all consequential damages and attorney's fees and other related costs and expenses. The Contractor shall defend, at the Contractor's own cost, expense and risk, with counsel of the District's choosing, any and all such suits, actions or other legal proceedings of every kind that may be brought or instituted against the District, its officials, officers, agents, employees and representatives. The Contractor shall pay and satisfy any judgment, award or decree that may be rendered against the District, its officials, officers, agents, employees and representatives, in any such suit, action or other legal proceeding. The Contractor shall reimburse the District, its officials, officers, agents, employees and representatives for any and all legal expenses and costs incurred by each of them in connection therewith or in enforcing the indemnity herein provided. The only limitations on this provision shall be those imposed by Civil Code section 2782.
- B. Contractor agrees to pay, or reimburse the District and the District's Representative, for regulatory agency or court imposed fees, fines, or penalties imposed on the District and the District's Representative arising from the Contractor's failure to complete the Work in a timely manner and/or in accordance with the Contract Documents and any applicable permits or Applicable Laws. The Contractor's responsibility and obligation to pay, or reimburse the District and the District's Representative, for these fees, fines, or penalties shall be in addition to the assessment of liquidated damages for late completion of the Work.

6.27 Delegation of Professional Design Services.

- A. The Contractor will not be required to provide professional design services unless such services are specifically required by the Contract Documents for a portion of the Work or unless such services are required to carry out the Contractor's responsibilities for construction means, methods, techniques, sequences and procedures. The Contractor shall not be required to provide professional services in violation of applicable law.
- B. The Contractor shall cause such services or certifications to be provided by a properly licensed professional, whose signature and seal shall appear on all drawings, calculations, specifications, certifications, shop drawings and other submittals prepared by such professional. Shop drawings and other submittals related to the Work designed or certified by such professional, if prepared by others, shall bear such professional's written approval when submitted to the District's Representative.
- C. The District and the District's Representative shall be entitled to rely upon the adequacy, accuracy and completeness of the services, certifications or approvals performed by such design professionals.

- D. The District's Representative's review and acceptance of design calculations and design drawings will be only for the limited purpose of checking for conformance with the design concept expressed in the Contract Documents.

ARTICLE 7 -OTHER WORK AT THE SITE

7.1 Related Work at Site.

- A. Nothing contained in the Contract Documents shall be interpreted as granting to the Contractor exclusive occupancy at the Site. The District may perform other work related to the Project at the Site with District's employees or through other direct contracts, or have other work performed by utility owners (collectively, "Other Contractors"). If such other work is not noted in the Contract Documents, then written notice thereof will be given to the Contractor prior to starting any such other work.
- B. Cost of Coordination. The Contractor shall include in its Bid all costs associated with coordinating its Work with Other Contractors. The Contractor shall not be entitled to additional compensation from the District for damages resulting from such simultaneous, collateral, and essential Work. If necessary to avoid or minimize such damage or delay, the Contractor shall redeploy its work forces to other parts of the Work, or adjust its Work schedule including reasonable acceleration of the Work.
- C. Contractor's Responsibility. The Contractor shall do all cutting, fitting, and patching of the Work that may be required to make its several parts come together properly and integrate with such other work.
- D. Contractor Shall Not Endanger Existing Work. The Contractor shall not endanger any work of Other Contractor by cutting, excavating, or otherwise altering their work and will only cut or alter their work with the written consent of the District's Representative and the Other Contractor whose work will be affected.
- E. Contractor shall afford each Other Contractor proper and safe access to the Site, provide a reasonable opportunity for the introduction and storage of materials and equipment and the execution of such other work, and properly coordinate the Work with theirs. The Contractor shall do all cutting, fitting, and patching of the Work that may be required to properly connect or otherwise make its several parts come together and properly integrate with such other work. The Contractor shall not endanger any work of others by cutting, excavating, or otherwise altering such work; provided, however, that the Contractor may cut or alter others' work with the written consent of the District's Representative and the others whose work will be affected.
- F. If the proper execution or results of any part of the Contractor's Work depends upon work performed by Other Contractors, the Contractor shall inspect such other work and promptly report to the District's Representative in writing any delays, defects, or deficiencies in such other work that render it unavailable or unsuitable for the proper execution and results of Contractor's Work. The Contractor's failure to so report will constitute an acceptance of such other work as fit and proper for integration with the Contractor's Work except for latent defects and deficiencies in such other work.
- G. Claims by Other Contractors. If any claims are made by Other Contractors arising out of Contractor's performance of the Work, the Contractor shall be responsible to

immediately resolve the dispute and indemnify District pursuant to the Contract Documents.

7.2 Coordination.

- A. If the District intends have work performed by Other Contractors at the Site, the following will be set forth in the Special Conditions:
 - 1. the individual or entity who will have authority and responsibility for coordination of the activities among the various contractors will be identified;
 - 2. the specific matters to be covered by such authority and responsibility will be itemized; and
 - 3. the extent of such authority and responsibilities will be provided.
- B. Unless otherwise provided in the Special Conditions, the District shall have sole authority and responsibility for such coordination.
- C. Coordination Delays. The District's Representative shall arrange meetings with Other Contractors performing work to plan coordination of construction activities but will not be responsible to direct coordination efforts. Any difference or conflict arising between the Contractor and any Other Contractor shall be submitted to the District's Representative for a decision in the matter. The Contractor shall comply with direction from the District's Representative whose decision on coordination matters will be final.

7.3 For Delays by Others.

- A. By entering into this Contract, the Contractor acknowledges that there may be Other Contractors on the Site whose work will be coordinated with that of the Contractor. The Contractor expressly warrants and agrees that Contractor will cooperate with Other Contractors and will do nothing to delay, hinder, or interfere with the work of Other Contractors, the District, or the District's Representative. The Contractor also expressly agrees that, in the event its Work is hindered, delayed, interfered with, or otherwise affected by a separate contractor, its sole remedy will be a direct action against the Other Contractor. The Contractor will have no remedy, and hereby expressly waives any remedy, against the District or the District's Representative on account of delay, hindrance, interference, or other event caused by Other Contractor.

7.4 Contractor's Delay or Damage.

- A. The Contractor shall be liable to District and any Other Contractor for the direct delay and disruption costs or damages incurred by such Other Contractor as a result of the Contractor's wrongful action or inactions.

ARTICLE 8 -ALLOWANCES; UNIT PRICE WORK

8.1 Allowances.

- A. It is understood that the Contractor has included in the Contract Price all Allowances so named in Schedule B of the Schedule of Pay Items and shall cause the Work so

covered to be performed for such sums and by such persons or entities as may be acceptable to the District and the District's Representative.

- B. The Contractor agrees that all Allowances are for the sole use of the District to cover scope Work anticipated but not specifically identified on the Contract Drawings.
- C. Prior to final payment, an appropriate Change Order will be issued as recommended by the District's Representative to reflect actual amounts due the Contractor on account of Work covered by Allowances, and the Contract Price shall be correspondingly adjusted.

8.2 Unit Price Work.

- A. Where the Contract Documents provide that all or part of the Work is to be Unit Price Work, initially the Contract Price will be deemed to include for all Unit Price Work an amount equal to the sum of the unit price for each separately identified item of Unit Price Work multiplied by the estimated quantity of each item as indicated in the Contract.
- B. The estimated quantities of items of Unit Price Work are not guaranteed and are solely for the purpose of comparison of Bids and determining an initial Contract Price. Determinations of the actual quantities and classifications of Unit Price Work performed by the Contractor will be made by the District's Representative.
- C. Each unit price will be deemed to include an amount considered by the Contractor to be adequate to cover the Contractor's Overhead and Profit for each separately identified item.
- D. The District or the Contractor may initiate a Change Order to adjust the Contract Price in accordance with Contractor Documents based on actual quantities of Unit Price Work.
- E. The District or the Contractor may make a Claim for an adjustment in the Unit Price in accordance with the Contract Documents if:
 - 1. the quantity of any item of Unit Price Work performed by the Contractor differs by twenty-five percent (25%) or more from the estimated quantity of such item indicated in the Contract; and
 - 2. there is no corresponding adjustment with respect to any other item of Work; and
 - 3. the Contractor believes that the Contractor is entitled to an increase in Unit Price as a result of having incurred additional expense or the District believes that the District is entitled to a decrease in Unit Price and the parties are unable to agree as to the amount of any such increase or decrease.

ARTICLE 9 -CHANGE OF CONTRACT PRICE; CHANGE IN CONTRACT TIMES

9.1 Contract Change Orders.

- A. The District, without invalidating the Contract, may order changes in the Work consisting of additions, deletions or other revisions, and the Contract Price and Contract Time shall be adjusted accordingly. All such changes in the Work shall be authorized by written Change Order, and shall be performed under the applicable conditions of the Contract Documents. A Change Order signed by the Contractor indicates the Contractor's agreement therewith, including any adjustment in the Contract Price or the Contract Times, and the full and final settlement of all costs (direct, indirect and overhead) related to the Work authorized by the Change Order.
- B. The Contractor shall promptly execute changes in the Work as directed in writing by District even when the parties have not reached agreement on whether the change increases the scope of Work or affects the Contract Price or Contract Time, if any. All claims for additional compensation to the Contractor shall be presented in writing. No claim will be considered after the work in question has been done unless a written Change Order has been issued or a timely written notice of claim has been made by the Contractor. The Contractor shall not be entitled to claim or bring suit for damages, whether for loss of profits or otherwise, on account of any decrease or omission of any item or portion of Work to be done. Whenever any change is made as provided for herein, such change shall be considered and treated as though originally included in the Contract Documents, and shall be subject to all terms, conditions and provisions of the original Contract Documents.
- C. All Change Orders will be in the form as provided in Attachment A. The Contractor shall not reserve a right to assert impact costs, extended job site costs, extended overhead (direct or indirect), constructive acceleration and/or actual acceleration beyond what is stated in the Change Order. No claims shall be allowed for impact, extended overhead costs, constructive acceleration and/or actual acceleration due to a multiplicity of changes and/or clarifications. The Contractor may not change or modify District's Change Order form in an attempt to reserve additional rights.
- D. No changes in the work covered by this Agreement shall exonerate any surety or any bond given in connection with this Agreement.

9.2 Contract Price Change.

A. Process for Determining Adjustments in Contract Price.

- 1. Request for Proposal (RFP). When the District desires a change in the Work, District's Representative may issue an RFP to the Contractor. The Contractor will be required to respond within seven (7) Days or the time indicated by District's Representative. If the Contractor fails to submit its Change Order Request ("COR") within seven (7) Days of receiving the RFP, or the time indicated by the District's Representative, the Contractor shall be solely liable for any delays or impacts caused by the delayed submittal of the COR.
- 2. Contractor Initiated Change. As further described below, the Contractor must give written notice of a COR, additional compensation or adjustment of the Contract

Times within seven (7) Days of discovery of the facts giving rise to the proposed change order.

3. COR Detail. The Contractor's COR shall include material, labor, and equipment separately priced for each element of Work. Allowable Overhead and Profit may be added to the total of these costs if allowed by the Contract Documents. As general guidance, all cost documentation shall be tabulated from detailed computerized spreadsheets in a "workbook" which will be compiled into useful summary spreadsheets as directed by the District's Representative.
 - a. Unit Price Method. Where the Additional Work involved is covered or is of the same character as the original Contract, Unit Price Work by application of those unit prices to the quantities of the items involved;
 - b. Lump Sum Bilateral Change Method. By mutual acceptance of a lump sum price negotiated on the basis of the Contractor's itemized estimate of the anticipated costs of the Additional Work.
 - c. Time and Materials Method. The District may direct the Contractor to proceed with the Additional Work with payments to be made on the basis of the actual cost of the labor and materials required to complete the Additional Work.
4. COR Form: The Contractor's COR shall be on forms acceptable to the District's Representative. The Contractor's COR shall certify in writing that the amounts included cover all direct, supplemental, indirect, consequential, and cumulative costs and delays, as applicable, and that those costs and delays would be or were necessarily incurred, despite Contractor's reasonable and diligent efforts to mitigate them. Mitigation efforts undertaken by the Contractor must be described.

B. Unit Price Change Orders.

1. When the actual quantity of a Unit Price item varies from the Bid Form, compensation for the change in quantity will be calculated by multiplying the actual quantity by the Unit Price. This calculation may result in either an additive or deductive Change Order pursuant to the Contract Documents.
2. No Mark Up for Overhead And Profit. Since the Contract Unit Prices provided by in the Bid Form include Overhead and Profit as determined by the Contractor at time of Bid submission, no mark up or deduction for Overhead and Profit will be included in Unit Price Change Orders.

C. Lump Sum Change Orders. Compensation for Lump Sum Change Orders shall be limited to expenditures necessitated specifically by the Additional Work, and shall be segregated as follows:

1. Labor. The costs of labor will be the actual cost for wages prevailing locally for each craft or type of worker 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 assessment or benefits required by lawful collective bargaining agreements. The use of a labor classification which would increase the cost of the

Additional Work will not be permitted unless the Contractor establishes the necessity for such new classifications. Labor costs for equipment operators and helpers shall be reported only when such costs are not included in the invoice for equipment rental.

2. Materials. The cost of materials shall be at invoice or lowest current price at which such materials are locally available in the quantities involved, plus sales tax, freight and delivery. Materials cost shall be based upon supplier or manufacturer's invoice. If invoices or other satisfactory evidence of cost are not furnished within fifteen (15) Days of delivery, then the District shall determine the materials cost, at its sole discretion.
3. Tool and Equipment Use. Costs for the use of small tools, which are tools that have a replacement value of \$1,000 or less, shall be considered included in the Overhead and Profit markups established below. Regardless of Ownership, the rates to be used in determining equipment use costs shall not exceed listed rates prevailing locally at equipment rental agencies, or distributors, at the time the Work is performed.

D. Time and Materials Change Orders.

1. General. The term Time and Materials means the sum of all costs reasonably and necessarily incurred and paid by the Contractor for labor, materials, and equipment in the proper performance of Additional Work. Except as otherwise may be agreed to in writing by the District, such costs shall be in amounts no higher than those prevailing in the locality of the Project, shall include only the following items.
2. Timely and Final Documentation.
 - a. The Contractor must submit timesheets, materials invoices, records of equipment hours and records of rental equipment hours to the District's Representative for an approval signature each day Additional Work is performed. Failure to get the District's Representative's approval signature each Day may result in a waiver of the Contractor's right to claim these costs.
 - b. All documentation of incurred costs shall be submitted by the Contractor and approved by the District's Representative within three (3) Days of incurring the cost for labor, material, equipment, and special services. The Contractor's total actual cost shall be presented in a summary table in an electronic spreadsheet file by labor, material, equipment, and special services (T&M Summary Sheets). The Contractor's failure to provide the T&M Summary Sheets within three (3) Days of performance of the work will result in the Contractor's otherwise allowable profit being reduced by 50% for that portion of Additional Work which was not documented in a timely manner. The Contractor's failure to submit the T&M Summary Sheets within three (7) Days of completion of the work will result in the Contractor's waiver for any reimbursement of any costs associated with the T&M Summary Sheets or the performance of the Additional Work.
3. Labor. The costs of labor will be the actual cost substantiated by timesheets and certified payroll for wages prevailing for each craft or type of workers performing

the Additional Work at the time the Additional Work is done, plus employer payments of payroll taxes, workers compensation insurance, liability 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.

- a. Equipment Operator Exception. Labor costs for equipment operators and helpers shall be paid only when such costs are not included in the invoice for equipment rental.
 - b. Foreman Exception. The labor costs for foremen shall be proportioned to all of their assigned work and only that applicable to the Additional Work shall be paid. Indirect labor costs, including without limitation the superintendent, project manager, and other labor identified in the Contract Documents will be considered Overhead.
4. Materials. The cost of materials reported shall be itemized at invoice or lowest current price at which materials are locally available and delivered to the Site in the quantities involved, plus the cost of sales tax, freight, delivery, and storage.
- a. Trade discounts available to the purchaser shall be credited to the District notwithstanding the fact that such discounts may not have been taken by Contractor.
 - b. For materials secured by other than a direct purchase and direct billing to the purchaser, the cost shall be deemed to be the price paid to the actual supplier as determined by the District's Representative.
 - c. Payment for materials from sources owned wholly or in part by the purchaser shall not exceed the price paid by the purchaser for similar materials from said sources on Additional Work items or the current wholesale price for such materials delivered to the Site, whichever price is lower.
 - d. If in the opinion of the District's Representative the cost of materials is excessive, or the Contractor does not furnish satisfactory evidence of the cost of such materials, then the cost shall be deemed to be the lowest current wholesale price for the total quantity concerned delivered to the Site less trade discounts.
 - e. The District reserves the right to furnish materials for the Additional Work and no Claim shall be allowed by the Contractor for costs of such materials or Indirect Costs or profit on District furnished materials.
5. Equipment. The Contractor will be paid for the use of equipment at the rental rates listed for that equipment in the California Department of Transportation publication entitled Labor Surcharge and Equipment Rental Rates, which is in effect on the date upon which the Contract was executed. Such rental rate will be used to compute payments for equipment whether the equipment is under the Contractor's control through direct Ownership, leasing, renting, or another method of acquisition. The rental rate to be applied for use of each item of equipment shall be the rate resulting in the least total cost to the District for the total period of use.

If it is deemed necessary by the Contractor to use equipment not listed in the publication, an equitable rental rate for the equipment will be established by the District's Representative. The Contractor may furnish cost data which might assist the District's Representative in the establishment of the rental rate.

- a. All equipment shall, in the opinion of the District's Representative, be in good working condition and suitable for the purpose for which the equipment is to be used.
- b. Before construction equipment is used on the Additional Work, the Contractor shall plainly stencil or stamp an identifying number thereon at a conspicuous location, and shall furnish to the District's Representative, in duplicate, a description of the equipment and its identifying number and the scheduled Additional Work activities planned.
- c. Unless otherwise specified, manufacturer's ratings and manufacturer approved modifications shall be used to classify equipment for the determination of applicable rental rates. Equipment which has no direct power unit shall be powered by a unit of at least the minimum rating recommended by the manufacturer.

6. Rental Equipment.

- a. Rental Time. The rental time to be paid for equipment on the Site shall be the time the equipment is in productive operation on the Additional Work being performed and, in addition, shall include the time required to move the equipment to the location of the Additional Work and return it to the original location or to another location requiring no more time than that required to return it to its original location; except, that moving time will not be paid if the equipment is used on other than the Additional Work, even though located at the site of the Additional Work.
- b. Rental Time Not Allowed. Rental time will not be allowed while equipment is inoperative due to breakdowns.
- c. Computation Method. The following shall be used in computing the rental time of equipment on the Site.
 - (i) When hourly rates are listed, any part of an hour less than 30 minutes of operation shall be considered to be ½-hour of operation, and any part of an hour in excess of 30 minutes will be considered one hour of operation.
 - (ii) When daily rates are listed, any part of a day less than 4 hours operation shall be considered to be ½-day of operation.

7. Contractor-Owned Equipment. For the Contractor-owned equipment, the allowed equipment rental rate will be limited to the monthly equipment rental rate using a utilization rate of 173 hours per month which is found in the rental rate source identified in the Special Conditions for rental equipment.

8. Special Services. Special work or services are defined as that Additional Work characterized by extraordinary complexity, sophistication, or innovation or a combination of the foregoing attributes which are unique to the construction industry.
 - a. Invoices for Special Services. When the District's Representative and the Contractor determine that a special service is required which cannot be performed by the forces of the Contractor or those of any of its Subcontractors, the special service may be performed by an entity especially skilled in the Additional Work. Invoices for special services based upon the current fair market value thereof may be accepted without complete itemization of labor, material, and equipment rental costs, after validation of market values by the District's Representative.
 - b. Discount and Allowance. All invoices for special services will be adjusted by deducting all trade discounts offered or available, whether the discounts were taken or not. In lieu of Overhead and Profit specified in Section 00 72 13, Article 19.10.B, a total allowance not to exceed fifteen percent (15%) for Overhead and Profit will be added to invoices for Special Services.
9. Excluded Costs. The term Time and Materials shall not include any of the following costs or any other home or field office overhead costs, all of which are to be considered administrative costs covered by the Contractor's allowance for Overhead and Profit.
 - a. Overhead Cost. Payroll costs and other compensation of the Contractor's officers, executives, principals, general managers, engineers, architects, estimators, attorneys, auditors, accountants, purchasing and contracting agents, timekeepers, clerks and other personnel employed by the Contractor whether at the Site or in the Contractor's principal office or any branch office, material yard, or shop for general administration of the Additional Work;
 - b. Office Expenses. Expenses of the Contractor's principal and branch offices;
 - c. Capital Expenses. Any part of the Contractor's capital expenses, including interest on the Contractor's capital employed for the Additional Work and charges against the Contractor for delinquent payments;
 - d. Negligence. Costs due to the negligence of the Contractor or any Subcontractor or Supplier, or anyone directly or indirectly employed by any of them or for whose acts any of them may be liable, including without limitation the correction of Defective Work, disposal of materials or equipment wrongly supplied, and making good any damage to property;
 - e. Other. Other overhead or general expense costs of any kind and the cost of any item not specifically and expressly included by the Contract Documents.
 - f. Small Tools. Cost of small tools valued at less than \$1000 and that remain the property of Contractor;

- g. Administrative Costs. Costs associated with the preparation of Change Orders (whether or not ultimately authorized), cost estimates, or the preparation or filing of Claims;
 - h. Anticipated Lost Profits. Expenses of the Contractor associated with anticipated lost profits or lost revenues, lost income or earnings, lost interest on earnings or unpaid retention;
 - i. Home Office Overhead. Costs derived from the computation of a “home office overhead” rate by application of the *Eichleay*, *Allegheny*, burden fluctuation, or other similar methods; or
 - j. Special Consultants and Attorneys. Costs of special consultants or attorneys, whether or not in the direct employ of the Contractor, employed for services specifically related to the resolution of a Claim, dispute, or other matter arising out of or relating to the performance of the Additional Work.
10. Overhead and Profit for Lump Sum and Time and Materials Change Orders.
- a. The mark-up to be added to Lump Sum and Time and Materials Change Orders for Overhead (including supervision) and Profit on Additional Work shall be determined in accordance with the following provisions:
 - (i) “Net Cost” is defined as the actual costs of labor, materials and tools and equipment as defined herein only, excluding Overhead and Profit. The costs of applicable insurance and bond premium will be reimbursed to the Contractor and subcontractors at cost only, without mark-up and in no case shall the total costs exceed one and one-half percent (1.5%) of Net Cost. The Contractor shall provide the District with documentation of the costs, including not limited to payroll records, invoices, and such other information as the District may reasonably request.
 - (ii) For Work performed by the Contractor’s forces the added cost for overhead and profit shall not exceed fifteen (15%) percent of the Net Cost of the Work.
 - (iii) For Work performed by a subcontractor, the added cost for overhead and profit shall not exceed fifteen (15%) percent of the Subcontractor’s Net Cost of the Work, to which the Contractor may add five (5%) percent of the Subcontractor’s Net Cost.
 - (iv) For Work performed by a sub-subcontractor the added cost for overhead and profit shall not exceed fifteen (15 %) percent of the Net Cost for Work, to which the subcontractor and general contractor may each add an additional five (5 %) percent of the Net Cost of the lower tier subcontractor.
 - (v) No additional markup will be allowed for lower tier subcontractors, and in no case shall the added cost for overhead and profit payable by District exceed twenty-five (25%) percent of the Net Cost, as defined herein, of the party that performs the Work.

- b. All of the following costs are included in the markups for overhead and profit described above, and the Contractor shall not receive any additional compensation for: Submittals, drawings: field drawings, Shop Drawings, including submissions of drawings; field inspection; General Superintendence; General administration and preparation of cost proposals, schedule analysis, Change Orders, and other supporting documentation; computer services; reproduction services; Salaries of project engineer, superintendent, timekeeper, storekeeper, and secretaries; Janitorial services; Small tools, incidentals and consumables; Temporary on-Site facilities (Offices, Telephones, Internet access, Plumbing, Electrical Power, lighting; Platforms, Fencing, Water), Jobsite and Home office overhead or other expenses; vehicles and fuel used for work otherwise included in the Contract Documents; Surveying; Estimating; Protection of Work; Handling and disposal fees; Final cleanup; Other incidental Work; Related warranties.

9.3 Unilateral Change Orders.

If District disagrees with the COR submitted by the Contractor, it will notify the Contractor and the District will provide its opinion of the appropriate price and/or time extension. If the Contractor agrees with the District, a Change Order will be issued in accordance with the terms of this Article. If no agreement can be reached, the District shall have the right to issue a unilateral change order setting forth its determination of the reasonable additions or savings in costs and time attributable to the extra or deleted work. Such determination shall become final and binding if the Contractor fails to submit a claim in writing to the District within fifteen (15) Days of the issuance of the unilateral change order, disputing the terms of the unilateral change order and providing such supporting documentation for its position as the District may reasonably require.

9.4 Costs Relating to Weather Damage.

- A. The Contractor shall not be entitled to any change in the Contract Price arising out of or related to the action of the elements or weather. Weather-related adjustments to Contract Times may be made in accordance with Section 00 72 16, Article 9.6.

9.5 District Right to Direct Use of Competitive Bids.

- A. Where Additional Work involves subcontractor trades not listed in the Contract, the District reserves the right to direct the Contractor to solicit competitive bids for the Additional Work. If required by the District, the Contractor shall obtain competitive bids from subcontractors acceptable to the Contractor and shall present such bids to the District to collaboratively determine, which bid is accepted.

9.6 Change of Contract Times.

- A. The Contract Times may only be changed by a Change Order.
- B. All changes in the Contract Price and/or adjustments to the Contract Times related to each change shall be included in the Contractor's COR pursuant to Section 00 72 13, Article 9.2. No cost or time will be allowed for cumulative effects of multiple changes. All Change Orders must state that the Contract Time is not changed or is either increased or decreased by a specific number of days. Failure to include a change to

time shall waive any change to the time unless the parties mutually agree in writing to postpone a determination of the change to time resulting from the Change Order.

- C. Notice of the amount of the request for adjustment in the Contract Times with supporting data shall be delivered within seven (7) Days after such start of occurrence, unless District's Representative allows an additional period of time to ascertain more accurate data in support of the request. No extension of time or additional compensation shall be given for a delay if the Contractor failed to give notice in the manner and within the time prescribed.
- D. The District may elect, at the District's sole discretion, to grant an extension in Contract Times, without the Contractor's request, because of delays or other factors.
- E. Use of Float and Critical Path.
 - 1. Float is for the benefit of the Project. Float shall not be considered for the exclusive use or benefit of either the District or the Contractor.
 - 2. The Contractor shall not be entitled to compensation, and the District will not compensate the Contractor, for delays which impact early completion. Any difference in time between the Contractor's early completion and the Contract Time shall be considered a part of the Project float.
- F. The Contractor's entitlement to an extension of the Contract Times is limited to an District-caused extension of the critical path, reduced by the Contractor's concurrent delays, and established by a proper time impact analysis. No time extension shall be allowed unless, and then only to the extent that, the District-caused delay extends the critical path beyond the previously approved Contract Time. If approved, the increase in time required to complete the Work shall be added to the Contract Time.
 - 1. The Contractor shall not be entitled to an adjustment in the Contract Price or Contract Times for delays within the control of the Contractor. Delays attributable to and within the control of a Subcontractor or Supplier shall be deemed to be delays within the control of the Contractor.
 - 2. If the Contractor is delayed in the performance or progress of the Work by fire, flood, epidemic, abnormal weather conditions (as determined by District), Acts of God, acts or failures to act of utility owners not under the control of the District, or other causes not the fault of and beyond control of the District and the Contractor, then the Contractor shall be entitled to an time extension when the Work stopped is on the critical path. Such a non-compensable adjustment shall be the Contractor's sole and exclusive remedy for such delays. The Contractor must submit a timely request in accordance with the requirements of this Article.

3. Utility-Related Delays.

- a. The Contractor shall immediately notify in writing the utility owner and the District's Representative of its construction schedule and any subsequent changes in the construction schedule which will affect the time available for protection, removal, or relocation of utilities. Requests for extensions of time arising out of utility relocation or repair delays shall be filed in accordance with this Article.
- b. The Contractor shall not be entitled to damages or additional payment for delays attributable to utility relocations or alterations if correctly located, as noted in the Contract Documents or by the Underground Service Alert survey.

G. Content for Requests for Contract Extension. The Contractor's justification for entitlement shall be clear and complete citing specific Contract Document references and reasons on which the Contractor's entitlement is based. At a minimum, each request for a time extension must include:

1. Each request for an extension of Contract Time must identify the impacting event, in narrative form, providing a description of the delay event and sufficient justification as to why the Contractor is entitled to a time extension. The Contractor must demonstrate that the delay arises from unforeseeable causes beyond the control and without the fault or negligence of both the Contractor and any Subcontractors or Suppliers, or any other persons or organizations employed by any of them or for whose acts any of them may be liable, and that such causes in fact lead to performance or completion of the Work, or specified part in question, beyond the corresponding Contract Times, despite the Contractor's reasonable and diligent actions to guard against those effects.
2. Each request for an extension of Contract Time must include a time impact analysis in CPM format, using the Contemporaneous Impacted As-Planned Schedule Analysis to calculate the impact of the delay event.

H. No Damages for Reasonable Delay.

1. The District's liability to the Contractor for delays for which the District is responsible shall be limited to only an extension of time unless such delays were unreasonable under the circumstances. In no case shall the District be liable for any costs which are borne by the Contractor in the regular course of business, including, but not limited to, home office overhead and other ongoing costs.
2. Damages caused by unreasonable District delay that impacts the critical path, including delays caused by items that are the responsibility of the District pursuant to Government Code section 4215, shall be compensated at the Daily Rate established in the Special Conditions, no other calculations, proportions or formulas shall be used to calculate any delay damages.
3. The District and the District's Representative, and the officers, directors, members, partners, employees, agents, consultants, or subcontractors of each of them, shall not be liable to Contractor for any claims, costs, losses, or damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other

professionals and all court or arbitration or other dispute resolution costs) sustained by the Contractor on or in connection with any other project or anticipated project.

- I. The Contractor's failure, neglect, or refusal to comply with the requirements of the Contract Documents, or any portion thereof, shall bar the Contractor's request for extensions of the Contract Times. Such failure, neglect, or refusal prejudices the District's and the District's Representative's ability to recognize and mitigate delay, and such failure, neglect, or refusal prevent the timely analysis of requests for extensions of Contract Times, and whether such extensions may be warranted. The Contractor hereby waives all rights to extensions of Contract Times due to delays or accelerations that result from or occur during periods of time for which the Contractor fails, neglects, or refuses to fully comply with the requirements of this Article.

ARTICLE 10 -TESTS AND INSPECTIONS; CORRECTION, REMOVAL OR ACCEPTANCE OF DEFECTIVE WORK; NOTICE OF DEFECTS

10.1 Notice of Defective Work.

- A. Prompt notice of all Defective Work of which the District or the District's Representative has actual knowledge will be given to the Contractor. Defective Work may be rejected, corrected, or accepted as provided in the Contract Documents.

10.2 Access to Work.

- A. The District, the District's Representative, their consultants and other representatives and personnel, independent testing laboratories, and governmental agencies with jurisdictional interests will have access to the Site and the Work at reasonable times for their observation, inspection, and testing. The Contractor shall provide them proper and safe conditions for such access and advise them of the Contractor's safety procedures and programs.

10.3 Tests and Inspections.

- A. The Contractor shall give the District's Representative timely notice of readiness of the Work for all required inspections, tests, or approvals and shall cooperate with inspection and testing personnel to facilitate required inspections or tests.
- B. Except as provided by the Contract Documents, the District shall employ and pay for the services of an independent testing laboratory to perform all inspections, tests, or approvals required by the Contract Documents.
- C. If Applicable Laws of any public body having jurisdiction require any Work (or part thereof) specifically to be inspected, tested, or approved by an employee or other representative of such public body, the Contractor shall assume full responsibility for arranging and obtaining such inspections, tests, or approvals, pay all costs in connection therewith, and furnish the District's Representative the required certificates of inspection or approval.

- D. The Contractor shall be responsible for arranging and obtaining and shall pay all costs in connection with any inspections, tests, or approvals required for the District and the District's Representative's acceptance of materials or equipment to be incorporated in the Work; or acceptance of materials, mix designs, or equipment submitted for approval prior to the Contractor's purchase thereof for incorporation in the Work. Such inspections, tests, or approvals shall be performed by organizations acceptable to the District.
- E. The District will provide inspection during normal working hours from 7:00 a.m. to 3:30 p.m. Monday through Friday. Inspection before or after this time will be charged to the contractor as reimbursable inspection time. Inspections on weekends requires two days' notice for review and approval. Upon written request and approval the 8.5 hour working day may be changed to other limits subject to city/county ordinance.

10.4 Uncovering Work.

- A. If any Work (or the work of others) that is to be inspected, tested, or approved is covered by the Contractor without written concurrence of the District's Representative, the Contractor shall, if requested by the District's Representative, uncover such Work for observation.
- B. Uncovering Work shall be at the Contractor's expense unless the Contractor has given the District's Representative timely notice of the Contractor's intention to cover the same and the District's Representative has not acted with reasonable promptness in response to such notice.
- C. If the Contractor has given the District's Representative timely notice of the Contractor's intention to cover the work and the District's Representative has not acted with reasonable promptness in response to such notice, and the District's Representative later considers it necessary or advisable that covered Work be observed by the District's Representative or inspected or tested by others, the Contractor, at the District's Representative's request, shall uncover, expose, or otherwise make available for observation, inspection, or testing as the District's Representative may require, that portion of the Work in question, furnishing all necessary labor, material, and equipment.
 - 1. If it is found that the uncovered Work is defective, the Contractor shall pay all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to such uncovering, exposure, observation, inspection, and testing, and of satisfactory replacement or reconstruction (including but not limited to all costs of repair or replacement of work of others); and the District shall be entitled to an appropriate decrease in the Contract Price.
 - 2. If the uncovered Work is not found to be defective, the Contractor shall be allowed an increase in the Contract Price and/or an extension of the Contract Times, directly attributable to such uncovering, exposure, observation, inspection, testing, replacement, and reconstruction.

10.5 District May Stop the Work.

- A. If the Work is defective, the District may in its sole discretion order the Contractor to stop the Work, or any portion thereof, until the cause for such order has been eliminated. All delays associated with the Stop Work Order will be the responsibility of the Contractor.

10.6 Correction or Removal of Defective Work.

- A. Promptly after receipt of written notice, the Contractor shall correct all Defective Work, whether or not fabricated, installed, or completed, or, if the Work has been rejected by the District or the District's Representative, remove it from the Project and replace it with Work that is not defective. The Contractor shall pay all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to such correction or removal (including but not limited to all costs of repair or replacement of work of others).
- B. When correcting Defective, the Contractor shall take no action that would void or otherwise impair the District's special warranty and guarantee, if any, on said Work.

10.7 Acceptance of Defective Work.

- A. If, instead of requiring correction or removal and replacement of Defective Work, the District prefers to accept it, District may do so. The Contractor shall pay all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) attributable to the District's evaluation of and determination to accept such Defective Work and for the diminished value of the Work.
- B. If any acceptance of defective work occurs prior to release of the Project Retention, a Change Order will be issued incorporating the necessary revisions in the Contract Documents with respect to the Work, and the District shall be entitled to an appropriate decrease in the Contract Price, reflecting the diminished value of Work and all costs incurred by the District.
- C. If the Project Retention is held in an escrow account as permitted by the Contract Documents, the Contractor will promptly alert the escrow holder, in writing, of the amount of Retention to be paid to the District.
- D. If the acceptance of defective occurs after release of the Project Retention, an appropriate amount will be paid by Contractor to District.

10.8 District May Correct Defective Work.

- A. If the Contractor fails within a reasonable time after written notice from the District's Representative to correct Defective Work, or to remove and replace rejected Work as required by the District, or if the Contractor fails to perform the Work in accordance with the Contract Documents, or if the Contractor fails to comply with any other provision of the Contract Documents, the District may, after seven (7) Days written notice to the Contractor, correct, or remedy any such deficiency.

- B. In connection with such corrective or remedial action, the District may exclude the Contractor from all or part of the Site, take possession of all or part of the Work and suspend the Contractor's services related thereto, take possession of the Contractor's tools, appliances, construction equipment and machinery at the Site, and incorporate in the Work all materials and equipment stored at the Site or for which the District has paid the Contractor but which are stored elsewhere. The Contractor shall allow the District and the District's Representative, and the agents, employees, other contractors, and consultants of each of them, access to the Site to enable the District to exercise the rights and remedies to correct the defective work.
- C. All claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) incurred or sustained by the District correcting the defective work will be charged against the Contractor, and a Change Order will be issued incorporating the necessary revisions in the Contract Documents with respect to the Work; and the District shall be entitled to an appropriate decrease in the Contract Price.
- D. Such claims, costs, losses and damages will include but not be limited to all costs of repair, or replacement of work of others destroyed or damaged by correction, removal, or replacement of defective Work.
- E. If the Change Order is executed after all payments under the Contract have been paid by District and the Project Retention is held in an escrow account as permitted by the Contract Documents, the Contractor will promptly alert the escrow holder, in writing, of the amount of Retention to be paid to the District.
- F. If the Change Order is executed after release of the Project Retention, an appropriate amount will be paid by the Contractor to the District.
- G. The Contractor shall not be allowed an extension of the Contract Times because of any delay in the performance of the Work attributable to the District correcting defective work.

10.9 Warranty Period.

- A. If within one (1) year after commencement of the Warranty, or such longer period of time as may be prescribed by the terms of any applicable special guarantee required by the Contract Documents or by any specific provision of the Contract Documents, any Work is found to be defective or not performing suitably for its intended use, or if the repair of any damages to the Site or areas made available for Contractor's use during the performance of the Work is found to be defective, Contractor shall promptly, without cost to District and in accordance with District's written instructions:
 1. repair such defective land or areas;
 2. correct such defective or non-performing work;
 3. if the Defective Work has been rejected by District pursuant to the Contract Documents, remove it from the Project and replace it with Work that is not defective; and

4. satisfactorily correct or repair or remove and replace any damage to other Work, to the work of others or other land or areas resulting therefrom.
- B. If the Contractor does not promptly comply with the terms of the District's written instructions, or in an emergency where delay would cause serious risk of loss or damage, the District may have the Defective Work corrected or repaired or may have the rejected Work removed and replaced. All claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to such correction or repair or such removal and replacement (including but not limited to all costs of repair or replacement of work of others) will be paid by the Contractor in accordance with Section 00 72 13, Article 11.1.E.
 - C. Where Defective Work (or damage to other Work resulting therefrom) has been corrected or removed and replaced, the Warranty period hereunder with respect to such Work shall be extended for an additional period of one (1) year after such correction or removal and replacement has been satisfactorily completed.
 - D. The Contractor's obligations under this Article are in addition to any other obligation or warranty and do not limit the District's rights and remedies pursuant to California Code of Civil Procedure sections 337.10 and 337.15. or any other Applicable Law.

ARTICLE 11 -PAYMENTS TO CONTRACTOR AND COMPLETION

11.1 Progress Payments. The Cost-Loaded CPM Progress Schedule will serve as the basis for progress payments and will be incorporated into a form of Application for Payment acceptable to the District's Representative. Progress payments on account of Unit Price Work will be based on the number of units completed.

A. Applications for Payments.

1. By the twenty-fifth (25th) day of each month the Contractor shall submit to the District's Representative for review an Application for Payment filled out and signed by the Contractor covering the Work completed as of the date of the Application for Payment and accompanied by such supporting documentation as is required by the Contract Documents. If payment is requested on the basis of materials and equipment not incorporated in the Work but delivered and suitably stored at the Site or at another location agreed to in writing, the Application for Payment shall also be accompanied by a bill of sale, invoice, or other documentation warranting that the District has received the materials and equipment free and clear of all Liens and evidence that the materials and equipment are covered by appropriate property insurance or other arrangements to protect the District's interest therein, all of which must be satisfactory to District.
2. Beginning with the second Application for Payment, each Application shall include an affidavit executed by the Contractor stating that it has paid all amounts due on account of the Work paid by the District in the prior Applications for Payment.
3. The amount of retainage with respect to progress payments will be as set forth in the Special Conditions.

B. Review of Applications.

1. The District's Representative will either indicate in writing a recommendation of payment to District or return the Application for Payment to Contractor indicating in writing the District's Representative's reasons for refusing to recommend payment. In the latter case, the Contractor may make the necessary corrections and resubmit the Application for Payment.
2. By recommending any such payment the District's Representative will not thereby be deemed to have represented that:
 - a. inspections made to check the quality or the quantity of the Work as it has been performed have been exhaustive, extended to every aspect of the Work in progress, or involved detailed inspections of the Work beyond the responsibilities specifically assigned to the District's Representative in the Contract Documents; or
 - b. there may not be other matters or issues between the parties that might entitle the Contractor to be paid additionally by the District or entitle the District to withhold payment to the Contractor.
3. Neither the District's Representative's review of the Contractor's Work for the purposes of recommending payments nor the District's Representative's recommendation of any payment, including final payment, will impose responsibility on the District's Representative:
 - a. to supervise, direct, or control the Work;
 - b. for the means, methods, techniques, sequences, or procedures of construction, or the safety precautions and programs incident thereto;
 - c. for the Contractor's failure to comply with Applicable Laws applicable to the Contractor's performance of the Work;
 - d. to make any examination to ascertain how or for what purposes the Contractor has used the moneys paid on account of the Contract Price; or
 - e. to determine that title to any of the Work, materials, or equipment has passed to District free and clear of any Liens.
4. The District's Representative may refuse to recommend the whole or any part of any payment due to subsequently discovered evidence or the results of subsequent inspections or tests. The District retains the right to revise or revoke any such payment recommendation previously made, to such extent as may be necessary in the District's opinion to protect the District from loss.

C. Payment Becomes Due.

1. Thirty (30) Days after presentation of an undisputed and properly submitted Application for Payment to the District's Representative, and subject to the District's Representative's recommendation, subject to the modifications above, the amount recommended will become due, and when due will be paid by the District to the Contractor.

D. Retention and Securities in Lieu of Retention.

1. Unless Project has been deemed substantially complex as noted in the Notice Inviting Bids or Special Conditions, the District will retain five percent (5%) of the amount invoiced in accordance with Applicable Laws.
2. Pursuant to Public Contract Code section 22300, the Contractor may substitute securities for any moneys withheld as a retention by the District to ensure performance under the Contract. At the request and expense of the Contractor, securities equivalent to the amount withheld shall be deposited with the District, or with a state or federally chartered bank in this state as the escrow agent, who shall then pay those moneys to the Contractor. Upon satisfactory completion of the Contract, the securities shall be returned to the Contractor.
 - a. Alternatively, the Contractor may request, and the District shall make payment of retentions earned directly to the escrow agent selected by the Contractor. At the expense of the Contractor, the Contractor may direct the investment of the payments into securities and the Contractor shall receive the interest earned on the investments upon the same terms provided for in Public Contract Code section 22300 for securities deposited by the Contractor. Upon satisfactory completion of the Contract, the Contractor shall receive from the escrow agent all securities, interest, and payments received by the escrow agent when the District authorizes the escrow agent to release these funds to the Contractor, pursuant to the terms of Public Contract Code section 22300.
3. Securities eligible for investment shall include those listed in Government Code section 16430, bank or savings and loan certificates of deposit, interest-bearing demand deposit accounts, standby letters of credit, or any other security mutually agreed to by the Contractor and the District.
4. The escrow agreement shall be in the form of the Escrow Agreement provided as part of the Contract Documents.

E. District's Reduction in Recommended Payment.

1. In addition to reductions recommended by the District's Representative, the District may refuse to make payment of the full amount recommended by the District's Representative because:
 - a. Claims have been made against the District on account of the Contractor's performance or furnishing of the Work.

- b. Stop Payment Notices or Liens have been filed in connection with the Work.
- c. Defective Work not remedied.
- d. Failure of the Contractor to make proper payments to its subcontractors or suppliers.
- e. Completion of the Contract if there exists a reasonable doubt that the Work can be completed for the unpaid Contract balance.
- f. Damage to another contractor or third party.
- g. Amounts which may be due District for claims against the Contractor.
- h. Failure of the Contractor to keep the record ('as-built") drawings up to date.
- i. Failure to provide updates on the construction schedule.
- j. Site cleanup.
- k. Failure of the Contractor to comply with requirements of the Contract Documents.
- l. Liquidated Damages.

Upon completion of the Contract, District will reduce the final Contract Price to reflect costs charged to the Contractor, back charges or payments withheld pursuant to the Contract Documents.

11.2 Contractor's Warranty of Title.

- A. The Contractor warrants and guarantees that title to all Work, materials, and equipment covered by any Application for Payment, whether incorporated in the Project or not, will pass to the District no later than the time of payment free and clear of all Liens.

11.3 Partial Utilization.

- A. The District reserves the right to occupy or utilize any portion of the Work at any time before completion, and such occupancy or use shall not constitute acceptance of any part of Work covered by this Contract. This use shall not relieve the Contractor of its responsibilities under the Contract.

11.4 Final Inspection.

- A. Upon written notice from the Contractor that the entire Work is complete, the District's Representative will promptly make a final inspection with the District and the Contractor and will notify the Contractor in writing of all particulars in which this inspection reveals that the Work is incomplete or defective. The Contractor shall immediately take such measures as are necessary to complete such Work or remedy such deficiencies.

11.5 Final Acceptance.

- A. After the Contractor has, in the opinion of the District's Representative, satisfactorily completed all corrections identified during the final inspection and has delivered, in accordance with the Contract Documents, all maintenance and operating instructions, schedules, guarantees, bonds, certificates or other evidence of insurance, certificates of inspection, marked-up record documents, and other documents required by the Contract Documents, the District shall execute and file with the County in which the Project is located a Notice of Completion, constituting final acceptance and completion of the Project, except as may be expressly noted.

11.6 Final Payment.

A. Application for Payment.

- 1. Upon execution of the Notice of Completion, the Contractor may make application for final payment following the procedure for progress payments.
- 2. The final Application for Payment shall be accompanied (except as previously delivered) by:
 - a. all documentation called for in the Contract Documents, including but not limited to the evidence of insurance;
 - b. consent of the surety to final payment;
 - c. a fully completed Conditional Waiver and Release on Final Payment.

B. District's Representative's Review of Application and Acceptance.

- 1. If, on the basis of the District's Representative's observation of the Work during construction and final inspection, and the District's Representative's review of the final Application for Payment and accompanying documentation as required by the Contract Documents, the District's Representative is satisfied that the Work has been completed and the Contractor has satisfied all other requirements for final payment, the District's Representative will indicate in writing the District's Representative's recommendation of payment and present the Application for Payment to the District for payment. Otherwise, the District's Representative will return the Application for Payment to Contractor, indicating in writing the reasons for refusing to recommend final payment, in which case the Contractor shall make the necessary corrections and resubmit the Application for Payment.

C. Payment Becomes Due.

- 1. Within sixty (60) Days after the presentation to the District's Representative of the proper and complete final Application for Payment and accompanying documentation, the amount recommended by the District's Representative, less any sum the District is entitled to set off pursuant to the Contract Documents, will become due and will be paid by the District to the Contractor.

11.7 Waiver of Claims.

- A. The making and acceptance of final payment will constitute a waiver of all Claims by the Contractor against the District other than those previously made in accordance with the requirements herein and expressly acknowledged by the District in writing as still unsettled.

ARTICLE 12 -SUSPENSION OF WORK AND TERMINATION

12.1 District May Suspend Work.

- A. The District may, at its sole option, decide to suspend at any time the performance of all or any portion of the Work by notice in writing to the Contractor. Such notice of suspension of Work will designate the amount and type of plant, labor, and equipment to be committed to the Project during the period of suspension. The Contractor shall use its best efforts to utilize its plant, labor, and equipment in such a manner as to minimize costs associated with suspension.
- B. Upon receipt of any such notice, the Contractor shall, unless the notice requires otherwise:
 - 1. Immediately discontinue Work on the date and to the extent specified in the notice;
 - 2. Place no further orders or subcontracts for material, services, or facilities with respect to suspended Work other than to the extent required in the notice;
 - 3. Promptly make every reasonable effort to obtain suspension upon terms satisfactory to the District's Representative of all orders, subcontracts, and rental agreements to the extent they relate to performance of Work suspended; and
 - 4. Continue to protect and maintain the Work including those portions on which Work has been suspended.
- C. Should such suspension cause a delay to the Project critical path, the Contractor shall be granted an adjustment in the Contract Price based on the Reverse Liquidated Damages clause contained in the Special Conditions and an extension of the Contract Times equal to the number of days the critical path was impacted when the performance of Work is suspended as full and complete compensation for such suspension; provided, however, that no adjustment of Contract Price or extension of Contract Times shall be granted if the suspension results from the Contractor's non-compliance with the requirements of the Contract.
- D. If the Contract Schedule of Pay Items includes a Schedule B bid item requiring the Contractor to provide a lump sum bid price for mobilization and demobilization and District exercises its option to suspend the Project and directs the Contractor to demobilize, the Contractor will be paid the lump sum demobilization bid item provided by the Contractor in Schedule B of the Bid Form. If, within one year of demobilization, District directs the Contractor to remobilize, the Contractor will be paid the lump sum remobilization bid item provided by the Contractor in Schedule B of the Bid Form.

12.2 District May Terminate for Cause.

- A. The District may, without prejudice to any other right or remedy, serve written notice upon the Contractor of its intention to terminate this Contract in whole or in part if the Contractor: (i) refuses or fails to prosecute the Work or any part thereof with such diligence as will ensure its completion within the Contract Time; (ii) fails to complete the Work within the required time; (iii) files a bankruptcy petition or is adjudged a bankruptcy; (iv) makes a general assignment for the benefit of its creditors; (v) has a receiver appointed; (vi) refuses or fails to supply enough properly skilled workers or proper materials to complete the Work; (vii) fails to make prompt payment to subcontractors or for material or labor; (viii) disregards Applicable Laws, other requirements or instructions of District; or (ix) violates any of the provisions of the Contract Documents.
- B. The Notice of Default and Intent to Terminate shall state the reasons for termination. Unless within five (5) Days after the service of such notice, the Contractor resolves the circumstances giving rise to the Notice of Default to the District's satisfaction, or makes arrangements acceptable to District for the required corrective action, the District may terminate this Contract. In such case, the Contractor shall not be entitled to receive any further payment until the Work has been finished. The District may take over and complete the Work by any method it may deem appropriate, including enforcement of the Project Performance Bond. The Contractor and its surety shall be liable to the District for any excess costs or other damages incurred by the District to complete the Work. If the District takes over the Work, the District may, without liability for so doing, take possession of and utilize in completing the Work such materials, appliances, plant, and other property belonging to the Contractor as may be on the Site.

12.3 District May Terminate for Convenience.

- A. In addition to its right to terminate this Contract for default, the District may terminate the Contract, in whole or in part, at any time upon seven (7) Days written notice to the Contractor. The Notice of Termination shall specify that the termination is for the convenience of the District, the extent of termination, and the effective date of such termination ("Effective Date of Termination").
- B. After receipt of Notice of Termination, and except as directed by the District, the Contractor shall, regardless of any delay in determining or adjusting any amounts due under this Termination for Convenience clause, immediately proceed with the following obligations:
 - 1. Stop Work as specified in the Notice.
 - 2. Complete any Work specified in the Notice of Termination in a least cost/shortest time manner while still maintaining the quality called for under the Contract Documents.
 - 3. Leave the Site and any other property upon which the Contractor was working in a safe and sanitary manner such that it does not pose any threat to the public health or safety.

4. Terminate all subcontracts and purchase orders to the extent that they relate to the portions of the Work terminated.
5. Place no further subcontracts or orders, except as necessary to complete the remaining portion of the Work.

Submit to the District, within fifteen (15) Days from the Notice of Termination, all of the documentation called for by the Contract Documents to substantiate all costs incurred by the Contractor for labor, materials and equipment through the Notice of Termination. Any documentation substantiating costs incurred by the Contractor solely as a result of the District's exercise of its right to terminate this Contract pursuant to this clause, which costs the Contractor is authorized under the Contract Documents to incur, shall: (i) be submitted to and received by the District no later than thirty (30) Days after the Effective Date of the Notice of Termination; (ii) describe the costs incurred with particularity; and (iii) be conspicuously identified as "Termination Costs Occasioned by District's Termination for Convenience."

6. The District's total liability to the Contractor by reason of the termination shall be limited to the total (without duplication of any items) of:
 - a. The reasonable cost to the Contractor for all Work performed prior to the Effective Date of Termination, including the Work done to secure the Project for termination. Reasonable cost may not exceed the applicable percentage completion values derived from the progress schedule and the Cost Breakdown. Deductions shall be made for cost of materials to be retained by the Contractor, cost of Work defectively performed, amounts realized by sale of materials, and for other appropriate credits or offsets against cost of Work as allowed by the Contract Documents.
 - b. When, in the District's opinion, the cost of any item of Work is excessively high due to costs incurred to remedy or replace defective or rejected Work, reasonable cost to be allowed will be the estimated reasonable cost of performing the Work in compliance with requirements of the Contract Documents and excessive actual cost shall be disallowed.
 - c. Any Work required by the Termination for Convenience that is not included in the Contract Documents will be negotiated pursuant to the Contract Change Order provisions.
 - d. Reasonable costs to the Contractor of handling material returned to vendors, delivered to the District or otherwise disposed of as directed by the District.
 - e. A reasonable allowance for the Contractor's internal administrative costs in preparing termination claim.
 - f. Reasonable demobilization costs, and reasonable payments made to Subcontractors or suppliers on account of termination.

7. In no event shall the District be liable for unreasonable costs incurred by the Contractor or subcontractors after receipt of a Notice of Termination. Such non-recoverable costs include, but are not limited to, the cost of or anticipated profits on Work not performed as of the date of termination, post-termination employee salaries, unreasonable post-termination administrative expenses, post-termination overhead or unabsorbed overhead, surety costs of any type, costs of preparing and submitting the Contractor's termination claim, attorney fees of any type, and all other costs relating to prosecution of a claim or lawsuit.
8. The District shall have no obligation to pay the Contractor under this Article unless and until the Contractor provides the District with updated and acceptable As-Builts and Record Documents for Work completed prior to termination as required by the Contract Documents.
9. In arriving at the amount due the Contractor under this clause there shall be deducted in whole, or in the appropriate part(s) if the termination is partial:
 - a. All unliquidated advances or other payments on account previously made to the Contractor, including without limitation all payments which are applicable to the terminated portion of the Contract Documents,
 - b. Any claim the District may have against the Contractor in connection with the Work or any amounts that may be withheld in accordance with the Contract Documents, and
 - c. The agreed price for, or proceeds of sale of, any materials, supplies, or other things kept by the Contractor and not otherwise recovered by or credited to the District.

These provisions are in addition to and not in limitation of any other rights or remedies available to the District.

The Contractor shall not be paid on account of loss of anticipated profits or revenue or other economic loss or consequential damages arising out of or resulting from such termination.

10. Notwithstanding any other provision of this Article, when immediate action is necessary to protect life and safety or to reduce significant exposure or liability, the District may immediately order the Contractor to cease Work until such safety or liability issues are addressed to the satisfaction of the District or the Contract is terminated.
11. If the District terminates the Contractor for cause, and if it is later determined that the termination was wrongful, such default termination shall automatically be converted to and treated as a termination for convenience. In such event, the Contractor shall be entitled to receive only the amounts payable under this section, and the Contractor specifically waives any claim for any other amounts or damages, including, but not limited to, any claim for consequential damages or lost profits.

ARTICLE 13 -CLAIMS, DISPUTE AVOIDANCE AND RESOLUTION

13.1 Prerequisite to Initiating Claims.

The Contractor shall timely comply with all notices and requests for changes to the Contract Time or Contract Price, including but not limited to Changes and Extra Work, as a prerequisite to filing any claim governed by this Section. The failure to timely submit a notice of delay or notice of change, or to timely request a change to the Contract Price or Contract Time, or to timely provide any other notice or request required herein shall constitute a waiver of the right to further pursue the claim under the Contract or at law.

13.2 Intent.

A. Effective January 1, 1991, Section 20104 et seq., of the California Public Contract Code prescribes a process utilizing informal conferences, non-binding judicial supervised mediation, and judicial arbitration to resolve disputes on construction claims of \$375,000 or less. Effective January 1, 2017, Section 9204 of the Public Contract Code prescribes a process for negotiation and mediation to resolve disputes on construction claims. The intent of this Section is to implement Sections 20104 et seq. and Section 9204 of the California Public Contract Code. This Section shall be construed to be consistent with said statutes.

13.4 Claims.

A. For purposes of this Section, "Claim" means a separate demand by the Contractor, after a change order duly requested in accordance with the terms of this Contract has been denied by the District, for (A) a time extension, (B) payment of money or damages arising from Work done by or on behalf of the Contractor pursuant to the Contract, or (C) an amount the payment of which is disputed by the District. Claims governed by this Section may not be filed unless and until the Contractor completes all procedures for giving notice of delay or change and for the requesting of a time extension or change order, including but not necessarily limited to the change order procedures contained herein, and the Contractor's request for a change has been denied in whole or in part. Claims governed by this Section must be filed no later than the date of final payment. The claim shall be submitted in writing to the District and shall include on its first page the following in 16 point capital font: "THIS IS A CLAIM." Furthermore, the claim shall include the documents necessary to substantiate the claim. Nothing in this Section is intended to extend the time limit or supersede notice requirements otherwise provided by contract for the filing of claims, including all requirements pertaining to compensation or payment for extra Work, disputed Work, and/or changed conditions. Failure to follow such contractual requirements shall bar any claims or subsequent lawsuits for compensation or payment thereon.

13.5 Supporting Documentation.

- A. The Contractor shall submit all claims in the following format:
1. Summary of claim merit and price, reference Contract Document provisions pursuant to which the claim is made.
 2. List of documents relating to claim:

- a. Specifications
 - b. Drawings
 - c. Clarifications (Requests for Information)
 - d. Schedules
 - e. Other
3. Chronology of events and correspondence
 4. Analysis of claim merit
 5. Analysis of claim cost
 6. Time impact analysis in CPM format

13.6 District's Response.

- A. Upon receipt of a claim pursuant to this Section, the District shall conduct a reasonable review of the claim and, within a period not to exceed 45 days, shall provide the Contractor a written statement identifying what portion of the claim is disputed and what portion is undisputed. Any payment due on an undisputed portion of the claim will be processed and made within 60 days after the District issues its written statement.
 1. If the District needs approval from its governing body to provide the Contractor a written statement identifying the disputed portion and the undisputed portion of the claim, and the governing body does not meet within the 45 days or within the mutually agreed to extension of time following receipt of a claim sent by registered mail or certified mail, return receipt requested, the District shall have up to three days following the next duly publicly noticed meeting of the governing body after the 45-day period, or extension, expires to provide the Contractor a written statement identifying the disputed portion and the undisputed portion.
 2. Within 30 days of receipt of a claim, the District may request in writing additional documentation supporting the claim or relating to defenses or claims the District may have against the Contractor. If additional information is thereafter required, it shall be requested and provided pursuant to this subdivision, upon mutual agreement of the District and the Contractor.
 3. The District's written response to the claim, as further documented, shall be submitted to the Contractor within 30 days (if the claim is less than \$50,000, within 15 days) after receipt of the further documentation, or within a period of time no greater than that taken by the Contractor in producing the additional information or requested documentation, whichever is greater.

13.7 Meet and Confer Process.

- A. If the Contractor disputes the District's written response, or the District fails to respond within the time prescribed, the Contractor may so notify District, in writing, either within

15 days of receipt of the District's response or within 15 days of the District's failure to respond within the time prescribed, respectively, and demand an informal conference to meet and confer for settlement of the issues in dispute. Upon receipt of a demand, the District shall schedule a meet and confer conference within 30 days for settlement of the dispute.

13.8 Mediation.

- A. Within 10 business days following the conclusion of the meet and confer conference, if the claim or any portion of the claim remains in dispute, the District shall provide the Contractor a written statement identifying the portion of the claim that remains in dispute and the portion that is undisputed. Any payment due on an undisputed portion of the claim shall be processed and made within 60 days after the District issues its written statement. Any disputed portion of the claim, as identified by the Contractor in writing, shall be submitted to nonbinding mediation, with the District and the Contractor sharing the associated costs equally. The District and the Contractor shall mutually agree to a mediator within 10 business days after the disputed portion of the claim has been identified in writing, unless the parties agree to select a mediator at a later time.
1. If the Parties cannot agree upon a mediator, each Party shall select a mediator and those mediators shall select a qualified neutral third party to mediate with regard to the disputed portion of the claim. Each Party shall bear the fees and costs charged by its respective mediator in connection with the selection of the neutral mediator.
 2. For purposes of this section, mediation includes any nonbinding process, including, but not limited to, neutral evaluation or a dispute review board, in which an independent third party or board assists the Parties in dispute resolution through negotiation or by issuance of an evaluation. Any mediation utilized shall conform to the timeframes in this section.
 3. Unless otherwise agreed to by the District and the Contractor in writing, the mediation conducted pursuant to this section shall excuse any further obligation under Section 20104.4 to mediate after litigation has been commenced.
 4. The mediation shall be held no earlier than the date the Contractor completes the Work or the date that the Contractor last performs Work, whichever is earlier. All unresolved claims shall be considered jointly in a single mediation, unless a new unrelated claim arises after mediation is completed..

13.9 Procedures After Mediation.

- A. If following the mediation, the claim or any portion remains in dispute, the claimant may file a claim as provided in Chapter 1 (commencing with Section 900) and Chapter 2 (commencing with Section 910) of Part 3 of Division 3.6 of Title 1 of the Government Code. For purposes of those provisions, the running of the period of time within which a claim must be filed shall be tolled from the time the Contractor submits its written Claim until the completion of the Meet and Confer process.
- B. Except as provided herein, nothing in this article is intended nor shall be construed to change the time periods for filing tort claims or actions specified by Chapter 1

(commencing with Section 900) and Chapter 2 (commencing with Section 910) of Part 3 of Division 3.6 of Title 1 of the Government Code.

13.10 Government Code Claims.

- A. In addition to any and all contract requirements pertaining to notices of and requests for compensation or payment for extra work, disputed work, claims and/or changed conditions, the Contractor must comply with the claim procedures set forth in Government Code sections 900 et seq. prior to filing any lawsuit against the District. Such Government Code claims and any subsequent lawsuit based upon the Government Code claims shall be limited to those matters that remain unresolved after all procedures pertaining to extra work, disputed work, claims, and/or changed conditions have been followed by the Contractor. If no such Government Code claim is submitted, or if any prerequisite contractual requirements are not otherwise satisfied as specified herein, the Contractor shall be barred from bringing and maintaining a valid lawsuit against the District. A Government Code claim must be filed no earlier than the date the work is completed or the date the Contractor last performs work on the Project, whichever occurs first. A Government Code claim shall be inclusive of all unresolved claims unless a new unrelated claim arises after the Government Code claim is submitted.

13.11 Non-Waiver.

- A. The District's failure to respond to a claim from the Contractor within the time periods described in this Section or to otherwise meet the time requirements of this Section shall result in the claim being deemed rejected in its entirety. The District's failure to respond shall not waive the District's rights to any subsequent procedures for the resolution of disputed claims.

13.12 Duty to Continue Performance.

- A. Unless provided to the contrary in the Contract Documents, the Contractor shall continue to perform the Work and the District shall continue to satisfy its payment obligations to the Contractor, pending the final resolution of any dispute or disagreement between the Contractor and the District.

ARTICLE 14 -MISCELLANEOUS

14.1 Giving Notice.

- A. Whenever any provision of the Contract Documents requires the giving of written notice, it will be deemed to have been validly given if:
1. delivered in person to the individual or to a member of the firm or to an officer of the corporation for whom it is intended; or
 2. delivered at or sent by registered or certified mail, postage prepaid, to the last business address known to the giver of the notice.

14.2 Limitations on District's Responsibilities.

A. The District shall not supervise, direct, or have control or authority over, nor be responsible for, the Contractor's means, methods, techniques, sequences, or procedures of construction, or the safety precautions and programs incident thereto, or for any failure of the Contractor to comply with Applicable Laws applicable to the performance of the Work. District will not be responsible for the Contractor's failure to perform the Work in accordance with the Contract Documents.

14.3 Cumulative Remedies.

A. The duties and obligations imposed by these General Conditions and the rights and remedies available hereunder to the parties hereto are in addition to, and are not to be construed in any way as a limitation of, any rights and remedies available to any or all of them which are otherwise imposed or available by Applicable Laws, by special warranty or guarantee, or by other provisions of the Contract Documents. The provisions of this Section will be as effective as if repeated specifically in the Contract Documents in connection with each particular duty, obligation, right, and remedy to which they apply.

14.4 Survival of Obligations.

- A. All representations, indemnifications, warranties, and guarantees made in, required by, or given in accordance with the Contract Documents, as well as all continuing obligations indicated in the Contract Documents, will survive final payment, completion, and acceptance of the Work or termination or completion of the Contract or termination of the services of Contractor.

14.5 Controlling Law.

- A. Notwithstanding any subcontract or other contract with any Subcontractor, Supplier, or other person or organization performing any part of the Work, this Contract shall be governed by the law of the State of California excluding any choice of law provisions.

14.6 Jurisdiction; Venue.

- A. The Contractor and any Subcontractor, Supplier, or other person or organization performing any part of the Work agree that any action or suits at law or in equity arising out of or related to the bidding, award, or performance of the Work shall be maintained in the Superior Court of Imperial County, California, and expressly consent to the jurisdiction of said court, regardless of residence or domicile, and agree that said court shall be a proper venue for any such action.

14.7 Headings.

- A. Article and paragraph headings are inserted for convenience only and do not constitute parts of these General Conditions.

14.8 Right to Audit.

- A. The Contractor shall make available to the District for auditing, all relevant accounting records and documents, and other financial data, and upon request, shall submit true copies of requested records to the District.
- B. If the Contractor submits a Change Order Request, a Request for Proposal, or a Claim to the District, the District shall have the right to audit the Contractor's books, records, documents, and other evidence to the extent they are relevant.
- C. The right to audit shall include the right to examine books, records, documents, and other evidence and accounting procedures and practices, sufficient to discover and verify all direct and indirect costs of whatever nature claimed to have been incurred or anticipated to be incurred and for which the Claim has been submitted, including but not limited to job cost reports, estimates, bids, bid papers, documents of other work administered by the Contractor's home office, and any and all other documentation relied upon by the Contractor to obtain this Contract. The District shall have the right to make and take copies of any records examined.
- D. The right to audit shall include the right to inspect the Contractor's plans, or such parts thereof, as may be or have been engaged in the performance of the Work.

- E. The Contractor further agrees that the right to audit encompasses all subcontracts and is binding upon Subcontractors.
- F. The right to audit provided herein shall be exercisable through such representatives as the District deems desirable during the Contractor's normal business hours at Contractor's office.
- G. In accordance with Government Code section 8546.7, records of both the District and the Contractor shall be subject to examination and audit by the State Auditor General for a period of three (3) years after final payment. The Contractor shall make available to the District any of the Contractor's other documents related to the Work immediately upon request of the District. In addition to the State Auditor's rights described above, the District shall have the right to examine and audit all books, estimates, records, contracts, documents, bid documents, subcontracts, and other data of the Contractor (including electronic records, computations and projections) related to negotiating, pricing, or performing the Work in order to evaluate the accuracy and completeness of the cost or pricing data, for a period of four (4) years after final payment.

14.9 Assignment.

- A. The Contractor shall not assign, transfer, convey, sublet, or otherwise dispose of this Contract or any part thereof including any claims, without prior written consent of District. Any assignment without the written consent of the District shall be void. Any assignment of money due or to become due under this Contract shall be subject to a prior lien for services rendered or Material supplied for performance of Work called for under the Contract Documents in favor of all persons, firms, or corporations rendering such services or supplying such Materials to the extent that claims are filed pursuant to the Civil Code, the Code of Civil Procedure or the Government Code.
- B. As set forth in Public Contract Code section 7103.5, 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 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. § 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.

14.10 All Legal Provisions Included.

- A. The Contractor shall give all notices and comply with all federal, state and local laws, ordinances, rules and regulations bearing on conduct of work as indicated and specified by their terms. References to specific laws, rules or regulations in this Contract are for reference purposes only, and shall not limit or affect the applicability of provisions not specifically mentioned. If the Contractor observes that drawings and specifications are at variance therewith, he shall promptly notify the District in writing and any necessary changes shall be adjusted as provided for in this Contract for changes in Work. If the Contractor performs any Work knowing it to be contrary to such laws, ordinances, rules and regulations, and without such notice to the District, he shall bear all costs arising therefrom.

- B. The Contractor shall be responsible for familiarity with the Americans with Disabilities Act ("ADA") (42 U.S.C. § 12101 et seq.). The Work will be performed in compliance with ADA laws, rules and regulations. The Contractor shall comply with the Historic Building Code, including, but not limited to, as it relates to the ADA, whenever applicable.
- C. The Contractor acknowledges and understands that, pursuant to Public Contract Code section 20676, sellers of "mined material" must be on an approved list of sellers published pursuant to Public Resources Code section 2717(b) in order to supply mined material for this Contract.
- D. No District official or representative who is authorized in such capacity and on behalf of the District to negotiate, supervise, make, accept, or approve, or to take part in negotiating, supervising, making, accepting or approving any engineering, inspection, construction or material supply contract or any subcontract in connection with construction of the Work, shall be or become directly or indirectly interested financially in the Contract.
- E. All provisions of law required to be inserted in the Contract or Contract Documents pursuant to any Applicable Laws shall be and are inserted herein. If through mistake, neglect, oversight, or otherwise, any such provision is not herein inserted or inserted in improper form, upon the application of either party, the Contract or Contract Documents shall be changed by the District, at no increase in Contract Price or extension in Contract Times, so as to strictly comply with the Applicable Laws and without prejudice to the rights of either party hereunder.

14.11 State License Board Notice.

- A. Contractors are required by law to be licensed and regulated by the Contractors' State License Board which has jurisdiction to investigate complaints against contractors if a complaint regarding a patent act or omission is filed within four (4) years of the date of the alleged violation. A complaint regarding a latent act or omission pertaining to structural defects must be filed within ten (10) years of the date of the alleged violation. Any questions concerning a contractor may be referred to the Registrar, Contractors' State License Board, P.O. Box 26000, Sacramento, California 95826.

14.12 Air Pollution Control.

- A. The Contractor shall comply with all air pollution control rules, regulations, ordinances and statutes. All containers of paint, thinner, curing compound, solvent or liquid asphalt shall be labeled to indicate that the contents fully comply with the applicable material requirements.
- B. Without limiting the foregoing, the Contractor must fully comply with all applicable laws, rules and regulations in furnishing or using equipment and/or providing services, including, but not limited to, emissions limits and permitting requirements imposed by the Air Quality Management District with jurisdiction over the Project and/or California Air Resources Board (CARB). The Contractor shall specifically be aware of the application of these limits and requirements to "portable equipment", which definition is considered includes any item of equipment with a fuel-powered engine.

14.13 Noise.

- A. The Contractor shall use only such equipment on the Work and in such state of repair so that the emission of sound therefrom is within the noise tolerance level of that equipment as established by CAL-OSHA.
- B. The Contractor shall comply with the most restrictive of the following: (1) local sound control and noise level rules, regulations and ordinances and (2) the requirements contained in these Contract Documents, including hours of operation requirements. No internal combustion engine shall be operated on the Work without a muffler of the type recommended by the manufacturer. Should any muffler or other control device sustain damage or be determined to be ineffective or defective, the Contractor shall promptly remove the equipment and shall not return that equipment to the Site until the device is repaired or replaced. Noise and vibration level requirements shall apply to all equipment on the jobsite or related to the Work, including but not limited to, trucks, transit mixers or transit equipment that may or may not be owned by the Contractor.

14.14 Change In Name And Nature Of Contractor's Legal Entity.

- A. Should a change be contemplated in the name or nature of the Contractor's legal entity, the Contractor shall first notify the District in order that proper steps may be taken to have the change reflected on the Contract and all related documents. No change of the Contractor's name or nature will affect the District's rights under the Contract, including but not limited to the bonds.

14.15 Notice Of Third Party Claims.

- A. Pursuant to Public Contract Code section 9201, the District shall provide the Contractor with timely notification of the receipt of any third-party claim relating to the Contract.

END GENERAL CONDITIONS

IMPERIAL COMMUNITY COLLEGE DISTRICT

00 73 13 – SPECIAL CONDITIONS

1.1 Architect of Record.

A. For purposes of this Project, the Architect of Record or Architect shall be: Sanders, Inc.

1.2 Location of the Project.

A. The Project is located Imperial Valley College, 380 E. Aten Road, Imperial, CA 92251

1.3 Description of the Project.

A. The Project consists of the items set forth below and related facilities.

1. Remove existing tennis courts, equipment, fencing, field lighting poles and electrical system for new tennis courts; and
2. Provide new post tension tennis court, striping and equipment; and
3. Provide new chain link fencing and gates; and
4. Provide new field lighting – (6) poles; and
5. Provide electrical service to field lighting poles; and
6. Provide (4) new movable 5 tier bleachers; and
7. Provide (2) new 18'x78' shade structures; and
8. Provide (2) new 18'x56' shade structures; and
9. Provide (2) new water stations with chillers; and
10. Provide new off-site concrete; and
11. Provide landscape improvements; and
12. Ancillary concrete site work. | |

1.4 Status of the Project Area and Rights-of-Way.

A. The District, at its expense, will provide all rights-of-way or permits, or both, covering the crossing of private property and public and private rights-of-way necessary for the permanent Work; provided, however, the Contractor shall, at its expense, obtain any bonds or insurance policies or pay any fees and enter into any agreements required by a controlling authority, e.g., Caltrans or Southern Pacific Railroad Company, before the Contractor enters upon any property or right-of-way under the jurisdiction of any such controlling authority for the purpose of performing Work.

- B. The District has acquired or is negotiating to acquire any rights-of-way, or both, necessary for the permanent Work.
- C. If such permits are required, all operations of the Contractor shall conform to the restrictions, regulations, and requirements set forth in said permits, copies of which will be included in the Contract Documents.
- D. The Contractor may be required, as a condition for receiving final payment, to obtain, and provide the District's Representative with copies of, executed damage releases from the owners of public and private property whose property has been damaged by the Work. The damage releases will be on a form provided by the District.
- E. The Contractor shall, also, as a condition for receiving final payment, obtain, and provide the District's Representative with copies of, executed damage releases from the owners of certain public and private property or areas which have been crossed by the Work or otherwise affected by the Work. The damage releases will be on a form provided by the District.

1.5 Site Data.

- A. The data provided herein is for the information of the Contractor and is subject to all limitations and conditions set forth in the Contract Documents.
- B. Other Site Data:
 - 1. Geotechnical Report
- C. Copies of these reports, drawings and other materials may be examined at the District's office during regular business hours.

1.6 Pre-Purchased Material.

- A. The District has pre-purchased the following equipment and/or material to be incorporated into the Project:
 - Field Lighting Poles
 - Shade Structures
- B. The Contractor is responsible for coordination with manufacturer and complete installation of the equipment and/or material as if the Contractor had purchased it directly. |

1.7 Designation of District's Representative.

- A. Unless otherwise modified by the District, the District's Representative shall be Sanders, Inc. Architecture/Engineering.

1.8 Modification of Hours of Work.

[NOT USED.] |

1.9 Project Retention

In accordance with Public Contract Code § 7201, the District will withhold 5% of each progress payment as retention on the Project. |

1.10 Liquidated Damages Due to Contractor Delay.

A. Time is of the essence. Should the Contractor fail to complete all or any part of the Work within the time specified in the Contract Documents, the District will suffer damage, the amount of which is difficult, if not impossible, to ascertain and, pursuant to the authority of Government Code section 53069.85, the District shall therefore be entitled to **\$1500.00** per Day as liquidated damages for each Day or part thereof that actual completion extends beyond the time specified.

B. Liquidated damages may be deducted from progress payments due the Contractor, Project retention or may be collected directly from the Contractor, or from the Contractor's surety. These provisions for liquidated damages shall not prevent the District, in case of the Contractor's default, from terminating the Contractor.

1.11 Utility Outages – Notices to Residents.

A. Should the Contractor's operations require interruption of any utility service, Contractor shall notify the District at least ten (10) Days prior to the scheduled outage. The Contractor will notify all impacted residents on a form provided by the District at least seven (7) days prior to the scheduled outage.

B. The Contractor shall be responsible for providing, at its cost, any temporary utility or facilities necessitated by the utility outage.

1.12 Schedule Constraints.

NOT USED. |

1.13 Noise Restrictions

NOT USED. |

1.14 Environmental Conditions

NOT USED. |

1.15 Safety Programs.

NOT USED. |

1.16 Coordination with Other Contractors.

NOT USED. |

1.17 Temporary Field Office

- A. Inspector's Field Office. The Contractor shall be responsible for providing the inspector's field office. The office shall be a substantial waterproof construction with adequate natural light and ventilation by means of stock design windows. Door shall have a key type lock or padlock clasp. The office shall have heating and air conditioning and shall be equipped with a telephone, a telephone answering machine, high-speed internet connection, and a fax machine at the Contractor's expense. A table satisfactory for the study of plans and two chairs shall be provided by the Contractor. The Contractor shall provide and pay for adequate electric lights, local telephone service, and adequate heat and air conditioning for the field office until authorized removal.
- B. Utility Services. The Contractor, at its expense, shall arrange for, develop and maintain all utilities, including but not limited to water, electric power, sewage disposal and telephone communications, at the Site to meet the requirements of the Work.
- C. Sanitation. The Contractor shall provide sanitary facilities for all persons working on the project. These facilities shall be kept clean and shall not be unsightly or produce odors.

1.18 Fugitive Dust

- A. In addition to all other environmental and air quality requirements of the Contract Documents, Contractor must also comply with the most recent version of Imperial County Air Pollution Control District's Rule 800 – Fugitive Dust, to reduce the amount of particulate matter entrained in the ambient air as a result of the Project.
- B. No additional time or compensation will be added to the Contract due to these requirements. |

END OF SPECIAL CONDITIONS

01 00 00 – GENERAL REQUIREMENTS

PART 1 -- GENERAL

1.1 DESCRIPTION

- A. Removal of existing tennis courts, equipment, fencing, field lighting poles and electrical system for new tennis courts. Provide new tennis courts, chain-link fencing and gates, field lighting poles, bleachers, shade structures, water stations with chillers and electrical service to field lighting poles.

1.2 RELATED REQUIREMENTS SPECIFIED ELSEWHERE

PART 2 -- PRODUCTS (NOT USED)

PART 3 -- EXECUTION

3.1 LAYOUT OF WORK AND QUANTITY SURVEYS

- A. General. The Contractor shall utilize a properly licensed surveyor to perform all layout surveys required for the control and completion of the Work, and all necessary surveys to compute quantities of Work performed.

The District and/or the Architect of Record has established primary control to be used by the Contractor for establishing lines and grades required for the Work.

Primary control consists of benchmarks and horizontal control points in the vicinity of the Work. A listing and identification of the primary control is provided on the Drawings. Before beginning any layout work or construction activity, the Contractor shall check and verify primary control, and shall advise the District Representative of any discrepancies.

- B. Quantity surveys. The Contractor shall perform such surveys and computations as are necessary to determine quantities of Work performed or placed during each progress payment period, and shall perform all surveys necessary for the District Representative to determine final quantities of Work in place. The District Representative will determine final quantities based upon the survey data provided by the Contractor, and the design lines and grades. If requested by the District Representative, the Contractor shall provide an electronic copy of data used for quantity computations.

All surveys performed for measurement of final quantities of Work and material shall be subject to approval of the District's Representative. Unless waived by the District's Representative in each specific case, quantity surveys made by the Contractor shall be made in the presence of the District's Representative.

- C. Surveying

1. Accuracy. Degree of accuracy shall be an order high enough to satisfy tolerances specified for the Work and the following:
 - (a) Right-of-way and alignment of tangents and curves shall be within 0.1 foot.
 - (b) Structure points shall be set within 0.01 foot, except where operational function of the special features or installation of metalwork and equipment require closer tolerances. When formwork has been placed and is ready for concrete, the Contractor shall check the formwork for conformance with the drawings and to ensure that the forms are sufficiently within the tolerance limits for the completed work.
 - (c) Cross-section points shall be located within 0.1 foot, horizontally and vertically.
 - (d) Aerial Mapping shall meet National Mapping Standards for 2-foot contour intervals.
- D. Records. Survey data shall be recorded in accordance with recognized professional surveying standards. Original field notes, computations, and other surveying data shall be recorded on electronic data collectors or in standard field books and must be of sufficient quality to enable the Contractor to prepare accurate record drawings as required by the Contract Documents.
- E. Cost. – Unless otherwise called for by the Contract Documents, the cost of all material, equipment, and labor required for surveys for the layout of work and quantity surveys shall be included in the Schedule of Pay Items for items of work requiring the surveys. No additional compensation shall be made to the Contractor for this Work.

3.2 SUBMITTAL REQUIREMENTS FOR MANUALS AND RECORD DRAWINGS

- A. General. The Contractor shall furnish all materials and perform all Work required for furnishing submittals to the District in accordance with the Contract Documents.
- B. Technical Manuals.
 1. The Contractor shall submit technical operation and maintenance information for each item of mechanical, electrical and instrumentation equipment in an organized manner in the Technical Manual. It shall be written so that it can be used and understood by the District's operation and maintenance staff.
 2. The Technical Manual shall be subdivided first by specification section number; second, by equipment item; and last, by "Category." "Categories" shall conform to the following (as applicable):
 - (a) Category 1 - Equipment Summary:
 - (1) Summary: A summary table shall indicate the equipment name, equipment number, and process area in which the equipment is installed.
 - (b) Category 2 - Operational Procedures:
 - (1) Procedures: Manufacturer-recommended procedures on the following

shall be included in Part 2:

- a. Installation
- b. Adjustment
- c. Startup
- d. Location of controls, special tools, equipment required, or related instrumentation needed for operation
- e. Operation procedures
- f. Load changes
- g. Calibration
- h. Shutdown
- i. Troubleshooting
- j. Disassembly
- k. Reassembly
- l. Realignment
- m. Testing to determine performance efficiency
- n. Tabulation of proper settings for all pressure relief valves, low and high pressure switches, and other protection devices
- o. List of all electrical relay settings including alarm and contact settings

(c) Category 3 - Preventive Maintenance Procedures:

- (1) Procedures: Preventive maintenance procedures shall include all manufacturer-recommended procedures to be performed on a periodic basis, both by removing and replacing the equipment or component, and by leaving the equipment in place.
- (2) Schedules: Recommended frequency of preventive maintenance procedures shall be included. Lubrication schedules, including lubricant SAE grade, type, and temperature ranges, shall be covered.

(d) Category 4 - Parts List:

- (1) Parts List: A complete parts list shall be furnished, including a generic description and manufacturer's identification number for each part. Addresses and telephone numbers of the nearest supplier and parts warehouse shall be included.
- (2) Drawings: Cross-sectional or exploded view drawings shall accompany

the parts list.

(e) Category 5 - Wiring Diagrams:

- (1) Diagrams: Part 5 shall include complete internal and connection wiring diagrams for electrical equipment items.

(f) Category 6 - Shop Drawings:

- (1) Drawings: This part shall include approved shop or fabrication drawings, complete with dimensions.

(g) Category 7 - Safety:

- (1) Procedures: This part describes the safety precautions to be taken when operating and maintaining the equipment or working near it.

(h) Category 8 - Documentation:

- (1) All equipment warranties, affidavits, and certifications required by the Technical Specifications shall be placed in this part.

3. The Contractor shall furnish to District six (6) identical Technical Manuals. Each set shall consist of one or more volumes, each of which shall be bound in a standard binder.

C. Spare Parts List - The Contractor shall furnish to District six (6) identical sets of spare parts information for all mechanical, electrical, and instrumentation equipment. The spare parts list shall include the current list price of each spare part. The spare parts list shall include those spare parts which each manufacturer recommends be maintained by District in inventory. Each manufacturer or supplier shall indicate the name, address, and telephone number of its nearest outlet of spare parts to assist District in ordering. The Contractor shall cross-reference all spare parts lists to the equipment numbers designated in the Contract Documents. The spare parts lists shall be bound in standard size, 3-ring binder.

D. Record Drawings

1. The Contractor shall maintain one record set of Drawings at the Site. On these, it shall mark all Project conditions, locations, configurations, and any other changes or deviations which may vary from the information represented in the original Contract Documents, including buried or concealed construction and utility features which are revealed during the course of construction. Special attention shall be given to recording the horizontal and vertical location of all buried utilities that differ from the locations indicated, or which were not indicated on the Contract Drawings. Said record drawings shall be supplemented by any detailed sketches as necessary or directed to fully indicate the Work as actually constructed. These master record drawings of the as-built conditions, including all revisions made necessary by Addenda and Change Orders shall be maintained up-to-date during the progress of the Project. Red ink shall be used for alterations and notes. Notes shall identify relevant Change Orders by number and date.

2. For all Projects involving the installation of any pipeline, the Contractor shall survey and record the top of the pipe at a minimum of every 100 linear feet, and at each bend, recording both the horizontal and vertical locations.
 3. Record drawings shall be accessible to the District's Representative at all times during the construction period.
 4. Upon Completion of the Project and as a condition of final acceptance, the Contractor shall finalize and deliver a complete set of Record Drawings to the District's Representative. The information submitted by the Contractor will be assumed to be correct, and the Contractor shall be responsible for, and liable to the District, for the accuracy of such information, and for any errors or omissions which may or may not appear on the Record Drawings.
- E. Cost. Unless otherwise called for by the Contract Documents, the cost of all material, equipment, and labor required to complete the Manuals and Record Drawings shall be included in the Contractor's bid and distributed in the Schedule of Pay. No additional compensation shall be made to the Contractor for this Work.

3.3 MATERIALS

A. Materials to be Furnished by the Contractor

1. Inspection of Materials. Materials furnished by the Contractor which will become a part of the Project shall be subject to inspection at any one or more of the following locations, as determined by the District's Representative: at the place of production or manufacture, at the shipping point, or at the site of the Work. To allow sufficient time to provide for inspection, the Contractor shall submit to the District's Representative, at the time of issuance, copies of purchase orders or other written instrument confirming procurement of the materials, including drawings and other pertinent information, covering materials on which inspection will be made.
2. No later than fourteen (14) Days prior to manufacture of material, the Contractor shall inform the District's Representative, in writing, the date the material is to be manufactured.
3. Contractors Obligations. The inspection of materials at any of the locations specified above or the waiving of the inspection thereof shall not impact whether the materials and equipment conform to the Contract Documents. The Contractor will not be relieved from furnishing materials meeting the requirements of the Contract Documents due to the District's inspection or lack of inspection of the equipment or materials. Acceptance of any materials will be made only after materials are installed in the Project.
4. Cost. Unless otherwise called for by the Contract Documents, the cost of all material, equipment, and labor required to accommodate District's testing efforts, including any travel required by the Contractor's forces, shall be included in the Contractor's bid and distributed in the Schedule of Pay Items related to the materials requiring testing. No additional compensation shall be made to the Contractor for this Work.

3.4 LOCAL CONDITIONS AND REQUIREMENTS

A. Access to Work and Haul Routes

1. General. All work on the rights-of-way necessary for access to the Site shall be performed by the Contractor.
2. Access, Damage, Restoration. The Contractor shall make his own investigation of the condition of available public or private roads and of clearances, restrictions, bridge-load limits, permit or bond requirements, and other limitations that affect or may affect transportation and ingress or egress at the Site. Claims for changes in Contract Price or Contract Times arising out of the unavailability of transportation facilities or limitations thereon shall not be considered by the District.
3. The Contractor shall maintain and repair any damage arising out of the Contractor's operations to all roads used during construction of the Project, and upon completion of all Work, but prior to final acceptance, the roads shall be restored to their original condition. Prior to using any road for access to the Site, the Contractor shall conduct a photograph and/or video survey of the roadway with a copy submitted to the District's representative.
4. Cost. Unless otherwise called for by the Contract Documents, the cost of all material, equipment, and labor required to complete this Work, shall be included in Contractor's bid and distributed in the Schedule of Pay Items. No additional compensation shall be made to the Contractor for this Work.

B. Construction at Existing Utilities

1. General. Where the Work to be performed crosses or otherwise interferes with water, sewer, gas, or oil pipelines; buried cable; or other public or private utilities, the Contractor shall perform construction in such a manner so that no damage will result to either public or private utilities. It shall be the responsibility of the Contractor to determine the actual locations of, and make accommodations to maintain, all utilities.
2. Permission, Notice and Liability. Before any utility is taken out of service, permission shall be obtained by the Contractor from the owner. The owner, any impacted resident or business owner and the District Representative will be advised of the nature and duration of the utility outage as well as the Contractor's plan for providing temporary utilities if required by the owner. The Contractor shall be liable for all damage which may result from its failure to maintain utilities during the progress of the Work, and the Contractor shall indemnify the District as required by the Contract Documents from all claims arising out of or connected with damage to utilities encountered during construction; damages resulting from disruption of service; and injury to persons or damage to property resulting from the negligent, accidental, or intentional breaching of utilities.
3. Cost. Unless otherwise called for by the Contract Documents, the cost of all material, equipment, and labor required to complete this Work, shall be included in the Contractor's bid and distributed in the Schedule of Pay Items. No additional compensation shall be made to the Contractor for this Work.

C. Traffic Control

1. General. The Contractor shall abide by traffic control plans approved by the appropriate jurisdiction.
2. Protections. Roads subject to interference by the Work shall be kept open or suitable temporary passages through the Work shall be provided and maintained by the Contractor. The Contractor shall provide, erect, and maintain all necessary barricades, suitable and sufficient flasher lights, flag persons, danger signals, and signs, and shall take all necessary precautions for the protection of the Work and the safety of the public. No construction work along public or private roads may proceed until the Contractor has proper barricades, flasher lights, flag persons, signals, and signs in place at the construction site.
3. Cost. Unless otherwise called for by the Contract Documents, the cost of all material, equipment, and labor required to complete this Work, shall be included in the Contractor's bid and distributed in the Schedule of Pay Items. No additional compensation shall be made to the Contractor for this Work.

3.5 ENVIRONMENTAL QUALITY PROTECTION

A. Landscape and Vegetation Preservation

1. General. The Contractor shall exercise care to preserve the natural landscape and vegetation, and shall conduct operations so as to prevent unnecessary destruction, scarring, or defacing of the natural surroundings in the vicinity of the Work.
2. Damage and Restoration. Movement of crews and equipment within the rights-of-way and over routes provided for access to the Work shall be performed in a manner to prevent damage to property. When no longer required, construction roads shall be restored to original contours.
3. Upon completion of the Work, and following removal of construction facilities and required cleanup, land used for construction purposes and not required for the completed installation shall be scarified and regraded, as required, so that all surfaces are left in a condition that will facilitate natural revegetation, provide for proper drainage, and prevent erosion.
4. Cost. Unless otherwise called for by the Contract Documents, the cost of all material, equipment, and labor required to complete this Work, shall be included in the Contractor's bid and distributed in the Schedule of Pay Items. No additional compensation shall be made to the Contractor for this Work.

B. Protected Species

1. General. If, in the performance of the Work, evidence of the possible occurrence of any Federally listed threatened or endangered plant or animal is discovered, the Contractor shall notify the District Representative immediately, giving the location and nature of the findings. Written confirmation of the evidence, location and nature of the findings shall be forwarded to the District within 2 Days.

2. Procedures. The Contractor shall immediately cease all construction activities in the immediate area of the discovery to the extent necessary to protect the endangered plant or animal.

If directed by the District Representative, the Contractor will refrain from working in the immediate area, suspend the Work in its entirety, or alter its performance to ensure full compliance with all applicable permits, laws and regulations. Any District directed changes to the Work as a result of a siting will be pursuant to the Contract Documents.

3. False Siting. Any costs or delays incurred by the District or the Contractor due to unreasonable or false notification of an endangered plant or animal will be borne by the Contractor.
4. Cost. Unless otherwise called for by the Contract Documents, the cost of all material, equipment, and labor required to comply with this paragraph, shall be included in the Contractor's bid and distributed in the Schedule of Pay Items. No additional compensation shall be made to the Contractor for this Work.

C. Preservation of Historical and Archeological Resources

1. General. If, in the performance of the Work, the Contractor should unearth cultural resources (for example, human remains, animal bones, stone tools, artifacts and/or midden deposits) through excavation, grading, watering or other means, the Contractor notify the Construction/Archeological Monitor and/or the District Representative immediately, giving the location and nature of the findings. Written confirmation of the evidence, location and nature of the findings shall be forwarded to the Construction/Archeological Monitor and/or the District within two (2) days.
2. Procedures. The Contractor shall immediately cease all construction activities in the immediate area of the discovery to the extent necessary to protect the cultural resource.

If directed by the District Representative, the Contractor will refrain from working in the immediate area, suspend the Work in its entirety, or re-sequence and/or alter its performance to ensure full compliance with all applicable permits, laws and regulations. Should the presence of cultural resources be confirmed, the Contractor will assist the District Representative and the Construction/Archeological Monitor in the preparation and implementation of a data recovery plan. The Contractor shall provide such cooperation and assistance as may be necessary to preserve the cultural resources for removal or other disposition. Any District directed changes to the Work as a result of the cultural resource will be pursuant to the Contract Documents.

3. Contractor's Liability. Should the Contractor, without permission, injure, destroy, excavate, appropriate, or remove any cultural resource on or adjacent to the Site, it will be subject to disciplinary action, arrest and penalty under applicable law. The Contractor shall be principally responsible for all costs of mitigation and/or restoration of cultural resources related to the unauthorized actions identified above. The Contractor shall be required to pay for unauthorized damage and

mitigation costs to cultural resources (historical and archeological resources) as a result of unauthorized activities that damage cultural resources and shall indemnify the District pursuant to the Contract Documents.

4. Cost. Unless otherwise called for by the Contract Documents, the cost of all material, equipment, and labor required to comply with this paragraph, shall be included in the Contractor's bid and distributed in the Schedule of Pay Items. No additional compensation shall be made to the Contractor for this Work.
- D. Dust and Pollution Control
1. The Contractor shall provide all necessary material, equipment and labor to prevent and control the emission of dust and any other potential pollutant on site.
 2. The Contractor shall not discharge into the atmosphere from any source smoke, dust or other air contaminants in violation of the law, rules, and regulations of the governing agency.
 3. Cost. Unless otherwise called for by the Contract Documents, the cost of all material, equipment, and labor required to comply with this paragraph, shall be included in the Contractor's bid and distributed in the Schedule of Pay Items. No additional compensation shall be made to the Contractor for this Work.
- E. Management of Storm, Surface and Other Waters
1. Storm water, surface water, groundwater, and nuisance, or other waters may be encountered at various times during construction of the Project. Federal and State laws require District and its contractors to manage such waters pursuant to the requirements of California State Water Resources Control Board Order Number 2009-0009-DWQ, the Federal Clean Water Act, and the California Porter Cologne Water Quality Control Act. The Contractor acknowledges that it has investigated the risk arising from such waters in conjunction with the Project, and assumes any and all risks and liabilities arising therefrom.
 2. The Contractor shall perform all construction operations in such a manner as to comply, and ensure all subcontractors to comply, with all applicable Federal, State, and local laws, orders, and regulations concerning the control and abatement of water pollution; and all terms and conditions of any applicable permits issued for the Project. In the event there is a conflict between Federal, State, and local laws, regulations, and requirements, the most stringent shall apply.
 3. Contractor violations. If noncompliance should occur, the Contractor shall report this to the District Representative immediately, with the specific information submitted in writing within 2 Days. Consistent violations of applicable Federal, State, or local laws, orders, regulations, or Water Quality Standards may result in District stopping all site activity until compliance is ensured. The Contractor shall not be entitled to any change in Contract Price or Contract Times, claim for damage, or additional compensation by reason of such a work stoppage. Corrective measures required to bring activities into compliance shall be at the Contractor's expense.

4. Compliance with Construction General Storm water Permit. Contractor shall be required to comply with all aspects of the State Water Resources Control Board (State Board) Water Quality Order No. 2009-0009-DWQ, National Pollutant Discharge Elimination System General Permit for Storm Water Discharges Associated with Construction Activity (Permit) for all projects that involve construction on or disturbance of one acre or more of land or which are part of a larger common area of development.
 - (a) The Contractor shall prepare and implement a Storm Water Pollution Prevention Plan (SWPPP) for the Project site based on the appropriate Risk Level requirements, and draft and coordinate submittal of all Permit related documents with District's Legally Responsible Person and/or Authorized Signatory as those terms are defined in the Permit. The Contractor shall submit the SWPPP to the District Representative for review not less than fifteen (15) Days prior to the start of on- site construction work. The District will file the Notice of Intent and pay the filing fee.
 - (b) The SWPPP shall be developed by a Qualified SWPPP Developer and implemented by a Qualified SWPPP Practitioner as those terms are defined in the Permit and shall include industry standard requirements for water quality control including but not be limited to the following:
 - (1) Sediment and erosion control measures to manage sediment and erosion including vegetative practices, structural control, silt fences, straw dikes, sediment controls or operator controls as appropriate. Storm water management measures shall be instituted as required, including velocity dissipaters, and solid waste controls shall address controls for building materials and offsite tracking of sediment.
 - (2) Wastewater and storm water management controls to divert offsite surface flows around the Project site and to divert surface flows within the Project area away from areas of open earth or stockpiles of building and other materials. Wastewater from general construction activities, such as drain water collection, aggregate processing, concrete batching, drilling, grouting, or other construction operations, shall not enter flowing or dry watercourses without having met the authorized non-storm water discharge requirements listed in State Board Water Quality Order No. 2009-0009-DWQ, Section III.C., including proper notification to the Regional Water Board.
 - (3) Pollution prevention measures including methods of dewatering, unwatering, excavating, or stockpiling earth and rock materials which include prevention measures to control silting and erosion, and which will intercept and settle any runoff of sediment-laden waters.
 - (4) Turbidity prevention measures for prevention of excess turbidity including, but are not restricted to, intercepting ditches, settling ponds, gravel filter entrapment dikes, flocculating processes, recirculation, combinations thereof, or other approved methods that are not harmful to aquatic life. All such wastewaters discharged into surface waters, shall contain the least concentration of settleable material possible, and shall meet all conditions of section 402, the National Pollutant Discharge Elimination System (NPDES) permit.

- (5) Overall construction site management measures to address changes at the Project site as the Project moves through different phases and changes that account for rainy and dry season management practices.
 - (6) Pollution control measures and construction activity methods that will prevent entrance, or accidental spillage, of solid matter, contaminants, debris, or other pollutants or wastes, into streams, flowing or dry watercourses, lakes, wetlands, reservoirs, or underground water sources. Such pollutants and wastes include, but are not restricted to: refuse, garbage, cement, sanitary waste, industrial waste, hazardous materials, radioactive substances, oil and other petroleum products, aggregate processing, tailings, mineral salts, and thermal pollution.
 - (7) Control measures for stockpiled or deposited materials prohibiting the stockpile or deposit of excavated materials, or other construction materials, near or on stream banks, lake shorelines, or other watercourse perimeters where they can be washed away by high water or storm runoff, or can, in any way, encroach upon the watercourse.
 - (8) Develop and implement a Rain Event Action Plan (REAP), if required, that must be designed and implemented to protect all exposed portions of the site 48 hours prior to any likely precipitation event.
 - (9) Monitoring, reporting and record keeping, as necessary to achieve compliance with applicable Permit requirements, including but not limited to annual reports and rain event reports.
- (c) Before any Permit related documents, including the SWPPP, rain event reports, or annual reports may be submitted to the State Board or implemented on the Project site, they must first be reviewed and approved by the District.
 - (d) The District retains the right to procure and maintain coverage under the Permit for the Project site if the Contractor fails to draft a SWPPP or other Permit related document, or fails to proceed in a manner that is satisfactory to the District. The District reserves the right to implement its own SWPPP at the Project site, and hire additional contractors to maintain compliance. Whether the Contractor has adequately maintained compliance with the Permit shall be the District's sole determination. In the event that the Contractor has failed or is unable to maintain compliance with the Permit, any costs or fines incurred by the District in implementing a SWPPP, or otherwise maintaining compliance with the Construction General Permit shall be paid by the Contractor.
 - (e) Failure to implement the SWPPP or otherwise comply with the Permit is a violation of federal and state law. The Contractor hereby agrees to indemnify the District as required by the Contract Documents for any noncompliance or alleged noncompliance with the Permit arising out of or in connection with the Project, except for liability resulting from the sole established negligence, willful misconduct or active negligence of the District. The District may seek damages from the Contractor for delay in completing the Contract in accordance with the Contract Documents, caused by the Contractor's failure to comply with the Permit.

5. In addition to compliance with the Permit, the Contractor shall comply with the lawful requirements of any applicable municipality, the District, drainage district, flood control district, and other local agencies regarding discharges of storm water, surface water, groundwater or other nuisance waters off of the Project site.
6. Oil storage tanks management.
 - (a) Storage tank placement. All oil or other petroleum product (hereinafter referred to collectively as oil) storage tanks shall be placed at least 20 feet from streams, flowing or dry watercourses, lakes, wetlands, reservoirs, and any other water source.
 - (b) Storage area dikes. Storage areas shall be diked at least 12 inches high or graded and sloped to permit safe containment of leaks and spills equal to the capacity of all tanks and/or containers located within each area, plus a sufficient amount of freeboard to contain the 25-year rainstorm.
 - (c) Diked area barriers. Diked areas shall have an impermeable barrier at least 10 mils thick. Areas used for refueling operations shall have an impermeable liner at least 10 mils thick buried under 2 to 4 inches of soil.
 - (d) Spill Prevention Control and Countermeasure Plan (SPCC). Where the location of a construction site is such that oil from an accidental spillage could reasonably be expected to enter into or upon the navigable waters of the United States or adjoining shorelines, and the aggregate storage of oil at the site is over 1,320 gallons or a single container has a capacity in excess of 660 gallons, the Contractor shall prepare an SPCC Plan. The Contractor shall submit the SPCC Plan to the Engineer at least 30 days prior to delivery or storage of oil at the site. The Plan must have been reviewed and certified by a registered professional engineer in accordance with 40 C.F.R., part 112
7. Underground tank prohibition. The Contractor shall not use underground storage tanks.
8. Construction safety standards. The Contractor shall comply with the sanitation and potable water requirements of Section 7 of United States Bureau of Reclamation's publication "Reclamation Safety And Health Standards."
9. Dredge and fill permit. The District will obtain a permit to discharge dredge and fill material into the waters of the United States, as required under Section 404 of the Clean Water Act. All work occurring within the waters of the United States shall comply with the conditions of the permit and conditions of the Section 401 Water Quality Certification.

10. Other Permits.

- (a) Other permits applicable to the Project are listed in the Special Conditions. The Contractor shall obtain all other necessary licenses and permits.
- (b) Monitoring. The Contractor is required to conduct monitoring in order to meet the requirements of the permits, which may include sampling, testing and inspections.
- (c) Recordkeeping. The Contractor shall retain all records and data required by the permits for the time specified in the contract.

11. Cost. Except as specified herein, the cost of complying with this section shall be included in the Schedule of Pay Items for work which necessitate the water pollution prevention measures required by this paragraph.

END OF GENERAL REQUIREMENTS

TECHNICAL CONDITIONS

|

SECTION 01 12 00 – SUMMARY OF WORK

PART 1 - GENERAL

1.01 SUMMARY OF THE WORK

- A. The Work under this Contract necessary for and incidental to the execution and completion of all Work indicated in the Contract Documents for the construction of:

Imperial Valley College
Tennis Court Modernization
Imperial, California
Imperial Valley Community College District

1.02 GENERAL DESCRIPTION OF WORK

- A. The Work under this Contract includes furnishing all labor, materials, services and transportation, except as specifically excluded which is required for completion of the Project in accordance with the provisions of the Contract Documents.

1.03 REGULATORY REQUIREMENTS

A. CODE INFORMATION:

1. Codes: All work shall comply with the following Codes:

2022 CALIFORNIA ADMINISTRATIVE CODE, PART 1, TITLE 24, CCR
2019 CALIFORNIA BUILDING CODE (CBC), PART 2, TITLE 24, CCR
2019 CALIFORNIA ELECTRIC CODE (CEC), PART 3, TITLE 24, CCR
(2017 NATIONAL ELECTRIC CODE WITH CALIFORNIA 2016 AMENDMENTS)
2019 CALIFORNIA MECHANICAL CODE (CMC), PART 4, TITLE 24, CCR
(2018 UNIFORM MECHANICAL CODE WITH CALIFORNIA 2016 AMENDMENTS)
2019 CALIFORNIA PLUMBING CODE (CPC), PART 5, TITLE 24, CCR
(2018 UNIFORM PLUMBING CODE WITH CALIFORNIA 2016 AMENDMENTS)
2019 CALIFORNIA ENERGY CODE, PART 6 TITLE 24 CCR
2019 CALIFORNIA FIRE CODE (CFC), PART 9, TITLE 24, CCR
(2018 INTERNATIONAL FIRE CODE WITH CALIFORNIA 2016 AMENDMENTS)
2019 CALIFORNIA GREEN BUILDING STANDARDS CODE, PART 11, TITLE 24 CCR
2019 CALIFORNIA REFERENCED STANDARDS, PART 12, TITLE 24 CCR
TITLE 19 CCR, PUBLIC SAFETY, STATE FIRE MARSHALL REGULATIONS

B. Addenda and Construction Change Documents:

1. In accordance with Part 1, Title 24, Section 4-338, California Code of Regulations, all addenda and construction change documents shall be approved by the Department of General Services and DGS.

C. Perform work in accordance with the applicable provisions of Parts 1 through 12, inclusive, Title 24 (T-24), California Code of Regulations.

D. Particular attention is directed to the following Sections of the Safety of Construction of Public Schools, Chapter 4, Part 1, T-24, CCR.

1. Section 4-343: Duties of the Contractor.
 2. Section 4-342: Duties of the Project Inspector.
 3. Section 4-335: Structural Tests and Special Inspections.
 4. Section 4-336: Verified Reports.
- E. During the entire construction period, it shall be the sole responsibility of each Contractor to maintain conditions at the Project Site to meet the requirements of the Federal Occupational Safety and Health Administration (OSHA) and California occupational regulations. This provision shall cover the Contractor's employees and all other persons working upon or visiting the site. The Contractor shall become fully informed of all applicable standards and regulations and inform all persons and representatives responsible for work under this Contract.

1.04 CONTRACTOR USE OF SITE AND PREMISES

- A. Limit use of site and premises to allow:
1. Work by other Contractor(s), and Work by Owner, if required.
 2. Use of site and premises by Owner and public when and if Owner takes beneficial occupancy of portions of project.
- B. Access to Site: Coordinate with Architect.
- C. Building Exits During Construction: Maintain all exits. Do not obstruct at any time.
- D. Time and Construction Schedule Considerations affecting school operations if Owner requires partial occupancy.
1. Schedule all construction operations with Architect (CM).
 2. Construction operations generating excessive noise, such as use of pneumatic tools and power actuated fastener equipment, shall be scheduled with the Architect.

Locate all noise generating equipment, such as cut-off saws, in a remote location away from classroom areas.

Provide Architect with 10 working days notice prior to commencing such operations.
 3. Construction operations, such as material deliveries, debris removal, and crane operations shall not occur when students, staff or visitors are present at construction site. Schedule such operations around school schedule, including recess and lunch periods. Where, in the sole opinion of the Architect the construction site is sufficiently remote or isolated that students, staff or visitors are not exposed to such operations construction operations may proceed as scheduled.
 4. After Owner takes a beneficial occupancy of portions of project the Contractor, subcontractors and all support staff will not be allowed to enter such school facilities during hours school is in session. Where access is required to complete the work, coordinate access and scheduling with Architect for non-school time.
- E. Utility Outages and Shutdown: Provide minimum 15 working days notice of any utility interruption. No deviation to the commencement, nor duration of the outage or shutdown from the schedule agreed upon is allowed.

- F. Storage Areas: Coordinate with Architect. Architect will establish acceptable path for products, staging areas and trash disposals.

1.05 OWNER OCCUPANCY

- A. The Owner may take beneficial occupancy of certain portions of the project for the conduct of normal school and business operations prior to final completion.
- B. Cooperate with Owner to minimize conflict, and to facilitate Owner's operations.

1.06 FEES, BONDS AND PERMITS

- A. Obtain all required permits required for work under this contract, including but not necessarily limited to the following:
 - 1. Encroachment permits.
 - 2. Shoring, trenching and grading permits.
 - 3. Permits required for connection to public services and utilities.
- B. Arrange for all required improvements bonds required for work under this contract.
- C. All fees, improvement bond costs, public utility engineering fees and related fees, shall be paid by Contractor. Upon submission of documentation satisfactory to the Owner, such costs paid by Contractor shall be reimbursed by Owner.

1.07 PERMISSIBLE WORKING DAYS AND HOURS

- A. CONFORM TO Section 01 20 00 for required payment for Inspector's services performed during overtime hours.

PART 2 - PRODUCTS

NOT USED

PART 3 - EXECUTION

NOT USED

END OF SECTION 01 12 00

SECTION 01 20 00 – CONTRACT MODIFICATIONS AND PAYMENT PROCEDURES

PART 1 - GENERAL

1.01 SECTION INCLUDES

- A. Schedule of Values.
- B. Inspector of Record Payment Provisions
- C. Change Procedures.
- D. Progress Payment Coordination
- E. Payment for Contract Modifications
- F. Request for Information

1.02 RELATED DOCUMENTS OR SECTIONS

- A. Document 00 52 26 – Agreement Form - Construction Manager.
- B. Document 00 72 26 – General Conditions.
- C. Document 01 33 00 – Submittal Procedures.

1.03 SCHEDULE OF VALUES

- A. Submit typed schedule on AIA Form G703-Application and Certificate for Payment Continuation Sheet. Contractor's standard form or electronic print-out format may be considered, at Architects and Construction Manager's discretion.
- B. Submit Schedule of Values per schedule defined in General Conditions.
 - 1. Provide separate schedule of values for each building, and a single schedule for site work. Provide separate line items for each allowance.
- C. Format: Conform, to the requirements of the General Conditions. Identify each line item with number and title of the major specification section. Identify site mobilization bonds and insurance.
- D. Revise schedule to list approved Change Orders, with each Application for Payment.
- E. Include in each line item a directly proportional amount representing Contractors overhead and profit.

1.04 INSPECTOR OF RECORD PAYMENT PROVISIONS

- A. In the event Contractors performance of the work activities requires the District's Inspector of Record to work overtime, holidays or weekends, Inspector's cost shall be reimbursed by Contractor to District by deductive contract adjustment.

1.05 CHANGE PROCEDURES

- A. Architect's Supplemental Instructions (ASI): The Architect will advise of minor changes in the Work that does not involve an adjustment to Contract Price or Contract Time by issuing supplemental instructions on AIA Form G710.
- B. Proposal Request (PR): The Architect may issue a Proposal Request, which includes a detailed description of a proposed change with supplementary or revised drawings and specifications. Contractor shall prepare and submit an estimate within 10 days. If accepted by Owner, Construction Manager will prepare Change Order.
- C. Change Order Request (COR):
 - 1. Contractor may submit a COR to the Construction Manager for submittal to the Architect for changes in conditions, Owner changes, or other direction from the Architect, jurisdictional authority or Owners inspector
 - 2. Document the proposed change and its complete impact, including its effect on the cost and schedule of the work.
 - 3. Construction Manager and Architect will review COR and either deny request or prepare a Change Order.
 - 4. Present total cost and schedule impacts in documentation, including all mark-ups permitted by General Conditions. Provide detailed back-up as required by Architect, including supplier costs, subcontractor labor time and rates, and all other data deemed necessary by Architect.
 - 5. Following final review by Architect of original and supplemental information, and if COR is accepted, no additional cost or schedule adjustments will be included.
- D. Change Order (CO): Change Order and Construction Change Directives will be issued by the Architect in accordance with procedures established in General Conditions.
 - 1. Change Order Forms: AIA G701 Change Order Form, current edition, or other format as selected by Architect.
 - 2. Execution of Change Orders: Construction Manager will issue Change Orders for signatures of parties as provided in the General Conditions of the Contract.
- E. Construction Change Directives (CCD): Construction Change Directives (CCD) will be issued by the Architect.
 - 1. Construction Change Directive Forms: AIA G701 Change Order Form, current edition, or other format as selected by Architect.
 - 2. Unless otherwise agreed, maintain detailed records of work done under the direction of a CCD on Time and Materials basis. Provide full information required to substantiate costs for changes in the work.
- F. Execution of Change Orders: Architect will issue Change Orders for signature of parties as provided in the General Conditions of the Contract.
- G. All changes in contract for construction, regardless of effects on Contract Price or Contract Time, require the approval of DSA in accordance with Section 4-338, Part 1, T-24 CCR, "Addenda and Change Orders".

- A. See Section 01 77 19 – Closeout Procedures for requirements and relationship between progress payment and maintenance of record drawings.
- B. See Section 01 33 00 – Submittals for requirements and relationship between progress payment and construction schedule updates.
- C. Submit application on AIA Form G702-Application and Certificate for Payment as follows:
 - 1. Submit initial rough draft of pay application on or before the 20th day of each calendar month during Work progress, for a sum equal to ninety percent (90%) of the value of work performed up to the last day of the previous month, less the aggregate of previous payments to Architect, Construction Manager, and Inspector of Record for review.
 - 2. Construction Manager will return initial rough draft of pay application to Contractor following review by all parties.
 - 3. Submit six (6) copies of adjusted pay application to Construction Manager for submittal to DISTRICT, consisting of 3 complete copies with all back-up and justification, 2 [partial copies (cover sheet, schedule of values and releases) and one pencil copy showing corrections required on initial rough draft. Failure to attach applicable attachments within the time frames specified by the Construction Manager will result in processing not sooner than the next application period.
 - 4. Submit conditional lien releases for work covered by current application, and unconditional releases for work covered by previous month’s billings.
- D. Content and Format: Utilize Schedule of Values for listing items in Application for Payment.
- E. Payment Period: Monthly, scheduled as defined in General Conditions.

1.07 PAYMENT FOR CONTRACT MODIFICATIONS

- A. The Contractor shall compensate the Owner, by Owner-Contractor Contract adjustment, for the Architect’s reasonable costs to modify Contract Documents required by work not performed in accordance with approved Contract Documents.

1.08 REQUEST FOR INFORMATION

- A. When the Contractor is unable to determine from the Contract Documents, the material, process or system to be installed, the Architect shall be requested to make a clarification of the indeterminate item.
 - 1. Whenever possible, such clarification shall be requested at the next appropriate project meeting, with the response entered into the meeting minutes. When clarification at the meeting is not possible, either because of the urgency of the need, or the complexity of the item, Contractor shall prepare and submit an RFI to the Construction Manager for submittal to the Architect.
- B. Submit all RFI’s on attached form. Use of Contractors form will not be accepted. RFI’s submitted by subcontractors or suppliers will not be accepted.
- C. RFI’s shall be originated by the Contractor:

1. RFI's from subcontractors or material suppliers shall be submitted through, reviewed by, and signed by the Contractor prior to submittal to the Construction Manager for Architect's approval.
 2. RFI's sent by subcontractor directly to the Construction Manager or Architect shall not be accepted and will be returned unanswered.
- D. Contractor shall carefully study the Contract Documents to assure that the requested information is not available therein. RFI's which request information available in the Contract Documents will be deemed either "improper" or "frivolous".
- E. In cases where RFI's are issued to request clarification of coordination issues, for example pipe and duct routing, clearances, specific locations of work shown diagrammatically, and similar items, the Contractor shall fully lay out a suggested solution using drawings or sketches drawn to scale, and submit same with the RFI. RFI's which fail to include a suggested solution will be returned unanswered with a requirement that the Contractor submit a complete request.
- F. The Architect will respond to legitimate and bonafide Requests for Information (RFI) initiated by Contractor.
- G. Contractor shall compensate the Architect, by Owner-Contractor Contract adjustment, for the Architects reasonable costs to respond to RFI's if the Architect determines:
1. The RFI does not reflect careful study and review of the documents, or;
 2. Demonstrates a lack of knowledge or construction competency reasonably expected of a Contractor performing the work.
- H. The Architect's action will be taken with such reasonable promptness while allowing sufficient time in the Architect's professional judgment to permit adequate review.
- I. In the event the Contractor believes that a clarification by the Architect results in additional cost or time. Contractor shall not proceed with the work indicated by the RFI until an Instruction Bulletin is issued to the Contractor to proceed with the work. RFI's shall not automatically justify a cost increase in the work or a change in the project schedule.
1. Answered RFI's shall not be construed as approval to perform extra work.
 2. Unanswered RFI's will be returned with a stamp or notation: Not Reviewed.
- J. Construction Manager shall prepare and maintain a log of RFI's, and at each weekly meeting, Construction Manager shall furnish copies of the log showing outstanding RFI's. Construction Manager shall note unanswered RFI's in the log.
- K. Contractor shall allow up to 14 days review and response time for RFI's, however, the Architect will endeavor to respond in a timely fashion to RFI's.

PART 2 - PRODUCTS

Not Used

PART 3 - EXECUTION

Not Used

IMPERIAL COMMUNITY COLLEGE DISTRICT
IMPERIAL VALLEY COLLEGE
TENNIS COURT SHADE AND LIGHTING

JUNE 2022

ATTACHMENT:REQUEST FOR INFORMATION FORM

END OF SECTION 01 20 00

SECTION 01 21 00 - ALLOWANCES

PART 1 - GENERAL

1.01 SUMMARY

- A. Contractor shall provide the following Allowances for the exclusive use of the owner and / or their representatives. The allowances shall be carried as a separate line item included in the bid.
- B. Types of allowances required include the following:
 - 1. Lump-sum allowances.
- C. Any portion of Allowances not used shall be returned to the owner via deductive change order
- D. Provide Lump-sum allowances included in BASE BID for the following items:
 - 1. Provide Allowance 01 for unknown utilities \$ 40,000.00
 - 2. Provide Allowance 02 for additional site concrete work \$ 60,000.00
 - 3. Provide Allowance 03 for additional site improvements \$ 60,000.00

PART 2 - PRODUCTS (Not Applicable)

PART 3 – EXECUTION (Not Applicable)

END OF SECTION 01 21 00

SECTION 01 23 00 - ALTERNATES

PART 1 - GENERAL

1.01 DESCRIPTION

- A. In order to allow the Owner to compare total costs where alternate materials and methods might be used, and to enable the Owner's decision to awarding the Contract, certain alternatives have been established as described in this Section.

1.02 RELATED WORK DESCRIBED ELSEWHERE

- A. Pertinent sections of these Specifications describe the materials and methods required under the various alternatives.

1.03 SUBMITTALS

- A. Reflect all alternatives described in this Section in the bid submitted for the work, on Bid Form provided.

1.04 PRODUCT HANDLING

- A. If the owner elects to proceed on the basis of one or more of the alternatives, make all modifications to the work required in the furnishings and installation of the selected alternative or alternatives to the approval of the Architect and at no additional cost to the Owner other than as proposed on Contractor bid proposal.

PART 2 - PRODUCTS

- 2.01 ALTERNATES – Refer to Section 00 41 26 – BID FORM for project alternates.

PART 3 - EXECUTION

3.01 ADVANCE COORDINATION

- A. Immediately after award of Contract, thoroughly and clearly advise all necessary personnel and suppliers as to the nature and extent of alternatives selected by the Owner; use all means necessary to alert those personnel and suppliers involved as to all changes in the Work caused by Owner's selection of alternatives.

3.02 SURFACE CONDITIONS

- A. Prior to installation of the alternative items, verify that all surfaces have been modified as necessary to accept the installation and that the manufacturer's current recommendations; in the event of discrepancy, immediately notify the Architect and proceed as directed.

END OF SECTION 01 23 00

SECTION 01 29 76 - APPLICATIONS FOR PAYMENT

PART 1 – GENERAL

1.01 SUMMARY

- A. Coordinate the Schedule of Values and Applications for Payment with the Contractor's Construction Schedule.
- B. Schedule of Values: Coordinate preparation of the Schedule of Values with preparation of the Contractor's Construction Schedule.
 - 1. Submit the Schedule of Values at the earliest possible date but no later than 7 days before submittal of the initial Applications for Payment.
- C. Format and Content: Use the Project Manual table of contents as a guide to establish the format for the Schedule of Values. Provide at least one line item for each Specification Section.
- D. Applications for Payment shall be consistent with previous applications and payments as certified by the Construction Manager and Architect and paid for by the Owner.
- E. Payment-Application Times: As per General Conditions, Article 58.
- F. Payment-Application Forms: Use AIA Document G702 and Continuation Sheets G703 (OR EQUAL) as the form for Applications for Payment.

PART 2 - PRODUCTS (Not Applicable)

PART 3 - EXECUTION (Not Applicable)

END OF SECTION 01 29 76

SECTION 01 31 19 - COORDINATION AND MEETINGS

PART 1 - GENERAL

1.01 SECTION INCLUDES

- A. Coordination.
- B. Pre-construction meeting.
- C. Progress meetings.
- D. Pre-installation meetings.

1.02 COORDINATION

- A. Coordinate scheduling, submittals, and Work of the various sections of the Project Manual to assure efficient and orderly sequence of installation of interdependent construction elements, with provisions for accommodating items installed later and for accommodating items to be installed by the Owner.
- B. Coordinate sequence of Work to accommodate Owner occupancy, as specified in Document 01 12 00.

1.03 PRECONSTRUCTION MEETING

- A. Construction Manager will schedule a meeting after Notice of Award.
- B. Attendance Required: Construction Manager, Architect, Project Coordinator, Prime Contractors, Major Subcontractors, Project Inspector and key Owner personnel.
- C. Agenda:
 - 1. Contract Agreement:
 - a. Transmit Performance and Material Bonds to Architect.
 - b. Review General/Supplementary Conditions.
 - c. Deferred Approvals.
 - 2. Receive documentation from Contractor:
 - a. Construction Schedule
 - b. Schedule of Values
 - c. List of Subcontractors with addresses and phone numbers.
 - d. List of Submittals and estimated date of submittal.
 - 3. Project Administration:
 - a. Application for Payment, Project Schedule, Lien Release, As-built Documents.
 - b. LCP Requirements
 - c. Change Orders and Proposal Requests.
 - d. Submittals and Substitutions, Deferred Approvals.
 - e. Site Meetings.
 - f. Testing Lab.
 - g. Verified Reports
 - 4. Special Owner Conditions
 - a. Temporary facilities.
 - b. Owner Occupancy.

- c. Work by Owner.
 - d. Access to Site - Owner Contact.
- 5. Construction Process:
 - a. Contractor to give overview of construction.
 - b. Contractor to identify items to be selected by Architect/Owner and date selections must be made.
 - c. Contractor to review special requirements for equipment, safety, and noise.
- 6. Project Close-out:
 - a. Close-out Binder.
 - b. As-Built Documents.
 - c. Final Verified Reports.
- D. Construction Manager to record minutes and distribute copies within five (5) days after meeting to participants and those affected by decisions made.

1.04 PROGRESS MEETINGS

- A. Construction Manager will schedule and administer meetings throughout progress of the work as needed.
- B. Construction Manager will make arrangements for meetings, prepare agenda with copies for participants, and preside at meetings.
- C. Attendance Required: Construction Manager, Project Coordinator, Prime Contractors, Major Subcontractors, Project Inspector, key Owner personnel and Architect as appropriate to agenda topics for each meeting.
- D. Agenda:
 - 1. Review minutes of previous meetings.
 - 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. Review of off-site fabrication and delivery schedules.
 - 7. Maintenance of progress schedule.
 - 8. Corrective measures to regain projected schedules.
 - 9. Planned progress during succeeding work period.
 - 10. Coordination of projected progress.
 - 11. Maintenance of quality and work standards.
 - 12. Effect of proposed changes on progress schedule and coordination.
 - 13. Other business relating to Work.
- E. Construction Manager to record minutes and distribute copies within two (2) days after meeting to participants, and those affected by decisions made.

1.05 PREINSTALLATION MEETING

- A. When required in individual specification sections, Contractor shall convene a pre-installation meeting prior to commencing work of the section.
- B. Require attendance of parties directly affecting, or affected by, work of the specific section.

- C. Notify Architect and Construction Manager fourteen days in advance of meeting date.
 - D. Prepare agenda and preside at meeting:
 - 1. Review conditions of installation, preparation and installation procedures.
 - 2. Review coordination with related work.
 - E. Contractor to record minutes and distribute copies within two days, after meeting, to participants, Architect, Construction Manager and those affected by decisions made.
- 1.06 COORDINATION OF SUBMITTALS
- A. Submit submittals as specified in Section 01 33 00 – Submittal Procedures.
- 1.07 COORDINATION OF SPACE
- A. Coordinate use of Project space and sequence of installation of mechanical, and electrical work, which is indicated diagrammatically on Drawings. Follow routings shown for pipes, ducts, and conduits as closely as practical, with due allowance for available physical space; make runs parallel with lines of building. Utilize space efficiently to maximize accessibility for other installations, for maintenance, and for repairs.
 - B. In finished areas, except as otherwise shown, conceal pipes, ducts, and wiring in the construction. Coordinate locations of fixtures and outlets with finish elements.
- 1.08 COORDINATION WITH WORK BY OWNER
- A. Coordinate with Construction Manager for any work by Owner and installation of all Owner provided and Contractor installed F.O.B. material, as it pertains to work in each Bid Package.
- 1.09 COORDINATION OF CONTRACT CLOSE-OUT
- A. Coordinate completion and cleanup of own work in preparation for Substantial Completion.
 - B. After Owner occupancy of premises, coordinate access to site for own work for correction or defective work and work not in accordance with Contract Documents, to minimize disruption of Owner's activities.
 - C. Assemble and coordinate close-out submittals under provisions of Section 01 77 19, Contract Closeout Procedures.

PART 2 – PRODUCTS (Not Applicable)

PART 3 – EXECUTION (Not Applicable)

END OF SECTION 01 31 19

SECTION 01 32 16 – PROJECT CONSTRUCTION SCHEDULE

PART 1 – GENERAL

1.01 SUMMARY

- A. The work includes the preparation and submission of the sub-schedules and reports specified herein, including the up-to-date maintenance thereof as required by the CONSTRUCTION MANAGER. The Conditions of the contract and the other sections of Division 1 apply to this section as fully as if repeated herein.

1.02 CONSTRUCTION SCHEDULE

- A. The enclosed “PROJECT CONSTRUCTION SCHEDULE” is composed of tentative starting dates and fixed duration’s for each major activity of work on the project.
 - 1. Within 14 days of Contractors receipt of District’s Notice of Award Letter, each Prime Contractor will be required to provide the following details to the Construction Manager:
 - 2. Proposed manpower loading of each scheduled field activity in order to properly complete same within the PROJECT CONSTRUCTION SCHEDULE’S fixed duration’s.
 - 3. Establish submittal lead time’s which will allow for the proper review time by the Architect without delaying the timely scheduled procurement of products, materials, and/or assemblies.
 - 4. Establish fabrication and/or Procurement lead times which will maintain that no operation will be delayed from its scheduled starting date.
- B. Bid Package Contractor acknowledges that the Pull Planning (a.k.a. Last Planner®) supplemental means of activity scheduling is required to meet the project schedule. Therefore, Bid Package Contractor agrees to provide a supervisory and management level of representation at all Pull Planning weekly sessions. Bid Package Contractor also agrees to provide a Foreman level of representation at all Pull Planning daily update “quick meets”.
- C. CONTRACTOR must coordinate all work with all other contractors on the project through the CONSTRUCTION MANAGER’S Project Superintendent in order to complete each activity of their work within the fixed durations assigned to same as shown on the “PROJECT CONSTRUCTION SCHEDULE”.
- D. Schedule start dates as shown on the PROJECT CONSTRUCTION SCHEDULE are referred to as “tentative” only to the affect that said dates will be continually adjusted either forward or backward by the CONSTRUCTION MANAGER as the project progresses. Upon receipt of 48 hours advanced notice by the CONSTRUCTION MANAGER to begin work on an activity, CONTRACTOR must properly man and perform the work of said activity and complete same within the noted number of consecutive working days or less assigned to said activity in the PROJECT CONSTRUCTION SCHEDULE.
- E. CONTRACTOR is expected to continually monitor all phases of the project field construction progress in order to insure that CONTRACTOR’S work is properly implemented into the overall project improvements.
- F. CONTRACTOR is expected to provide properly trained and skilled mechanics in adequate numbers and equipment needed and/or required in order to properly and efficiently complete

all work activities per the schedule. Should CONSTRUCTION MANAGER have reason to believe at any time that CONTRACTOR is not providing an adequate workforce armed with the proper materials and/or equipment, CONSTRUCTION MANAGER shall give CONTRACTOR written notice of same. Activity Manpower loading submitted in item 1.02-A-2 above shall in no way limit the responsibility of the CONTRACTOR to perform to the fixed duration requirements of the PROJECT CONSTRUCTION SCHEDULE.

- G. The time for total project completion shall be within the total time specified in the Contract documents. The CONSTRUCTION MANAGER will use established contract fixed durations (refer to 1.02A) to prepare and update a Critical Path Method Schedule (C.P.M.) by buildings and site. This schedule will be the basis of weekly production review meetings and the method of measuring each CONTRACTOR'S performance and impact on dependent CONTRACTORS, required cure, and the assessment of liquidated damages.

ATTACHMENT: CONSTRUCTION SCHEDULE

END OF SECTION 01 32 16

SECTION 01 33 00 – SUBMITTAL PROCEDURES

PART 1 - GENERAL

1.01 SUMMARY

- A. Submittal Procedures: Coordinate submittal preparation with construction, fabrication, other submittals, and activities that require sequential operations. Transmit in advance of construction operations to avoid delay.
1. Coordinate submittals for related operations to avoid delay because of the need to review submittals concurrently for coordination. The Architect reserves the right to withhold action on a submittal requiring coordination until related submittals are received. Specifically, in order to assure proper coordination of all project colors, no submittals which require the selection of material colors will be processed and released until all submittals requiring the selection of material colors have been submitted.
 2. Processing: Allow 14 days for initial review. Allow more time if the Architect must delay processing to permit coordination. Allow 14 days for reprocessing.
 - a. No extension of Contract Time will be authorized because of failure to transmit submittals sufficiently in advance of the Work to permit processing.
 3. Submittal Preparation: Place a permanent label on each submittal for identification. Provide a 4- by 5-inch (100- by 125-mm) space on the label or beside title block to record review and approval markings and action taken. Include the following information on the label for processing and recording action taken.
 - a. Project name.
 - b. Date.
 - c. Name and address of the Architect.
 - d. Name and address of the Contractor.
 - e. Name and address of the subcontractor.
 - f. Name and address of the supplier.
 - g. Name of the manufacturer.
 - h. Number and title of appropriate Specification Section.
 4. Submittal Transmittal: Package each submittal appropriately. Transmit with a transmittal form. The Architect will not accept submittals from sources other than the Contractor.
 5. An extended processing period is required for submittals and resubmittal of “Deferred Approval Items” which required approval of the Division of the State Architect. The Owner cannot guarantee processing of such submittals within a stipulated time period.
- B. Contractor's Construction Schedule:
1. As per General Conditions, Article 32.
- C. Daily Construction Reports: Prepare a daily report recording events at the site. Submit duplicate copies to the CONSTRUCTION MANAGER at daily intervals. Include the following information:
1. List of subcontractors at the site.
 2. High and low temperatures, general weather conditions.
 3. Accidents and unusual events.
 4. Stoppages, delays, shortages, and losses.
 5. Meter readings and similar recordings.

6. Emergency procedures.
 7. Orders and requests of governing authorities.
 8. Services connected, disconnected.
 9. Equipment or system tests and startups.
 10. Substantial Completions authorized.
- D. Shop Drawings: Submit newly prepared information drawn to scale. Indicate deviations from the Contract Documents. Do not reproduce Contract Documents or copy standard information. Include the following information:
1. Dimensions.
 2. Identification of products and materials included by sheet and detail number.
 3. Compliance with standards.
 4. Notation of coordination requirements.
 5. Notation of dimensions established by field measurement.
 6. Sheet Size: Except for templates and full-size Drawings, submit six copies on sheets at least 8-1/2 by 11 inches but no larger than 36 by 48 inches.
 - a. Do not use Shop Drawings without an appropriate final stamp indicating action taken.
- E. Product Data: Collect Product Data into a single submittal for each element of construction. Mark each copy to show applicable choices and options. Where Product Data includes information on several products, mark copies to indicate applicable information.
1. Include the following information:
 - a. Manufacturer's printed recommendations.
 - b. Compliance with trade association standards.
 - c. Compliance with recognized testing agency standards.
 - d. Application of testing agency labels and seals.
 - e. Notation of dimensions verified by field measurement.
 - f. Notation of coordination requirements.
 2. Submittals: Submit 6 copies. The Architect will retain two and return the others marked with action taken. Electronic copies where applicable may be submitted in lieu of hard copies.
 - a. Unless noncompliance with Contract Documents is observed, the submittal serves as the final submittal.
 3. Distribution: Furnish copies to installers, subcontractors, suppliers, and others required for performance of construction activities. Show distribution on transmittal forms. Do not proceed with installation until a copy of Product Data is in the Installer's possession.
 - a. Do not use unmarked Product Data for construction.
- F. Samples: Submit full-size Samples cured and finished as specified and identical with the material proposed. Mount Samples to facilitate review of qualities.
1. Include the following:
 - a. Specification Section number and reference.
 - b. Generic description of the Sample.
 - c. Sample source.
 - d. Product name or name of the manufacturer.
 - e. Compliance with recognized standards.

- f. Availability and delivery time.
 2. Submit Samples for review of size, kind, color, pattern, and texture, for a check of these characteristics, and for a comparison of these characteristics between the final submittal and the actual component as delivered and installed. Where variations are inherent in the material, submit at least 3 units that show limits of the variations.
 - a. Refer to other Sections for requirements for Samples that illustrate workmanship, fabrication techniques, details of assembly, connections, operation, and similar characteristics.
 - b. Refer to other Sections for Samples to be incorporated in the Work. Samples must be undamaged at time of use. On the transmittal, indicate special requests regarding disposition of Sample submittals.
 - c. Samples not incorporated into the Work, or designated as the Owner's property, are the Contractor's property and shall be removed from the site.
 3. Submittals: Except for Samples illustrating assembly details, workmanship, fabrication techniques, connections, operation, and similar characteristics, submit 3 sets. One set will be returned marked with the action taken. Maintain sets of Samples, at the Project Site, for quality comparison.
 - a. Unless noncompliance with Contract Documents is observed, the submittal may serve as the final submittal.
 - b. Sample sets may be used to obtain final acceptance of the construction associated with each set.
 4. Distribution of Samples: Distribute additional sets to subcontractors, manufacturers, and others as required for performance of the Work. Show distribution on transmittal forms.
- G. Quality Assurance Submittals: Submit quality-control submittals, including design data, certifications, manufacturer's instructions, and manufacturer's field reports required under other Sections of the Specifications.
1. Certifications: Where certification that a product or installation complies with specified requirements is required, submit a notarized certification from the manufacturer certifying compliance.
 - a. Signature: Certification shall be signed by an officer authorized to sign documents on behalf of the company.
- H. Architect's Action: Except for submittals for the record or information, where action and return are required, the Architect will review each submittal, mark to indicate action taken, and return. Compliance with specified characteristics is the Contractor's responsibility.
1. Action Stamp: The Architect will stamp each submittal with an action stamp. The Architect will mark the stamp appropriately to indicate the action taken.

PART 2 - PRODUCTS (Not Applicable)

PART 3 - EXECUTION (Not Applicable)

END OF SECTION 01 33 00

SECTION 01 35 23 – CONTRACTOR SAFETY

1.01 GENERAL

A. HEALTH AND SAFETY POLICY

1. The policy of the District is to promote safety at a level to minimize personal injury and potential property damage.
2. Employees of contractors working on this project are required to meet or exceed all established and recognized codes and standards for safety and protection of personnel and property.
3. The safety guidelines included here are made available to you, the Contractor, as an extension of the safety clause in your Contract General Conditions Article 72.
4. These guidelines are not intended to be complete in every detail, but are merely of a general nature. The separate contractors are in no way relieved of their responsibilities for safety of persons and property, and compliance with all statutes, rules, regulations and orders applicable to the conduct of the work.
5. The possession, use of and/or sale of any alcoholic beverage or illegal controlled drug substance will not be permitted on or immediately adjacent to the job site by any contractor, contractor employee, subcontractor employer or associate.
6. The abuse of prescribed medication will not be permitted on or immediately adjacent to the job site by any contractor, contractor employee, subcontractor employee or associate.
7. This Contractor, and other contractors, share the responsibility of monitoring and enforcing, as necessary, A.5 and A.6 above. Any known, (or with due cause believed to be), violator of A.5 or A.6 shall be immediately reported to the Construction Manager.
8. The District reserves the right to take corrective action, as deemed in the best interest of the project and the DISTRICT, for violation of any health or safety standard. This corrective action may include, but is not limited to; removal (from the job site) any unsafe tools/equipment, temporary work stoppage for any unhealthy or unsafe condition, immediate removal (from the job site) any person that is unwilling or incapable of conducting themselves in a manner that promotes a healthy and safe working atmosphere. Any person found to be repeatedly in violation of health and/or safety standards will be permanently removed from the site.

B. RESPONSIBILITIES

1. The District demands that all project contractors perform in a reasonable and safe manner.
2. The Contractors working on this project have the ultimate and total responsibility to conduct a sound accident control program as it pertains to their work and their employees, as well as to ensure safe working conditions for employees of other contractors.

3. The Contractor will ensure his employees cooperate with and coordinate safety matters with other contractors to form a joint safety effort.
4. Employees who have been, or will be exposed to excessive (measured against applicable standards) levels of toxic materials or harmful physical agents shall be notified by the Contractor. Notice of corrective action being taken shall be provided to the employees. Accurate records must be kept of all exposures which are required to be monitored under the State and Federal Codes.
5. In the event of a defense by the Contractor against unsafe independent employee actions, the Appeals Board requires that you must show evidence of the following:
 - a. That the employee was experienced in the job being performed;
 - b. That you as the employer have a well devised safety program which includes training employees in safety matters relating to their individual job assignments;
 - c. That you effectively enforce your safety program;
 - d. That you have and enforce a policy of sanctions against employees who violate your safety program; and
 - e. That the employee caused a safety infraction which he or she knew was in violation of your safety requirement.

C. SAFETY ACTIVITIES

1. Contractors will conduct or initiate:
 - a. Safety program as required by current State of California requirements.
 - b. Weekly “tool box” safety meetings between Contractor and Contractor’s supervisors, foremen, employees, and subcontractors working on the project; and
 - c. Weekly safety inspections of your work area and those areas of work under your responsibility or shared responsibility as well as taking any other necessary safety precautions.

D. REPORTS

1. Submit all preliminary, weekly, periodic and special reports to the Construction Manager. The Contractor is in no way relieved of the requirements for submission of reports to any agency or authority.
 - a. All reports listing deficiencies, accidents, or injuries shall show corrective action taken.
 - b. A weekly status and summary report of each “tool box” meeting held and items discussed. Each report shall also contain attendance names, signatures and company affiliation.
 - c. A weekly status report of inspection results. The attached status forms are for your convenience only.
 - d. A continuing list of deficiencies found, date identified, responsible party, corrective action and date corrected.
 - e. Accident reports and injury forms. Submit a copy of one of the following to the Construction Manager for each case:
 - 1) California Division of Labor Statistics and Research Form 5020 (latest rev.), or;
 - 2) Federal OSHA Form 101, or;
 - 3) Insurance Company form similar to 1 or 2 above.
 - f. A copy of CAL/OSHA Form 200 “Log and Summary of Occupational Injuries and Illness”.

2. Special Reports
 - a. Notify the Construction Manager immediately of any accident involving injury to personnel or property; and complete written reports within 24 hours of a death or injury of five (5) or more employees as a result of one accident.
 - b. Copies of all toxic or harmful agent reports (See paragraph B.4.)
3. Governmental Reports
 - a. Notification of governmental authorities is the responsibility of each affected contractor.

E. SAFETY DEFICIENCY CORRECTION

1. All safety deficiencies will be corrected by contractors in accordance with the following priorities.
 - a. Immediate correction of items with any probability of major or minor injury to people.
 - b. Correction immediately of any accident probability which could involve people an/or equipment.
 - c. Correction within one day (or sooner) of potential injury or damage to property.

F. OUTSIDE SAFETY INSPECTIONS

1. Unannounced inspections by city, state or federal safety agencies or insurance companies may occur.
 - a. Contractors are to escort representatives of these agencies or companies directly to the Construction Manager and assist him as required or directed.
 - b. If the Construction Manager is not available, the Contractor's foreman or representative shall accompany the inspector on the inspection.

G. INVESTIGATING

1. All injuries are to be investigated by the contractors and reported.
2. The Construction Manager shall be notified prior to proceeding with an investigation.

H. SAFETY STANDARDS AND CODE

1. All contractors are to provide their job supervision with applicable safety code publications and ensure they are familiar with the contents.
2. Occupation Safety and Health Administration Standards (latest applicable edition) on the designated applicable safety standards.
3. In states with OSHA approved plans, state codes will take precedence unless federal standards are more stringent, in which case federal standards shall apply.
4. On General Services Administration (GSA) projects, applicable sections of the GSA Manual Accident & Fire Prevention on Construction and Alteration Work will apply in addition to all other codes and standards.
5. All code and standard conflicts will be resolved by applying the most restrictive code and/or standard.

6. Suggested references for contractors are:
 - a. Safety & Health Regulation for construction, U.S. Department of Labor, OSHA, Volume 37, No. 243.
 - b. Construction safety orders, State Standard, CAL/OSHA, state of California, latest edition.
 - c. GSA Manual - GSA - PBSP 5900.3.
 - d. U.S. Army Engineering Manual - EM 385-1.
 - e. Accident Prevention, Associated General Contractors.
 - f. A short guide to the California Occupational Safety and Health Act - National Federation of Independent Business, 150 West 20th Avenue, San Mateo, California 94403.

I. REQUIRED NOTICES: TO BE VISIBLY DISPLAYED

1. Workers' Compensation Insurance Notice.
2. OSHA poster: Safety and Health Protection on the job.
3. State of California Department of Human Resources: Notice to Employees Unemployment Insurance - Disability Insurance.
4. Hard Hat Area Signs.
5. List of ambulances, doctors and hospitals with telephone numbers which can be called during an emergency.
6. Name and title of the safety representative from each contractor's organization.
7. Any other safety signs, slogans, etc. that will improve the general awareness of a joint safety program.

J. PERMITS

1. Permits from the Division in Industrial Safety are required before contractors may undertake the following kinds of work:
 - a. Construction of trenches or excavations which are 5 feet or more deep, into which a person is required to descend;
 - b. Construction of any building, structure, false work, or scaffolding more than three stories high.
2. The Division of Industrial Safety may investigate or confer with the employer before the start of work. If a pre-job safety conference between the Division of Industrial Safety personnel and the employer is a requirement specified by the Division of Industrial Safety at the time the permit is issued, employees or their representatives are to be included at the conference.
3. Permits must be posted at or near each place of employment requiring a permit. If posting at the actual job site is not possible, the permit must be available for inspection at all times on the site, or, in the case of a mobile unit, at the employer's head office in the area.
4. Additional permits may be required from the Division of Industrial Safety or other applicable governmental agencies. It is the responsibility of each contractor to determine, procure, and pay for their own such permits.

END OF SECTION 01 35 23

SECTION 01 45 24 – TESTING AND INSPECTION REQUIREMENTS FOR SCHOOL CONSTRUCTION

PART 1 - GENERAL

1.01 SUMMARY

- A. Regulatory Requirements:
 - 1. Part 1, Title 24, Section 4-335, California Code of Regulations: Testing required by the Division of the State Architect (DSA).
 - 2. Part 2, Title 24, California Code of Regulations (2015 IBC and 2016 California Amendments): Inspections, testing and approvals required by individual sections therein.
- B. Selection of the material required to be tested shall be by the laboratory or the Owner's representative and not by the Contractor.
- C. Minimum test and inspections required: See Structural Tests and Inspections, Division of the State Architect form DSA 103 (2016 CBC).
- D. Any material shipped by the Contractor from the source of supply prior to having satisfactorily passed such testing and inspection or prior to the receipt of notice from said representative that such testing and inspection will not be required shall not be incorporated in the job.
- E. Selection and Payment of Testing Laboratory:
 - 1. Owner will employ and pay for services of an independent Testing Laboratory approved by the Architect, DSA, and the Structural Engineer to perform inspection and testing in accordance with Part 1, Title 24, Section 4-335, California Code of Regulations.
 - 2. Contractor shall pay for mileage and travel time for inspection services, required travel more than 300 miles from this project to test products purchased by Contractor. Testing Laboratory shall forward all billings and records of such costs to the Owner for approval. Such costs, if determined by the Owner to be attributable to the Contractor under this provision, will be deducted from Contractors final payment (or any funds due and payable) by change order.
 - 3. When materials tested fail to meet requirements herein specified, they shall be promptly corrected or removed and replaced and retested. Costs involved in retesting will be paid by the Owner and deducted from Contractors final payment (or any funds due and payable) by change order.
- F. Laboratory Responsibilities:
 - 1. Laboratory shall be licensed to conduct testing and inspection operations in California. It shall be supervised by a State Licensed Civil Engineer who shall certify all reports.
 - 2. Perform specified inspection, sampling and testing of Products in accordance with standards specified herein.
 - 3. Ascertain compliance of materials and mixes with requirements of Contract Documents.
 - 4. Promptly notify Architect, Project Inspector and Contractor by letter of observed irregularities of non-conformance of Work or Products.
 - 5. Immediately upon Testing Laboratory determination of a test failure, the laboratory shall telephone the results of test to Architect. On the same day laboratory shall send written test results to those named on the distribution list below.

G. Laboratory Reports:

1. After each inspection and test, the testing facility shall promptly (no later than 14 days after test is complete) submit one copy of laboratory report to the following.
 - a. Owner
 - b. Architect
 - c. Project Inspector
 - d. General Contractor
 - e. Structural Engineer
 - f. Mechanical and Electrical Engineers (Related Tests and Inspections)
 - g. Division of the State Architect
2. Test reports shall include all tests made, regardless of whether such tests indicate that the material is satisfactory or unsatisfactory. Samples taken but not tested shall also be reported. Records of special sampling operations as required shall also be reported. The reports shall show that the material or materials were sampled and tested in accordance with the requirements of Titles 21 and 24 and with the approved specifications. Test reports shall show the specified design strength. They shall also state definitely whether or not the material or materials tested comply with requirements.
3. Submit a report verifying that tests and inspections herein specified and otherwise required have been completed and material and workmanship complies with the contract documents. Such verification reports shall be submitted at any time that work on the project is suspended, covering the tests up to that time, and at the completion of the project, covering all tests.

H. Limits on Testing Laboratory Authority

1. Laboratory may not release, revoke, alter or enlarge on requirements of Contract Documents.
2. Laboratory may not approve or accept any portion of the Work.
3. Laboratory may not assume any duties of the Contractor.
4. Laboratory has no authority to stop work.
5. Laboratory shall not interpret code in relation to the design of the building.

I. Contractor Responsibility

1. Deliver to laboratory at designated location, adequate samples of materials proposed to be used which require testing.
2. Cooperate with laboratory personnel, Owner's Representatives, Project Inspector and the Architect, and provide access to the work including weekends and after hours and to manufacturer's facilities.
3. Provide incidental labor and materials and facilities to provide at all times, safe access to Work to be tested, to obtain and handle samples at the site or at source of products to be tested, to facilitate tests and inspections, storage and curing of test samples.
4. Notify Construction Manager, Project Inspector and laboratory 24 hours prior to expected time and operations requiring inspection and testing services. Also notify Owner in advance of manufacturer of materials to allow testing at source of supply for materials which require testing and inspection.
5. Inspecting and Testing performed exclusively for the Contractor's convenience shall be the sole responsibility of the Contractor.

J. Inspection by the Owner

1. The Owner and his representative shall at all times have access for the purpose of inspection to all parts of the work and to the shops therein the work is in preparation, and the Contractor shall at all times maintain proper facilities and provide safe access for such inspection.

2. The Owner shall have the right to reject materials and workmanship which are defective or to require their correction. Rejected workmanship shall be satisfactorily corrected and rejected material shall be removed from the premises without cost to owner the Owner. If the Contractor fails to correct such rejected work within a reasonable time, fixed by written notice, the Owner will correct same and charge the expense to the Contractor by Change Order.
3. Should it be considered necessary or advisable by the Owner at any time before final acceptance of the entire work to make an examination of work already completed by removing or tearing out the same, the Contractor shall on request promptly furnish all necessary facilities, labor and materials. If such work is found to be defective in any respect due to fault of the Contractor or his subcontractor, he shall defray all expenses of such examinations and of satisfactory reconstruction. If, however, such work is found to meet the requirements of the Contract, the additional cost of labor and material necessarily involved in the examination and replacement shall be allowed the Contractor by change order.

K. Inspector - Owners:

1. An Inspector employed by the Owner and approved by the Division of the State Architect in accordance with the requirements of State of California Code of Regulations, Title 24 Part 1 will be assigned to the continuous inspection of the work. His duties are specifically defined in Section 4-342 Part I, Title 24 CCR.
2. The work of construction in all stages of progress shall be subject to the personal continuous observation of the Inspector. He shall have free access to any or all parts of the work at any time. The Contractor shall furnish the Inspector reasonable facilities for obtaining such information as may be necessary to keep him fully informed respecting the progress and manner of the work and character of the materials. Inspection of the work shall not relieve the Contractor from any obligation to fulfill this Contract.

L. Inspector -- Owner -- FIELD OFFICE: See General Conditions.

PART 2 - PRODUCTS (Not Applicable)

PART 3 - EXECUTION (Not Applicable)

END OF SECTION 01 45 24

SECTION 01 50 00 – CONSTRUCTION FACILITIES

PART 1 - GENERAL

1.01 SECTION INCLUDES

- A. Temporary Utilities: Electricity, lighting, heat, ventilation, telephone service, water service and sanitary facilities.
- B. Temporary Controls: Barriers, enclosures and fencing, water, dust, noise & pollution control, parking and traffic control, and protection of the Work.
- C. Construction Facilities: Access roads, progress cleaning, field offices, sheds and removal.
- D. Operational Requirements: Security, project ID/signage and documentation.

1.02 RELATED SECTIONS

- A. Section 01 77 19 - Contract Closeout Procedures.

1.03 TEMPORARY ELECTRICITY

- A. Temporary power will be provided by Electrical Contractor within 50' of buildings.
- B. Any temporary power requirements beyond the 50' provided will be the responsibility of the Contractor requiring the same.
- C. All welding will be done with self-contained gas-powered units.
- D. Provide generator power for your operations until temporary power is available.

1.04 TEMPORARY LIGHTING

- A. Each Contractor shall be responsible to provide and maintain all temporary lighting as required to safely access and perform their scope of work.
- B. Provide and maintain adequate lighting for construction operations for own work.
- C. Provide adequate lighting for security of construction operations and storage areas for own work. Coordinate with Construction Manager.
- D. Provide and maintain at ALL times, temporary lighting and exit/path devices in corridor areas as required by applicable codes.

1.05 TEMPORARY HEAT

- A. Provide temporary heat devices as required to maintain specified conditions for construction operations.
- B. Use of permanent equipment for temporary heating is prohibited without prior approval by Architect.
- C. Unless specified elsewhere, maintain minimum 50°F at interior construction areas.

1.06 TEMPORARY VENTILATION

- A. Ventilate enclosed areas to assist cure of materials to dissipate humidity and to prevent accumulation of dust, fumes, vapors or gases. Where necessary to comply with item B., provide ducted ventilation system.
- B. Locate ventilation discharge point at an approved location, away from walkways, HVAC intakes, windows of occupied areas, and other similar locations.
- C. Utilize temporary fan units as required to exhaust noxious fumes directly to the outside of the building.

1.07 TELEPHONE

- A. Provide, maintain and pay for own telephone service and associated office equipment to own field office as required. No public telephone will be provided.

1.08 TEMPORARY WATER SERVICE

- A. Plumbing Contractor will provide and maintain for suitable water source for construction operations.
- B. Each Prime Contractor is responsible for their own distribution, including but not limited to water trucks, hoses, piping, etc. from water source to area of work, as required for own Work.

1.09 TEMPORARY SANITARY FACILITIES

- A. Construction Manager will provide and maintain required temporary chemical type toilet facilities and enclosures.

1.10 BARRIERS AND BARRICADES

- A. Exteriors
 - 1. Provide barriers to protect adjacent properties from damage from construction operations and demolition. When regulated by Codes, such legal requirements for protection shall be considered as minimum requirements. Provide protective measures in excess of such minimum requirements as specified or required.
 - 2. Provide barricades around excavations.
 - 3. Provide protection for all plant life designated to remain.
 - a. Replace damaged plant life with approved equivalent.
 - b. Erect tree protection within 3 days of mobilization. Enclose trees designated to remain with 2 x 4 wood frame. Install frame minimum 6 feet from trunk diameter, all sides. Provide 4 x 4 post supports, minimum 3 feet high, embedded 3 feet, at 3 foot on center maximum. Wrap frame with snow type fencing in bright iridescent color visible at night.
 - c. Protect non-owned vehicular traffic, stored materials and structures from damage.
- B. Interior

1. Where required to permit Owners ongoing operations, provide barriers as specified.
 - a. Construct barriers as metal framed/fire-resistive gypsum board fire resistive corridor construction, with self-closing, latching door assembly. Provide temporary partition and door assembly fire resistivity rating equal to the assembly being replaced. Close joints and seal edges at intersections with existing surfaces.
 - b. Use of sheet plastic dust barriers in place of rated assemblies is prohibited.
2. Protect existing surfaces, equipment and furnishings from damage from construction operations and demolition. Where necessary, remove and store in separate area.
3. Where demolition or construction operations generate fine dust or airborne particulates, provide fire retardant drop cloths, screening or other approved barriers to prevent dust inhalation into existing cabinet interiors, equipment, drawers, and similar conditions.
4. Provide contamination control mats at construction access locations to prevent tracking of construction dust and dirt into owner occupied portion of building.

1.11 FENCING

- A. A temporary fence with locked entrance gates will be provided to enclose the Work to deter unauthorized entry, vandalism and/or theft.
 1. The fence will be a 6 foot high commercial grade chain link with vehicular and pedestrian gates and locks.
 2. Any Contractor requiring fencing/barricades above and beyond the fencing shown on the plan sheet, for the execution of their work, shall furnish, install and maintain same as required by local authorities and state safety ordinances and as necessary for the protection of the public.

1.12 DUST CONTROL

- A. Conduct earthwork operations in a manner to prevent windblown dust and dirt from interfering with the progress of the Work, DISTRICT's activities and the existing occupied structures in the areas immediately adjacent as well as adjacent properties.
- B. Periodically water construction areas as required to minimize accumulation of dust and dirt.
- C. Water spray or cover with tarpaulins truck loads of soil to additionally minimize generation of dust and dirt from construction operations.
- D. Prevent dust and dirt from accumulating on walks, roadways, parking areas and from washing into sewer and storm drain lines.

1.13 POLLUTION CONTROL

- A. 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.
- B. Burning of refuse, debris or other materials will not be permitted on the Site.
- C. Comply with regulatory requirements and anti-pollution ordinances during the course of construction and disposal operations.

1.14 PROTECTION OF INSTALLED WORK

- A. Protect installed work and provide special protection where specified in individual specification sections.
- B. Provide temporary and removable protection for installed Products. Control activity in immediate work areas to minimize damage.
- C. Provide protective coverings at walls, projections, jambs, sills, and soffits of openings.

1.15 PARKING AND TRAFFIC CONTROL

- A. Parking Criteria
 - 1. Space is limited. Coordinate location and number of parking spaces required with Construction Manager.
- B. Traffic Control
 - 1. Traffic Maintenance: Prior to the start of own work, determine the routing of construction vehicles, and the safeguards and procedures necessary to carry out the work. Obtain the Construction Manager's approval of the onsite traffic routes and for any removal, temporary relocation and reinstallation of traffic control signage. Obtain traffic control approval by local jurisdiction for street work. In addition:
 - a. Be responsible for controlling construction traffic within and adjacent to the site for own work.
 - b. Provide entrances, lifts and safeguards required or necessary to the progress of the work, and effectively control such traffic to provide minimum hazard to the work and all persons.
 - c. Route construction equipment, trucks, and similar vehicles via existing public streets to and from the site as approved by the governing authorities.
 - d. Obtain and pay for permits and inspections made necessary by use of public street, sidewalks, curbs, and paving. Post guarantees and bonds that may be required, and repair and make good any damages thereto acceptable to the authorities having jurisdiction.
 - e. Construct and maintain temporary walks for pedestrians. Keep streets adjacent to the site open to vehicular and pedestrian traffic.
 - f. Maintain constant access for police, fire and ambulance service.
 - g. Provide and maintain for proper control of traffic and safety of all concerned. Provide all necessary barricades, suitable and sufficient lights, reflectors, and danger signals.
 - h. Provide warning and closure signs, directional and detour signs, and whatever additional measures are necessary.
 - i. Indicate on a 24-hour basis restricted and dangerous conditions existing on or adjacent to the site. Illuminate barricades, danger signals, warning signs and obstructions at night. Keep warning lights burning from sunset until sunrise.

1.16 ACCESS ROADS

- A. Provide and maintain access to fire lanes and fire hydrants at all times, free of obstructions. Coordinate location, locking device and dimension of gates with fire department having jurisdiction.
- B. Designated existing on-site roads may be used for construction traffic.

- C. Do not permit delivery trucks to block, park or wait on public streets or in student bus lane.
- 1.17 PROGRESS CLEANING
- A. Maintain areas free of waste materials, debris, and rubbish. Maintain site in a clean and orderly condition.
 - B. Each applicable Contractor shall remove debris and rubbish from pipes chases, plenums, attics, crawl spaces, and other closed or remote spaces, prior to enclosing the space.
 - C. Each applicable Contractor shall broom and vacuum clean interior areas prior to start of surface finishing, and continue cleaning to eliminate dust.
 - D. Remove waste materials, debris, and rubbish from interior spaces daily and from site weekly and dispose of off-site.
 - E. Maintain all public streets free of dust, mud, and debris as required by jurisdictional authority.
- 1.18 TEMPORARY FACILITIES AND SHEDS
- A. Locate temporary facility and shed, as required, where directed by Construction Manager and maintain in a safe and sanitary condition at all times until completion of the Contract.
 - B. Contractor shall cooperate with Construction Manager and other Contractors to coordinate space requirements for Contractor's equipment, job office, operation, and material storage. Contractor shall move equipment, trailers, and material storage at the request of the Construction Manager with no additional compensation.
 - C. Field offices shall remain the property of the Contractor and shall be removed from the site upon completion of the work.
 - D. Furnish, install and maintain tool cribs, sheds and storage units for the Contractors use as necessary for the proper execution of the work.
 - 1. Provide all necessary barricades, warning devices and enclosures required to protect and direct visitors and staff around tool and equipment located in passageways and corridors.
 - 2. Return all small tools and secure in locked compartments or cribs at close of workday.
 - 3. Safe-off or lock all equipment and large tools. Disable from malicious or accidental start-up and operation.
 - E. Requirements of regulatory agencies: Comply with requirements or regulatory agencies having jurisdiction. Obtain and apply for permits required by governing authorities.
- 1.19 REMOVAL OF UTILITIES, FACILITIES, AND CONTROLS
- A. Remove temporary utilities, equipment, facilities, and materials for own work, prior to Final Application for Payment.
 - B. Clean and repair damage caused by installation or use of temporary work.

- C. Restore existing facilities used during construction to original condition. Restore permanent facilities used during construction to specified condition.

1.20 SECURITY

- A. Provide security and facilities as necessary to protect work and staff from vandalism, unauthorized entry, theft, damage, or assault.
- B. Within a 48-hour period, replace or repair, to District and Architect's satisfaction, all surfaces or items damaged by graffiti during course of construction.
- C. Where Owner has given approval to take fire detection system off-line, return system to active status at completion of work or end of each work period.
 - 1. Fire Safety During Construction: Comply with provisions of Article 87, California Fire Code, CCR, including but not limited to, access roads, fire extinguisher and fire watch regulations.
 - 2. Where security or fire detection systems are disabled for any reason, including where owner has given approval for such system shut-down, provide fire watch or security guard service as directed by Owner and at no additional cost to the Owner.
- D. All Contractor staff, subcontractors and suppliers shall notify Construction Manager when on site, and sign in and out as directed by Construction Manager - Notify Construction Manager when work is completed or shut-down for that work period.
- E. No smoking or use of tobacco products is permitted on school property.
- F. Radio or other music is not permitted at any time.

1.21 DOCUMENTATION OF EXISTING IMPROVEMENTS

- A. Use of explosives is not allowed.
- B. Prior to beginning any alterations, including grading, paving, landscape, etc, prepare a record of existing improvements affected by the work of this contract, including but not limited to the following.
 - 1. Off-site street and frontage improvements, identifying all evidence of existing settlement, cracking and other signs of damage, distress or failure.
 - 2. Condition of adjacent properties, including fencing, retaining walls, pools, paving, and structures. Clearly identify all evidence of existing settlement, cracking, alignment and other signs of damage, distress or failure.
 - 3. Condition of landscaping, including canopy overhang, shrubbery and grass/groundcover. Clearly identify all evidence of existing trunk damage, grass compaction, crushed and broken shrubs and other signs of distress or failure.
- C. Format
 - 1. Prepare record documentation using color video and any other means of documentation necessary to describe existing condition.
 - 2. Prepare color video at such scale and detail as required to document existing damage occurred prior to beginning work. If the record documents do not clearly

- show damage as a pre-existent condition, Contractor shall be responsible for repair or replacement of such damaged improvements.
3. Obtain Owner's Inspector of Record certification that documents were prepared prior to beginning construction.

PART 2 - PRODUCTS (Not Applicable)

PART 3 - EXECUTION (Not Applicable)

END OF SECTION 01 50 00

SECTION 01 73 29 - CUTTING AND PATCHING

PART 1 - GENERAL

1.01 SUMMARY

- A. Cutting and Patching Proposal: Submit a proposal describing procedures in advance of the time cutting and patching will be performed. Request approval to proceed. Include the following:
1. Describe extent of cutting and patching. Show how it will be performed and indicate why it cannot be avoided.
 2. Describe changes to existing construction. Include changes to structural elements and operating components and changes in the building's appearance and other significant visual elements.
 3. List products to be used and firms that will perform Work.
 4. Indicate dates when cutting and patching will be performed.
 5. Utilities: List utilities that will be disturbed or relocated and those that will be temporarily out-of-service. Indicate how long service will be disrupted.
 6. Where cutting and patching involves adding reinforcement to structural elements, submit details and engineering calculations showing integration of reinforcement with the original structure.
 7. Approval to proceed does not waive the Architect's right to later require complete removal and replacement of unsatisfactory work.
- B. Requirements for Structural Work: Do not cut and patch structural elements in a manner that would change their load-carrying capacity or load-deflection ratio.
1. Unless Specifically shown on plans no structural member shall be cut, neither drilled nor notched without prior written authorization from the structural engineer and the Division of the State Architect.
 2. Obtain approval before cutting and patching the following structural elements:
 - a. Foundation construction.
 - b. Bearing and retaining walls.
 - c. Timber and primary wood framing.
- C. Operational Limitations: Do not cut and patch operating elements in a manner that would reduce their capacity to perform as intended. Do not cut and patch operating elements in a manner that would increase maintenance or decrease operational life or safety.
1. Obtain approval before cutting and patching the following operating elements or safety related systems:
 - a. Primary operational systems and equipment.
 - b. Fire protection systems.
 - c. Electrical wiring systems.
- D. Visual Requirements: Do not cut and patch exposed construction in a manner that would, in the Architect's opinion, reduce the building's aesthetic qualities. Do not cut and patch in a manner that would result in visual evidence of cutting and patching. Remove and replace construction cut and patched in a visually unsatisfactory manner.
1. Retain the original Installer to cut and patch the exposed Work listed below. If it is impossible to engage the original Installer, engage a recognized experienced and specialized firm.
 - a. Ornamental metal.

- b. Matched-veneer woodwork.
 - c. Stucco and ornamental plaster.
- E. Existing Warranties: Replace, patch, and repair material and surfaces cut or damaged in such a manner as not to void warranties.

PART 2 - PRODUCTS

2.01 MATERIALS

- A. Use materials identical to existing materials. Use materials that visually match adjacent surfaces to the fullest extent possible if identical materials are unavailable. Use materials whose performance will equal that of existing materials.

PART 3 - EXECUTION

3.01 EXAMINATION

- A. Examine surfaces to be cut and patched and conditions under which work is to be performed before cutting. If unsafe or unsatisfactory conditions are encountered, take corrective action.
- 1. Before proceeding, meet with parties involved. Review areas of potential interference and conflict. Coordinate procedures and resolve potential conflicts before proceeding.

3.02 PREPARATION

- A. Temporary Support: Provide temporary support of work to be cut.
- B. Protection: Protect existing construction to prevent damage. Provide protection from adverse weather conditions for portions that might be exposed during cutting and patching operations.
- C. Avoid interference with use of adjoining areas or interruption of free passage to adjoining areas.
- D. Avoid cutting pipe, conduit, or ductwork serving the building but scheduled to be removed or relocated until provisions have been made to bypass them.

3.03 PERFORMANCE

- A. Performance: Employ skilled workmen. Proceed at the earliest feasible time and complete without delay.
- 1. Cut construction to install other components or perform other construction and subsequent fitting and patching required to restore surfaces to their original condition.
- B. Cutting: Cut using methods that will not damage elements retained or adjoining construction. Comply with the original Installer's recommendations.
- 1. Use hand or small power tools designed for sawing or grinding, not hammering and chopping. Cut holes and slots as small as possible, neatly to size required, and with minimum disturbance of adjacent surfaces. Temporarily cover openings when not in use.
 - 2. To avoid marring finished surfaces, cut or drill from the exposed or finished side into concealed surfaces.

3. Cut through concrete and masonry using a cutting machine, such as a Carborundum saw or a diamond-core drill.
 4. Comply with requirements of applicable Division 2 Sections where cutting and patching requires excavating and backfilling.
 5. Where services are required to be removed, relocated, or abandoned, by-pass utility services before cutting. Cut-off pipe or conduit in walls or partitions to be removed. Cap, valve, or plug and seal the remaining pipe or conduit to prevent entrance of moisture or other foreign matter after by-passing and cutting.
- C. Patching: Patch with durable seams that are as invisible as possible. Comply with specified tolerances.
1. Inspect and test patched areas to demonstrate integrity of the installation.
 2. Restore exposed finishes of patched areas and extend finish restoration into retained adjoining construction in a manner that will eliminate evidence of patching and refinishing.
 3. Where removing walls or partitions extends one finished area into another, patch and repair floor and wall surfaces in the new space. Provide an even surface of uniform color and appearance. Remove floor and wall coverings and replace with new materials to achieve uniform color and appearance.
 - a. Where patching occurs in a smooth painted surface, extend final paint coat over entire surface containing the patch after the area has received primer and second coat.
 4. Patch, repair, or rehang ceilings as necessary to provide an even-plane surface of uniform appearance.
- D. Cleaning: Clean areas and spaces where cutting and patching are performed. Remove paint, mortar, oils, putty, and similar items. Clean piping, conduit, and similar features before applying paint or finishing materials. Restore damaged pipe covering to its original condition.

END OF SECTION 01 73 29

SECTION 01 74 00 PROGRESS AND FINAL CLEANING

PART 1 – GENERAL

1.01 SUMMARY

- A. Provisions of General Conditions, Supplementary Conditions, and Division One apply to this section.
- B. Maintain project site, surrounding areas, and public properties free from accumulations of waste, debris, and rubbish caused by operations.
- C. At completion of work, remove waste materials, rubbish, tools, equipment, machinery and surplus materials, and clean sight-exposed surfaces. Leave project site clean and ready for occupancy.

1.02 GENERAL

- A. Conduct cleaning and disposal operation in accordance with legal requirements.
 - 1. Do not dump or bury rubbish and waste materials on project site.
 - 2. Do not dispose of volatile wastes in storm or sanitary drains.
- B. Hazards Control:
 - 1. Store volatile wastes and hazardous materials (i.e. paint, oils, etc.) in covered metal containers, and remove from premises daily.
 - 2. Prevent accumulation of wastes which create hazardous conditions.
 - 3. Provide adequate ventilation during use of volatile or noxious substances.

1.03 MATERIALS

- A. Use only cleaning materials recommended by manufacturer of surface to be cleaned.
- B. Use cleaning materials only on surfaces recommended by cleaning material manufacturer.

1.04 PROGRESS CLEANING DURING CONSTRUCTION

- A. Execute cleaning daily to ensure project site, Owner's premises, adjacent and public properties are maintained free from accumulations of waste materials, debris and rubbish.
- B. Provide on project dump site, containers for collection of waste materials, debris, and rubbish.
- C. Remove waste materials, debris and rubbish from Owner's premises and legally dispose of off Owner's property.
- D. Vacuum clean interior areas when ready to receive finish painting, and continue vacuum cleaning on an as-needed basis until building is ready for substantial completion or occupancy.
- E. Schedule cleaning operations so that dust and other contaminants resulting from cleaning process will not fall on wet, newly painted surfaces.

1.05 FINAL CLEANING

- A. Employ experienced workers or professional cleaners for final cleaning.

- B. In preparation for substantial completion or occupancy, conduct final inspection of sight-exposed interior and exterior surfaces, and of accessible concealed spaces.
- C. Clean glass and surfaces exposed to view. Remove temporary labels, stains, and foreign substances.
- D. Repair, patch, and touch-up marred surfaces to specified finish, and to match adjacent surfaces.
- E. Broom-clean paved surfaces.
- F. Polish transparent and glossy surfaces.
- G. Vacuum carpeted and soft surfaces.
- H. Wax and polish resilient floor surfaces.
- I. Wash and polish ceramic surfaces.
- J. Clean machinery and equipment.
- K. Clean plumbing fixtures to a sanitary condition. Use non-corrosive, non-abrasive cleaning materials.
- L. Replace filters of operating equipment.
- M. Clean and polish light fixtures.
- N. Clean and polish hardware and metal surfaces.
- O. Clean walls and ceilings of dust, dirt, stains, hand marks, paint spots, plaster drops, and like defects.
- P. Clean construction site. Sweep paved areas and rake clean landscaped surfaces.
- Q. Clean out and flush drains from construction debris. Flood-test prior to occupancy.
- R. Remove waste and surplus materials, rubbish, and construction facilities from the site. Do not use Owner's waste removal system or any system belonging to owners of adjacent properties.
- S. Keep project clean until it is occupied by the Owner.
- T. Schedule final cleaning as accepted by the CONSTRUCTION MANAGER to enable the ARCHITECT and SCHOOL DISTRICT to accept a completely clean project.

PART 2 – PRODUCTS – Not Used

PART 3 – EXECUTION – Not Used

END OF SECTION 01 74 00

SECTION 01 74 19 CONSTRUCTION WASTE MANAGEMENT

PART 1 – GENERAL

1.01 DESCRIPTION

- A. This Section Includes: Procedures for ensuring optimal diversion of construction waste generated by the Work within the limits of the Construction Schedule, Contract Sum, and available materials, equipment, and products.
 - 1. SUBCONTRACTOR shall participate in promoting efforts of THE CLIENT to create a resource-efficient and environmentally sensitive structure and to effect optimum control of solid waste and recoverable resources generated in the Work.
 - 2. Subcontractor shall recycle, salvage, reuse or otherwise divert 75% of the construction waste generated in the Work from the landfill.
- B. Related Work: Documentation affecting the work of this Section include, but are not necessarily limited to, the following Scope of Work:
 - 1. Removal, Cleanup and Demobilization
 - 2. Minor Demolition
 - 3. Selective Demolition
 - 4. All Construction Activities, All Divisions

1.02 DEFINITIONS

- A. Class III Landfill: A landfill that accepts non-hazardous resources such as household, commercial, and industrial waste, resulting from construction, remodeling, repair, and demolition operations. A Class III landfill must have a solid waste facilities permit from the California Integrated Waste Management Board (CIWMB) and is regulated by the Local Enforcement Agency (LEA).
- B. Construction and Demolition Waste: Includes all non-hazardous solid resources resulting from construction, remodeling, alterations, repair, and demolition operations.
- C. Disposal: Acceptance of solid wastes at a legally operating facility for the purpose of landfilling. Includes Class III landfills and inert fills.
- D. Inert Backfill Site: A location, other than inert fill or other disposal facility, to which inert materials are taken for the purpose of filling an excavation, shoring, or others soils engineering operation.
- E. Inert Fill: A facility that legally accept inert waste such as asphalt and concrete exclusively for the purpose of disposal.
- F. Inert Solids/Inert Waste: Non-liquid solid resources including, but not limited to, soil and concrete, that does not contain hazardous waste or soluble pollutants at concentrations in excess of water-quality objectives established by a regional Water Board pursuant to Division 7 (Section 13000 et seq.) of the California Water Code and does not contain significant quantities of decomposable solid resources.
- G. Mixed Debris: Loads that include commingled recyclable and non-recyclable materials generated at the construction site.

- H. Mixed Debris Recycling Facility: A solid resources processing facility that accepts loads of commingled construction and demolition debris for the purpose of recovering re-usable and recyclable materials and disposing the non-recyclable residual materials.
- I. Recycling: The process of sorting, cleansing, treating and reconstituting materials for the purpose of using the altered form in the manufacture of a new product. Recycling does not include burning, incinerating or thermally destroying solid waste.
- J. On-site Recycling: Materials that are sorted and processed for use in an altered form in the Work, (e.g. concrete is crushed for use as base for a parking lot on the site).
- K. Off-site Recycling: Materials hauled to a location and used in an altered form in the manufacture of a new product.
- L. Recycling Facility: An operation that can legally accept materials for the purpose of processing the materials into an altered form for the manufacture of a new product. Depending on the types of materials accepted and operating procedures, a recycling facility may or may not be required to have a Solid Waste Facilities permit from the CIWMB or be regulated by the LEA.
- M. Re-use: Materials that are recovered for use in the same form. This includes materials are used on-site or off-site. Refers also to Salvage Material, in which materials recovered for re-use and sold or donated to a third party.
- N. Source-Separated Materials: Materials that are sorted at the site of generation by individual material type for the purpose of recycling, i.e., loads of concrete that are source-separated for delivery to a base course recycling facility.
- O. Solid Waste: Materials that have been designated as non-recyclable and are discarded for the purposes of disposal.
- P. Transfer Station: A facility that can legally accept solid wastes for the purpose of temporarily storing the materials for re-loading onto other trucks and transporting them to a landfill for disposal, or recovering some materials for re-use or recycling. Transfer stations must be permitted by the CIWMB and regulated by the LEA.

1.03 SUBMITTALS

- A. Construction Waste Management Plan:
 - 1. Prior to the Bid, SUBCONTRACTOR shall conduct a site assessment and estimate the types and quantities of materials under the Work that are anticipated to be feasible for on-site processing, source separation for recycling, or re-use, and shall note the procedures intended for a recycling, re-use, or salvage program.
 - 2. Not more than twenty (20) working days after award of Contract and prior to the commencement of the Work, SUBCONTRACTOR shall prepare and submit a written Solid Resources Management Plan including, but not limited to, the following (submit in format provided herein as Attachment A):
 - a. SUBCONTRACTOR and Project identification information.
 - b. Procedures to be used.
 - c. Materials to be re-used and recycled.
 - d. Estimated quantity of materials.
 - e. Names and location of re-used and recycling facilities/sites.

- B. Required Submittal of Summary of Diversion and Disposal With Each Application for Progress Payment:
1. A summary of recyclables and solid resources generated by the construction and demolition operations. Submit on Document 00 62 23 Construction Waste Diversion Form. Failure to submit the form and its supporting documentation may render the application for progress payment incomplete and delay progress payments. Include manifests, weight tickets, receipts, and invoices specifically identifying the Project and materials sent to:
 - a. Source Separated Recycling Facilities
 - b. Mixed Debris Recycling Facilities
 - c. Class III Landfills
 - d. Inert Materials accepted at Class III Landfills as daily cover
 - e. Inert Fills
 - f. Inert Backfill Sites other than Inert Fills
 2. With each submittal of SUBCONTRACTOR'S application for process payment, the SUBCONTRACTOR is required to submit to the LEED Coordinator the attached, "Summary of Solid Waste Diversion and Disposal, " quantifying all materials generated in the Work, disposed in Class III Landfills, or diverted from disposal through recycling. Indicate zero (0) if there is no quantity to report for a type of material. As indicated on the form:
 - a. Disposal or recycling reporting shall be made either in tons or in cubic yards. If scales are available at disposal or recycling facility, report in tons; otherwise, report in cubic yards.
 - b. Indicate locations to which materials are delivered for disposal, recycling, accepted as daily cover, or taken for inert backfill.
 - c. The Summary Form must be accompanied by legible copies of weigh tickets, receipts, or invoices that specifically identify the project generating the material. Said documents must be from recyclers and/or disposal site operators that can legally accept the materials for the purpose of re-use, recycling, or disposal.
 - d. Indicate the Project title, Work Order Number; name of the company completing the Summary Form and compiling backup documentation; the printed name, signature, and daytime phone number(s) of the person completing the form, the beginning and ending dates of the period covered on the Summary Form; and the date that the Summary Form is completed.

1.04 RECYCLING, RE-USE, AND SALVAGE REQUIREMENTS

- A. Development and Implementation of Recycling Procedures: Based upon Contract Documents, the SUBCONTRACTOR'S Construction Waste Management Plan, estimated quantities of available materials, and availability of recycling facilities, SUBCONTRACTOR shall develop and implement procedures to re-use, salvage, and recycled materials to the greatest extent feasible. Procedures shall include source separated recycling, as well as mixed recycling efforts. Procedures shall include consideration of on-site recycling.
1. On-site or Off-site Recycling Source-Separated Materials: SUBCONTRACTOR shall develop and implement a program to include source separation of solid resources, to the greatest extent feasible, of the following types:
 - a. Asphalt

- b. Concrete, concrete block, slump stone (decorative concrete block), and rocks
- c. Dirt
- d. Metal, ferrous and non-ferrous
- e. Wood
- f. Green materials (i.e. tree trimmings)
- g. Other materials, as appropriate, such as red clay brick and corrugated cardboard

Off-site Recyclables shall be legally transported to a source separated or mixed debris-recycling facility. On-site Recycling program shall produce a quality product to meet the requirements identified in the Contract Documents. On-site recycling Plans shall also estimate the amount to be used in the Work and include a program for off-site recycling of any excess material that cannot be used in the Work. At no time shall the on-site recycling, stock piling of separated or to-be-separated materials cause or create any nuisance or health menace to the site, other public or private properties.

- 2. Mixed Debris Recycling: Develop and implement a program to transport loads of commingled construction and demolition materials that cannot be feasibly source-separated to a mixed recycling facility.
 - 3. Salvageable Items: Perform a site pre-assessment, identify materials that are feasible for salvage, determine requirements for site storage, and transportation of materials to a salvage facility.
 - 4. Disposal Operations:
 - a. Using a permitted waste hauler or its own trucking services, SUBCONTRACTOR shall legally transport and dispose of materials that cannot be delivered to a source separated or mixed recycling facility, to a transfer station or disposal facility that can legally accept the materials for the purpose of disposal.
 - b. Do not burn, bury or otherwise dispose of solid waste on the project Jobsite.
 - 5. Hauling:
 - a. SUBCONTRACTOR is responsible for arranging collection of materials, by a permitted waste hauler or using its own trucks, to facilities that can legally accept construction and demolition materials for purpose of re-use, recycling, or disposal.
 - b. Prior to delivering materials, SUBCONTRACTOR shall familiarize itself with the Specifications for acceptance of construction and demolition materials at recycling facilities.
- B. Participate in Re-Use Programs: Implement a re-use program to the greatest extent feasible. Alternatives include:
- 1. California Materials Exchange (CAL-MAX) Program sponsored by the California Integrated Waste Management Board. CAL-MAX is a free service provided by the California Integrated Waste Management Board, designed to help businesses find markets for materials that traditionally would be discarded. The premise of the CAL-MAX Program is that material discarded by one business may be a resource for another business. To obtain a current Materials Listings Catalog, call CAL-MAX/California Integrated Waste Management Board at [(916) 255-2369 or (800) 553-2962.]
 - 2. Habitat for Humanity: a non-profit housing organization that rehabilitates and builds housing for low-income families.
 - 3. Other re-use organizations or activities.

PART 2 – PRODUCTS (Not Applicable)

PART 3 – EXECUTION (Not Applicable)

END OF SECTION 01 74 19

FORMAT FOR SUBCONTRACTOR'S CONSTRUCTION WASTE MANAGEMENT PLAN					
Project Title and Address:			W.O. Number:		
SUBCONTRACTOR'S Name:					
Street Address:					
CITY, State, Zip:					
Phone:			FAX:		
Date Submitted:					
<p>These are procedures to be used for re-using, salvaging, or recycling materials. Indicate the procedures (by number), types of materials, and estimated quantities that will be recycled or disposed in the sections below:</p> <ol style="list-style-type: none"> 1. Hand-wrecking to recover salvageable materials 2. On-site concrete and asphalt crushing for use on-site 3. On-site concrete and asphalt crushing for use off-site 4. Source separation of materials and separately hauling to recyclers 5. Hauling mixed recyclables to a mixed debris recycling facility 6. Other (please describe): 					
RE-USE/SALVAGE/RECYCLING OF MATERIALS					
Type of Material	No. of Procedure to be Used (as above)	Facility to be Used/Location	Estimated Quantities		
			Tons	Cubic Yards	Units
<i>Example: Concrete</i>	<i>4</i>	<i>ABC Recyclers</i>	<i>120</i>		
Asphalt					
Concrete					
Soils (clean)					
Wood/Green					
Scrap Metal					
Salvage Items Describe:					
Other Describe:					
Misc. Construction Debris					

FORMAT FOR SUBCONTRACTOR'S CONSTRUCTION WASTE MANAGEMENT PLAN				
DISPOSAL OF MATERIALS				
Project Title and Address:		W.O. Number:		
Type of Materials	Facility to be Used/Location	Estimated Quantities		
		Tons	Cubic Yards	Units
<i>Example: Misc. Const. Debris</i>	<i>XYZ Disposal</i>	<i>60</i>		
Asphalt				
Concrete				
Soils (clean)				
Wood/Green Materials				
Scrap Metal				
Other (i.e. Cardboard, Red Clay Brick) Please describe:				
Misc. Construction Debris				

SECTION 01 77 19 CONTRACT CLOSEOUT PROCEDURES

PART 1 – GENERAL

1.01 SUMMARY

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division One Specification Sections, apply to this section.
- B. This section includes administrative and procedural requirements for contract closeout, including but not limited to the following:
 - 1. Inspection procedures.
 - 2. Operation and maintenance manuals.
 - 3. Warranties.
 - 4. Instruction of Owner's personnel.
- C. Related Sections include the following:
 - 1. Divisions 2 through 33, for specific closeout and special cleaning requirements for products of those sections.

1.02 SUBSTANTIAL COMPLETION

- A. Preliminary Procedures: Before requesting inspection for determining date of substantial completion, complete the following. List items below that are incomplete in request.
 - 1. Prepare a list of items to be completed and corrected (punch list), the value of items on the list, and reasons why the work is not complete.
 - 2. Advise Owner of pending insurance changeover requirements.
 - 3. Submit specific warranties, workmanship bonds, maintenance service agreements, final certifications, and similar documents.
 - 4. Obtain and submit releases permitting Owner unrestricted use of the work and access to services and utilities. Include occupancy permits, operating certificates, and similar releases.
 - 5. Prepare and submit Project Record Documents, operation and maintenance manuals.
 - 6. Deliver tools, spare parts, extra materials, and similar items to location designated by Owner. Label with manufacturer's name and model number where applicable.
 - 7. Complete startup testing of systems.
 - 8. Submit test/adjust/balance records.
 - 9. Terminate and remove temporary facilities from project site, along with mockups, construction tools, and similar elements.
 - 10. Complete final cleaning requirements, including touchup painting.
- B. Inspection: Submit a written request for inspection for substantial completion via the CONSTRUCTION MANAGER. On receipt of request, Architect will either proceed with inspection or notify Contractor of unfulfilled requirements. Architect will prepare the Certificate of Substantial Completion after inspection or will notify Contractor of items, either on Contractor's list or additional items identified by Architect, which must be completed or corrected before certificate will be issued.
 - 1. Reinspection: Request reinspection when the work identified in previous inspections as incomplete is completed or corrected.
 - 2. If a reinspection identifies work that remains uncompleted, the Contractor shall be responsible for the cost of additional inspections by the Architect. The Architect will submit a time and

material invoice to the Owner, who will deduct the amount from the balance due to the Contractor.

3. Results of completed inspection will form the basis of requirements for final completion.

1.03 FINAL COMPLETION

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

1. Submit a final Application for Payment according to Division 1 section "Payment Procedures".
2. Submit certified copy of Architect's substantial completion inspection list of items to be completed or corrected (punch list), endorsed and dated by Architect. The certified copy of the list shall state that each item has been completed or otherwise resolved for acceptance.
3. Submit evidence of final, continuing insurance coverage complying with insurance requirements.
4. Instruct Owner's personnel in operation, adjustment, and maintenance of products, equipment, and systems. Revise paragraph and subparagraph below to comply with office policy and project requirements.

- B. Inspection: Submit a written request for final inspection for acceptance. On receipt of request, Architect will either proceed with inspection or notify Contractor of unfulfilled requirements. Architect will prepare a final Certificate for Payment after inspection or will notify contractor of construction that must be completed or corrected before certificate will be issued.

1. Reinspection: Request reinspection when the work identified in previous inspections as incomplete is completed or corrected.
2. If a reinspection identifies work that remains uncompleted, the Contractor shall be responsible for the cost of additional inspections by the Architect. The Architect will submit a time and material invoice to the Owner, who will deduct the amount from the balance due to the Contractor.

1.04 OPERATION AND MAINTENANCE MANUALS

- A. Assemble a complete set of operation and maintenance data indicating the operation and maintenance of each system, subsystem, and piece of equipment not part of a system. Include operation and maintenance data required in individual specification sections and as follows:

1. Operation Data:
 - a. Emergency instructions and procedures.
 - b. System, subsystem, and equipment descriptions, including operating standards.
 - c. Operating procedures, including startup, shutdown, seasonal, and weekend operations.
 - d. Description of controls and sequence of operations.
 - e. Piping diagrams.
2. Maintenance Data:
 - a. Manufacturer's information, including list of spare parts.
 - b. Name, address, and telephone number of installer or supplier.
 - c. Maintenance procedures.
 - d. Maintenance and service schedules for preventive and routine maintenance.
 - e. Maintenance record forms.
 - f. Sources of spare parts and maintenance materials.
 - g. Copies of maintenance service agreements.
 - h. Copies of warranties and bonds.

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

1.05 WARRANTIES

- A. Submittal Time: Submit written warranties to the Construction Manager for designated portions of the work where commencement of warranties, other than date of substantial completion, is indicated.
- B. Organize warranty documents into an orderly sequence based on the table of contents of the project manual.
 - 1. Bind warranties and bonds in heavy duty, 3-ring, vinyl covered, loose leaf binders, thickness as necessary to accommodate contents, and sized to receive 8-1/2 by 11 inch (115 by 280 mm) paper.
 - 2. Provide heavy paper dividers with plastic covered tabs for each separate warranty. Mark tab to identify the product or installation. Provide a typed description of the product or installation, including the name of the product and the name, address, and telephone number of installer.
 - 3. Identify each binder on the front and spine with the typed or printed title "WARRANTIES", project name, and name of Contractor.
- C. Provide additional copies of each warranty to include in operation and maintenance manuals.

PART 2 – PRODUCTS – Not Used

PART 3 - EXECUTION

3.01 DEMONSTRATION AND TRAINING

- A. Instruction: Instruct Owner's personnel to adjust, operate, and maintain systems, subsystems, and equipment not part of a system.
 - 1. Provide instructors experienced in operation and maintenance procedures.
 - 2. Provide instruction at mutually agreed upon times. For equipment that requires seasonal operation, provide similar instruction at the start of each season.
 - 3. Schedule training with Owner with at least 14 days advanced notice.
- B. Program Structure: Develop an instruction program that includes individual training modules for each system and equipment not part of a system, as required by individual specification sections. For each training module, develop a learning objective and teaching outline. Include instruction for the following:
 - 1. System design and operational philosophy.
 - 2. Review of documentation.
 - 3. Operations, Adjustments and Troubleshooting.
 - 4. Maintenance and Repairs.

END OF SECTION 01 77 19

SECTION 01 78 39 PROJECT RECORD DOCUMENTS

PART 1 – GENERAL

1.01 SUMMARY

- A. Provisions of General Conditions, Supplementary Conditions, and Division One apply to this section.
- B. Maintain at project site one copy of:
 - 1. Complete contract documents (prints and reproducibles) as noted below:
 - a. Specifications and addenda.
 - b. Reviewed shop drawings and samples.
 - c. Modifications: Change orders and other written amendments to the contract.
 - d. Field Test Records.
- C. Store record documents in temporary field office, separate from documents used for construction. Replace soiled or illegible documents.
- D. Provide files and racks for storage of documents.
- E. Maintain documents in clean, dry, and legible condition.
- F. Do not use record documents for construction purposes.
- G. Make documents available at all times for inspection by Owner and Architect.
- H. Drawings shall be same size and format as original construction documents.

1.02 MARKING DEVICES

- A. Provide fine ballpoint colored pens for marking.

1.03 RECORDING

- A. Label each document (on first sheet or page) “RECORD DRAWING” in 2 inch high printed letters.
- B. Keep record documents current. Record in concise and neat manner and on a weekly basis all actual revisions to the work.
 - 1. Do not permanently conceal any work until required information has been recorded.
 - 2. Drawings. Legibly mark to record actual construction:
 - a. Measured depths of various elements of foundation in relation to main floor level or survey datum.
 - b. Measured horizontal and vertical location of underground utilities and appurtenances referenced to permanent surface improvements. Identify drains and sewers by invert elevation.
 - c. Measured locations of internal utilities and appurtenances concealed in construction referenced to visible and accessible features of the work. Identify ducts, dampers, valves, access doors and control equipment wiring.
 - d. Field changes of dimension and detail.

- e. Changes made by change orders and other modifications, including all clarification drawings, instruction bulletins, and other construction correspondence.
 - f. Details not on original drawings.
- C. Specifications and Addenda: Legibly mark and record at each product section description of actual products installed to include the following:
- 1. Manufacturer, trade name, catalog number, and supplier of each product and item of equipment.
 - 2. Authorized product substitutions or alternates utilized.
 - 3. Changes made by change orders and other modifications.
 - 4. Other matters not originally specified.
- D. Shop Drawings and Samples: Maintain as record documents; legibly annotate shop drawings and samples to record changes made after review.
- E. Record Drawings:
- 1. The Contractor shall furnish a set of reproducible structural, mechanical, plumbing, electrical and landscape record drawings upon completion of construction, to the requirements noted above. These record drawings shall be in the same size and format as the original drawings.
 - 2. Structural, mechanical, plumbing, and electrical information shall include circuiting, wiring sizes, equipment/member sizing, etc., drawn in a professional manner similar to that indicated on the construction drawings. The record drawings for each discipline shall represent a complete picture of that entire system, as constructed.

1.04 SUBMITTALS

- A. Obtain Inspector's signed certification that record documents have been fully updated prior to submitting monthly payment requests. Compliance is mandatory before payment will be made.
- B. Submit Inspector's certified documents to Architect with claim for final application for payment. Fully complete record documents are a prerequisite to final payment.
- C. At completion of project, deliver all record documents to Architect. Architect and consultants will review the completed record drawings, both prints and mylars, and return to the Contractor with required changes annotated.
- 1. Architect will transfer data from the record drawing prints to the Architect's office originals.
- D. Accompany submittal with transmittal letter containing:
- 1. Date
 - 2. Project title and number
 - 3. Contractor's name and address
 - 4. Number and title of each record document
 - 5. Certification that each document, as submitted, is complete and accurate and signature of Contractor or his authorized representative.

PART 2 – PRODUCTS – Not Used

PART 3 – EXECUTION – Not Used

END OF SECTION 01 78 39

SECTION 02 41 31 SELECTIVE SITE DEMOLITION

PART 1 – GENERAL

1.01 SUMMARY

- A. Provisions of General Conditions, Supplementary Conditions, and Division 01 apply to this section.
- B. Scope of work: Complete all demolition work as shown on contract documents or as required to permit the installation of new construction, including but not limited to the following
 - 1. Remove existing ac paving at courts
 - 2. Remove misc site improvements

1.02 MATERIALS OWNERSHIP

- A. Except for items or materials indicated to be reused, salvaged, reinstalled, or otherwise indicated to remain the Owner's property, demolished materials shall become the Contractor's property and shall be removed from the site with further disposition at the Contractor's option.
- B. Record drawings at Project closeout according to Section 01 77 19 "Contract Closeout."
 - 1. Identify and accurately locate capped utilities and other subsurface structural, electrical, or mechanical conditions.

1.03 QUALITY ASSURANCE

- A. Demolition Firm Qualifications: Engage an experienced firm that has successfully completed demolition work similar to that indicated for this project.
- B. Public Utilities: Give all required notices, pay fees and charges, and arrange for disconnection and removal of abandoned public utilities and meters.
- C. Photographic and Video Documentation: Refer to Section 01380. Before starting work of this section, provide one set of photographs and one video of existing conditions to be affected by the demolition work. Provide progress videos as the work of demolition progresses, at intervals as approved, illustrating substrates, connections, concealed conditions, preservation of historic construction, and other conditions which will benefit subsequent work.

1.04 DEFINITIONS: The following terms have the meanings indicated when used in this section and on related drawings.

- A. Remove: Remove and legally dispose of items except those indicated to be reinstalled, salvaged, or to remain the Owner's property.
- B. Remove and Salvage: Items indicated to be removed and salvaged remain the Owner's property. Remove, clean, and pack or crate items to protect against damage. Identify contents of containers and deliver to Owner's designated storage area.
- C. Remove and Reinstall: Remove items indicated; clean, service, and otherwise prepare them for reuse; store and protect against damage. Reinstall items in locations indicated.

- D. Existing to Remain: Protect construction indicated to remain against damage and soiling during demolition. When permitted by the Architect, items may be removed to a suitable, protected storage location during demolition and then cleaned and reinstalled in their original locations.

1.05 ENVIRONMENTAL CONDITIONS

- A. Hazardous Materials: Prior to starting work, obtain from the Owner certification that hazardous materials have been removed. In the event additional material which is suspected to be friable asbestos or other regulated hazardous material is encountered during the demolition work, the Contractor shall stop work in such areas and notify the Owner. The materials will be inspected and tested, if necessary, by the Owner. If the material is found to be friable asbestos or other hazardous material, the Owner will provide for its removal or encapsulation without delay at Owner's expense. After treatment the Owner will test and certify that the contamination has been removed or controlled to within legal requirements and Contractor will be notified to proceed with the work in writing.
- B. Noise Control: Perform all work in a manner and at times which will keep production of objectionable noise to a minimum amount of noise. Instruct all workers in noise control procedures. Noise that adversely affects adjacent properties will not be tolerated. Such conditions shall be the Owner's determination.
- C. Dust Control: Take appropriate action to check the spread of dust, and to avoid the creation of a nuisance in the surrounding area. Do not use water if it results in hazardous or objectionable conditions, such as flooding or pollution. Comply with all dust regulations imposed by local air pollution agencies. Remove dust and dirt from work area at least daily or more frequently as needed or directed.
- D. Pest Control: Take appropriate measures to prevent the spread of pests and vermin from areas where work is being performed to other areas including the site and adjacent buildings.

1.06 PROJECT SITE CONDITIONS

- A. The intent of the drawings is to show existing site and building conditions with information developed from the original construction documents, field surveys, and Owner's records, and to generally show the amount and types of demolition and removals required to prepare existing areas for new work. Contractor shall make a detailed survey of existing conditions pertaining to the work before commencing demolition.
- B. Extent: perform removals to extent required plus such additional removals as are necessary for completion even though not indicated or specified.

1.07 PROTECTION

- A. Existing Work: Protect existing work which is to remain in place.
- B. Trees: Protect trees within the project site which might be damaged during demolition.

1.08 EXPLOSIVES: Use of explosives will not be permitted.

1.09 BURNING: Burning will not be permitted.

PART 2 – PRODUCTS (Not Applicable)

PART 3 - EXECUTION

- 3.01 EXAMINATION: Verify that utilities have been disconnected and capped.
- 3.02 PREPARATION: Conduct demolition operations and remove debris to ensure minimum interference with roads, streets, walks, and other adjacent occupied and used facilities. Do not close or obstruct streets, walks, or other adjacent occupied or used facilities without permission from Owner and authorities having jurisdiction. Provide alternate routes around closed or obstructed traffic ways if required by governing regulations.
- 3.03 UTILITIES
- A. Drain, purge, or otherwise remove, collect, and dispose of chemicals, gases, explosives, acids, flammables, or other dangerous materials before proceeding with demolition operations.
 - B. Prior to demolition or in the event unrecorded utilities are encountered, notify Owner or serving utility companies, as applicable, for work necessary and scheduled to be performed. Coordinate responsibility for limits of utility removals and be responsible for the removal of all utility installations both above and below grade except for those installations the utility companies agree to remove. Use care to protect utility lines to remain in service, repair all damage which does occur, and remove those not to remain in service.
 - C. Interruption of Service: In the event existing utility service requires interruption to accomplish the demolition work, obtain written approval by the Owner for interruption of service. Request approval not less than 48 hours prior to proposed scheduled interruption. State the exact services involved and the expected duration. Except in an emergency affecting life and limb, do not cause any interruption of utility service without written authorization from the Owner.
 - D. Provide for protection of utility lines to remain in service. Repair damage done to these facilities as a result of the work of this section, to the satisfaction of the Owner. Locations of existing utilities to remain shall be identified on record drawings, and their physical location shall be indicated by tags or stakes as applicable.
- 3.04 WORKMANSHIP
- A. Partial demolition and removal: When portions of pavement, slabs, sidewalks, curbs, curb and gutters and cross-gutters are to be removed, cut with a concrete saw full depth along all joint lines. Provide additional saw cut 2" away from saw cut on joint line, on the demolition side. Provide double saw cut at all areas to be demolished. All saw cuts shall be full depth.
- 3.05 DEMOLITION OF SITE IMPROVEMENTS
- A. Site Improvements: Remove walks and pavement, including base courses and miscellaneous improvements.
 - B. Paving and Slabs: Remove asphaltic concrete paving and slabs including aggregate base as indicated.
 - C. Underground Utilities: Expose pipe and conduit and cap at property line with permanent waterproof plugs or seals of concrete or metal. Except for items indicated to be abandoned in place, remove on-site abandoned pipe and conduit, cap and seal remaining pipe or conduit ends, and backfill the excavations as specified for new construction.
- 3.06 SALVAGE AND DISPOSAL

- A. General: Existing items Owner intends to retain will be designated by the Owner prior to start of work. Contractor shall carefully remove, salvage, box or bundle as approved, and deliver such items to storage as directed.
- B. Disposal: All removed material other than items to be salvaged or reused shall become Contractor's property and be removed from Owner's property. Clean up and dispose of debris promptly and continuously as the work progresses, and do not allow to accumulate. Sprinkle water on the surface to prevent dust nuisance. Secure and pay for required hauling permits and pay dumping fees and charges.

END OF SECTION 02 41 31

SECTION 03 31 13 STRUCTURAL CONCRETE

PART 1 - GENERAL

1.01 SUMMARY

- A. Provisions of General Conditions, Supplementary Conditions, and Division One apply to this section.
- B. Scope of work: The work under this section includes furnishing all labor, materials, and equipment, and performing all operations in connection with Structural Concrete, as indicated on the drawings, specified herein, or reasonably required to complete the work. The work includes, but is not limited to the following:
 - 1. All cast-in-place concrete, including footings and slab on grade.
 - 2. Concrete Mix Designs.
 - 3. Equipment bases.
 - 4. Setting anchor bolts, inserts, dowels, and accessories cast in concrete, which are specified under this and other sections.
 - 5. Vapor barrier under interior floor slabs on grade.
 - 6. Grout and drypack.
 - 7. Formwork, shoring, bracing and anchorage.
 - 8. Concrete reinforcement and accessories.
- C. Related Sections
 - 1. Section 01 45 24 Testing and Inspection Requirements for School Construction
 - 2. Section 03 35 00 Concrete Floor Finishing

1.02 DEFINITIONS AND REFERENCES

- A. Definitions
 - 1. Cementitious Materials: Portland cement alone or in combination with one or more of the following: blended hydraulic cement, fly ash and other pozzolans, ground granulated blast-furnace slag, and silica fume; subject to compliance with requirements.
- B. References
 - 1. ACI 318-2014 Building Code Requirements for Structural Concrete.
 - 2. ASTM A615 – Deformed and Plain Carbon – Steel Bars for Concrete Reinforcement.
 - 3. ASTM C33 – Concrete Aggregates.
 - 4. ASTM C94 – Ready-Mixed Concrete.
 - 5. ASTM C150 – Portland Cement.
 - 6. ASTM C309 – Liquid Membrane – Forming compounds for Curing Concrete.
 - 7. Chapter 19A, California Building Code.

1.03 SUBMITTALS

- A. Product Data: For each type of product indicated.
- B. Design Mixtures: Provide design mix for each concrete mixture. Design mix shall include data substantiating the reliability of the proposed mix. Submit alternate design mixtures when characteristics of materials, project conditions, weather, test results, or other circumstances warrant adjustments.

1. Each design mixture shall be stamped and signed by a registered professional engineer licensed in the state of California.
 2. Indicate amounts of mixing water to be withheld for later addition at project site.
- C. Steel Reinforcement Shop Drawings: Placing drawings that detail fabrication, bending, and placement. Include bar sizes, lengths, material, grade, bar schedules, stirrup spacing, bent bar diagrams, bar arrangement, splices and laps, mechanical connections, tie spacing, hoop spacing, and supports for concrete reinforcement.

1.04 QUALITY ASSURANCE

- A. Specified cement and aggregates shall be from single sources only.
- B. Regulatory Requirements: Conform to Chapter 19A, California Building Code.
- C. Tests: Testing and analysis of concrete will be performed under provisions of Section 01 45 24, Testing and Inspection Requirements for School Construction.
- D. Manufacturer Qualifications: A firm experienced in manufacturing ready-mixed concrete products and that complies with ASTM C 94/C 94M requirements for production facilities and equipment.
- E. Evaluation and acceptance of concrete shall conform to ACI 318, Section 26.12. Samples for strength testing shall be taken at least once a day or not less than once for each 50 cubic yards of concrete or not less than once for each 2,000 square feet of surface area for slabs or walls.

1.05 DELIVERY, STORAGE, AND HANDLING

- A. Steel Reinforcement: Deliver, store, and handle steel reinforcement to prevent bending and damage. Avoid damaging coatings on steel reinforcement.

PART 2 - PRODUCTS

2.01 FORM MATERIALS

- A. Conform to ACI 318, Section 26.11.
- B. Plywood Forms: Douglas Fir species; solid one side sound undamaged sheets.
- C. Lumber: Douglas Fir species; construction grade with grade stamp clearly visible.
- D. Form Ties: Removable metal of adjustable length, cone ends.

2.02 REINFORCING STEEL

- A. Reinforcing Steel: ASTM A615, 60 ksi yield grade billet steel deformed bars. Welded bars shall be ASTM A706, 60 ksi yield grade.
- B. Welded Steel Wire Fabric: Plain type, ASTM A1064; in flat sheets.

2.03 CONCRETE MATERIALS

- A. Cement: ASTM C150, Type V, Portland Type, conforming to Section 1903A.1, California Building Code.

- B. Aggregates: ASTM C33, conforming to Section 1903A.5, California Building Code.
- C. Fly Ash: Shall conform to Section 1903A.6, California Building Code.
- D. Water: Provide water per ASTM C1602. Clean and not detrimental to concrete.

2.04 CONCRETE MIX

- A. Mix and deliver concrete in accordance with ACI 318 Sections 4.8, 19.3 and 26.4..
 - 1. Selection of Concrete Proportions: Concrete proportions shall be determined in accordance with the provisions of ACI 318, Section 26.4.
 - 2. A registered civil engineer with experience in concrete mix design shall select the relative amounts of ingredients to be used as basic proportions of the concrete mixes proposed for use under this provision.
 - 3. Do not exceed 0.45 water-cement ratio, by weight.
 - 4. Concrete shall be mixed by transit mixers only.

- B. Provide concrete to the following criteria:

Element	Min 28 day Strength PSI	Max Slump	Max Size Aggregate	Type
Foundation	4,500	4 inch	1 inch	Reg.
Slabs	4,500	4 inch	3/4 inch	Reg.

- C. Admixtures may be added to the concrete to control the set, effect water reduction and increase in workability at the contractor’s option, or at the request of the Engineer, but in either case at the expense of the contractor. Except as otherwise specified, such admixtures shall be a water reducing normal retarding admixture conforming to ASTM C 494 and may be either a hydroxylated carboxylic acid type or a hydroxylated polymer type, but shall contain no calcium chloride. The required quantities of cement shall be used. The quantity of admixture used and the method of mixing shall be in accordance with the manufacturer’s printed instructions.
 - 1. Superplasticizers shall not be used without permission of the Engineer. If used, superplasticizers shall conform to ASTM C-494, Type F or G; batch plant added using second or third generation only.
 - 2. Admixtures shall be subject to the approval of DSA.

2.05 ACCESSORIES

- A. Bonding Agent: Polyvinyl Acetate; HIBOND, manufactured by Lambert Corporation, Orlando, FL, LOCK BOND NO. 906, manufactured by MacklanBurg-Duncan Co., City of Industry, CA, or equal.

2.06 REINFORCED VAPOR BARRIER

- A. Manufacturer: Reef Industries, Inc. 9209 Alameda Genoa Road, Houston Texas 77075. Phone (800) 231 6074. Web Site www.reefindustries.com.
- B. Reinforced Vapor Retarder under wood flooring: Griffolyn Vaporguard, 3-ply laminate, with aluminum core surrounded by (2) layers of multi-axially oriented, high density polyethylene sheets.

- C. Reinforced Vapor Retarder under VCT and carpet: Griffolyn Type 85, 5-ply laminate, combing (3) layers of high density polyethylene and (2) high strength non-woven cord grids.

2.07 CURING MATERIALS

- A. Water: Clean from a source suitable for domestic consumption.
- B. Curing Compound: ASTM C309, SHUR-CURE manufactured by Paul M. Wolff Co. water based membrane forming concrete curing compound. White pigmented.

2.08 DRY PACK AND NON-SHRINK GROUT

- A. Drypack: EUCLID Dry Pack Grout or equal 7,000 psi minimum.
- B. Non-Shrink Grout: EUCLID Hi-Flow Grout or equal 8,500 psi minimum.
- C. Epoxy Grout: Multi-component, premeasured, fast-curing combination of thermosetting resins and inert fillers. EUCLID E3-Xtreme or equal 17,500 psi minimum.

PART 3 - EXECUTION

3.01 FORMWORK

- A. Erect formwork, shoring and bracing to achieve design requirements, in accordance with requirements of ACI 318 Section 26.11.
- B. Verify lines, levels and measurement before proceeding with formwork.
- C. Hand trip sides and bottom of earth forms; remove loose dirt.
- D. Provide bracing to ensure stability of formwork. Shore or strengthen formwork subject to overstressing by construction loads.
- E. Arrange and assemble formwork to permit dismantling and stripping. Do not damage concrete during stripping. Permit removal of remaining principal shores.
- F. Align joints and make watertight. Keep form joints to a minimum.
- G. Obtain approval before framing openings in structural members which are not indicated on Drawings.

3.02 REINFORCED VAPOR BARRIER

- A. Install reinforced vapor retarders in accordance with ASTM E 1643 and manufacturer's written instructions.

3.03 PROTECTION

- A. Adequately protect staff, personnel and public from harm and accident during formwork. Conform to California Code of Regulations, Title 8, Subchapter 4, Construction Safety Orders.

3.04 REINFORCEMENT

- A. Place, support and secure reinforcement against displacement.

3.05 PREPARATION FOR CONCRETE WORK

- A. Weather Provisions: Make Provisions for weather conditions in accordance with ACI Specifications ACI 318 , the recommendation of the Testing Laboratory, and acceptable to the Architect
 - 1. Hot Weather Requirements: Concrete to be placed during hot weather shall comply with the requirements of ACI Section 26.5.5.
- B. Excavations: Before placing of concrete for foundations, insure that the excavations have been inspected and approved by the Soils Engineer. Remove loose dirt from excavations.
- C. Before concrete is placed upon or against concrete that has taken its initial set or has hardened, remove encrustations from the forms and reinforcement, and mechanically roughen hardened concrete to minimum ¼ inch coarseness amplitude.
- D. Prepare previously placed concrete by cleaning with sandblasting to remove laitance and expose clean aggregate.
- E. In locations where new concrete is doweled to existing work, drill holes in existing concrete, epoxy set 12 inch long No. 4 steel dowels at 18 inches oc.

3.06 PLACING CONCRETE

- A. Place concrete in accordance with ACI 318 Section 26.5.2.
- B. Notify Architect minimum 24 hours prior to commencement of operations. All excavations, forms and reinforcing shall be inspected and approved by the Architect prior to placement.
- C. Ensure reinforcement, inserts, embedded parts and accessories are not disturbed during concrete placement.
- D. When detailed on the drawings, separate slabs on grade from vertical surfaces with ½ inch thick joint filler.
- E. Extend joint filler from bottom of slab to within ½ inch of finished slab surface using one-component polyurethane sealant as specified in Section 07 92 00.
- F. Place concrete continuously between predetermined expansion, control and construction joints.
- G. Do not interrupt successive placement; do not permit cold joints to occur.
- H. Avoid segregation of materials. Perform tamping and vibrating so as to produce a dense, smooth application free of rock pockets and voids. Do not use vibrators to move concrete horizontally.
- I. Provide special mix prepared by the Testing Laboratory and approved by the Architect utilizing smaller aggregates in areas of reinforcing congestion to prevent the formation of rock pockets.
- J. Do not allow concrete to fall free from any height which will cause materials to segregate. Maximum height of free fall permitted in any case: 4 feet. Utilize trunks or additional chutes where doubt occurs.
- K. Construction Joints: Wash surface of each joint shortly after pouring to expose clean, sound aggregate. Sandblast surface to remove laitance remaining or loose aggregate as approved by the Architect. Conform to ACI 318, Section 26.5.6. Apply bonding agent in accordance with manufacturer's instructions.

3.07 CONCRETE FINISHING

- A. Provide formed concrete surfaces to be left exposed with smooth rubbed finish.
- B. Provide smooth trowel finish at flat surfaces.

3.08 CURING AND PROTECTION

- A. Immediately after placement, protect concrete from premature drying, excessively hot or cold temperatures and mechanical injury.
- B. Maintain concrete with minimal moisture loss at above 50 degrees F temperature for period necessary for hydration of cement and hardening of concrete. Dusting with dry cement to absorb excess water is prohibited.
- C. Cure only as specified herein and in accordance with ACI 318, Section 26.5.3. Membrane curing compound method not permitted for interior cast-in-place concrete slabs.
- D. Moisture Cure: Spray water over floor slab areas and maintain wet for minimum of ten (10) days or spread polyethylene film over floor slab areas, lapping edges and sides, minimum 6 inches and sealing with pressure sensitive tape; cover with plywood or otherwise protect film from damage; maintain in place for minimum of ten (10) days. Do not permit traffic over floor slabs during the ten (10) day curing period.
- E. Vertical Surfaces: Spray water over surfaces and maintain wet for 10 days.
- F. Quality Control: Proper curing of concrete surfaces shall be the responsibility of the Contractor under this section.

3.09 FIELD QUALITY CONTROL

- A. Field inspection and testing will be performed under provisions of Sections 01 45 24 Testing and Inspection Requirements for School Construction.
- B. Provide free access to work and cooperate with Testing Laboratory.

3.10 PATCHING

- A. Clean all exposed concrete surfaces and all adjoining work stained by leakage of concrete. Remove all fins, butts and projections by grinding. Patch voids, rock pockets, holes, cracks and similar imperfections by chipping loose concrete and exposing clean, sound aggregate.

3.11 DEFECTIVE CONCRETE

- A. Remove concrete not conforming to required lines, details, dimensions, tolerances or specified requirements.
- B. Repair or replacement of defective concrete will be determined by the Architect.
- C. Do not patch, fill, touch-up, repair or replace exposed concrete except upon express approval of Architect for each individual area.

3.12 MOISTURE TEST FOR CONCRETE FLOORS

- A. It shall be the Contractor's responsibility to provide a concrete floor slab meeting the maximum moisture vapor emissions herein specified and the contractor shall exercise care in all aspects of mixing, placing and curing the concrete floor slabs so that a minimum of mitigation treatment will be required.
- B. Prior to ordering floor materials that are adhesive applied, contractor shall conduct Calcium-Chloride "Dome" tests to verify that concrete floor slabs are dry with maximum moisture vapor emissions of five lbs. Per 1,000 s.f. in 24 hours and that slabs exhibit negative alkalinity, carbonization or dusting. Apply the moisture test in four (4) different areas of each floor location, with at least one test for each 1,000 s.f. of floor area.
- C. Should the moisture emissions exceed five lbs. Per 1,000 s.f. in 24 hours as specified herein at the time of installation of adhesive applied floor coverings, and the Petrographic Analysis, ASTM C856, confirms that the placement of concrete slabs was not in conformance with requirements of this section and that the water cement ratio exceeded 0.45 or the concrete was cured less than 7 days, the General Contractor, at no additional cost to the Owner, shall reduce the moisture emission level to that specified by use of a vapor emission treatment system.

3.13 DRY PACK AND GROUTING

- A. Drypacking: Mix materials thoroughly with minimum amount of water. Install drypack by forcing and rodding to fill voids and provide complete bearing under plates. Finish exposed surfaces smooth and cure with damp burlap or liquid curing compound.
- B. Non-Shrink Grouting: Mix grout material per manufacturer's instructions. Surfaces to receive the non-shrink grout shall be clean, and shall be moistened thoroughly immediately before placing the mortar. Before grouting, surfaces to be in contact shall be roughened and cleaned thoroughly, loose particles shall be removed and the surface flushed thoroughly with neat cement grout immediately before the grouting mortar is placed. Place fluid grout from one side only and puddle, chain, or pump for complete filling of voids; do not remove the dams or forms until grout attains initial set. Finish exposed surfaces smooth, and cure as recommended by grout manufacturer.

END OF SECTION 03 31 13

SECTION 05 12 00 – STRUCTURAL STEEL

PART I – GENERAL

1.01 SUMMARY

- A. Provisions of General Conditions, Supplementary Conditions, and Division One apply to this section.
- B. Scope of Work: The work under this section includes furnishing all labor, materials, and equipment and performing all operations in connection with structural steel, as indicated on the drawings, specified herein, or reasonably required to complete the work. The work includes, but is not limited to the following:
 - 1. Structural steel framing.
 - 2. Steel pipe and tube framing.
 - 3. Shop priming and field touch-up to extent specified.
 - 4. Hoisting of metal floor and roof decking.
- C. Related Sections:
 - 1. Metal Fabrications: Section 05 55 00.
- D. Product furnished but not installed under this section:
 - 1. Anchor bolts and loose bearing and setting plates: Installed under Division 3.

1.02 REFERENCES

- A. Comply with provisions of California Code of Regulations (CCR) Title 24, Part 2, Chapter 22A.
- B. ASTM A-572 Standard Specification for High-Strength Low-Alloy Columbium-Vanadium Structural Steel.
- C. ASTM A992, Standard Specification for Structural Steel Alloy.
- D. ASTM A36, Standard Specification for Carbon Structural Steel.
- E. ASTM A-53, Standard Specification for Pipe, Steel, Black and Hot-Dipped, Zinc-Coated, Welded and Seamless.
- F. ASTM A500 Standard Specification for Cold-Formed Welded and Seamless Carbon Steel Structural Tubing in Rounds and Shapes.
- G. ASTM A-325, Standard Specification for Structural Bolts, Steel, Heat Treated 120/105 KSI Minimum Tensile Strength.
- H. AWS D1.1, Structural Welding Code -Steel.

1.03 SUBMITTALS

- A. Product Data: Submit copies of producer's or manufacturer's data and installation instructions for the following products. Include laboratory test reports and other data required to show compliance with these specifications:

1. Structural steel, including certified copies of mill test reports covering chemical and physical properties.
2. Unfinished bolts and nuts.
3. High strength bolts, including nuts and washers.

B. Shop Drawings:

1. Submit shop drawings covering all structural steel including welding, accessories, and fastenings. Fully detail minor connections and fastenings not shown or specified to meet required conditions. Include detailed sequence plan for shop and field welding that minimizes locked-in stresses and distortion.
2. Make erection diagrams as complete as possible before first submittal. Calculate dimensions using all drawings. Report dimensions not derivable from drawings to Architect for clarification.
3. All welds, both shop and field, shall be indicated by A WS Welding Symbols. Indicate net weld lengths.

C. Proof of Compliance for Materials: Submit mill test reports.

1.04 QUALITY ASSURANCE

- A. Qualify Welding processes and welding operators in accordance with A WS Structural Welding Code.
- B. Provide certification that welders employed in work have satisfactorily passed A WS qualification tests within 12 previous months.

1.05 DELIVERY, STORAGE, & HANDLING

A. Delivery of materials to be installed under other sections:

1. Deliver anchor bolts and other anchorage devices to be embedded in concrete or masonry construction to the project site in time to be installed.
2. Provide setting drawings, templates, and directions for the installation of the anchor bolts and other devices.

B. Storage of Materials:

1. Store steel above ground on platforms, skids, or other acceptable supports. Protect steel from corrosion.
2. Welding Electrodes: Deliver to the site in unbroken packages bearing the manufacturer's name and label identifying the contents.
3. Store other materials in a watertight and dry place until ready for incorporation into the work.

1.06 PROJECT CONDITIONS

- A. Site Measurements: Take field measurements as required. Report discrepancies between drawings and field dimensions.
- B. Protection of Floors: Use Caution to protect floor slab and adjacent work from damage. Do not overload floors. Use rubber tired equipment to handle and move steel. Do not place steel members directly on floor; use pads of timber or like material for cushioning.
- C. Temporary Flooring: Provide necessary temporary planking, scaffolding, and flooring for erection of structural steel or support of erection machinery. Conform use of temporary floors or steel decking to code.

- D. Connection of Steel Decking Temporary Flooring: Temporarily weld steel decking to supports where used as a working platform. Distribute concentrated loadings from welding machines and other heavy machinery with planking or equal. Replace decking damaged by use as a working platform.

PART 2 – PRODUCTS

2.01 MATERIALS

- A. General: New tested stock complying with reference specifications herein specified.
- B. Structural Steel: ASTM A-36, ASTM A-572, ASTM A992, Grade 50
- C. Steel Tubes: ASTM A500, Grade B.
- D. Steel pipe: ASTM A53, Grade B.
- E. Fastening Materials:
 - 1. Machine Bolts: ASTM A307, Grade A.
 - 2. High Strength Bolts, together with their nuts and washers: ASTM A325, Type 2 fastener requirements. Provide with identification markings and manufacturer's identification symbol on each item. High strength bolts may be "Tension Set Type" and shall be one of the following:
 - a. TS Bolt F9T by Cold Forming Specialties, Inc.
 - b. Load Indicator Bolt by Bethlehem Steel Corp.
 - c. LeJeune Tension Control Bolt by Consolidated Nut & Bolt Co.
 - 3. Electrodes: A WS D5 .1, E70XX Series as required for intended use. A WS Designation E70T-4 shall not be used.
- F. Anchor Bolts: ASTM F1554, Grade 36, Headed Type unless otherwise indicated.
- G. Shop Primer: Tacmac 99QD or a009, Tust-Oleum 678 or 7086 metal primer or other; all in compliance with SCAQMD regulations.
- H. Non-shrink Grout: As specified in Section 03 31 13.
- I. Miscellaneous Materials: As necessary to complete this work.

2.02 MATERIAL TESTING

- A. Tests of Structural Steel: Comply with CBC Section 2213A..
 - 1. Identified Structural Steel: Tests are waived for steel identified by heat number, accompanied by mill analysis and mill reports, and properly tagged with Identification Certificate so as to be readily identified for conformance with ASTM A6 and CBC Section 2203A.
 - 2. Unidentified Steel: If structural steel cannot be identified or its source is questionable, it shall be tested to meet the minimum chemical and mechanical requirements of the ASTM standard appropriate for the specified steel. Additional tests may be required when deemed necessary by the Architect, Structural Engineer, or DSA.

2.03 FABRICATION

- A. Workmanship: According to the approved submittals, reference standards as applicable, and requirements herein. Fabricate and form the work to meet actual installation conditions verified at the site.
- B. Before being fabricated or worked, material shall be thoroughly wire brushed, cleaned of loose mill scale and rust, and straightened by methods that will not injure steel.
 - 1. After punching or working the component parts of a member, remove twists, bends, and open joints.
- C. Fabricate all structural steel in accordance with AISC specification.
- D. Punch or drill holes. Do not burn holes.
- E. Shop Paint:
 - 1. Minimum cleaning requirements: In accordance with SSPC-SP-3.
 - 2. After surfaces are properly cleaned, provide one coat of shop paint to attain a minimum dry film thickness of two mils.
 - 3. Block out at connections and omit shop paint.
 - 4. Omit shop paint at concrete-encased steel and steel that receives spray applied fireproofing.

PART 3 – EXECUTION

3.01 EXAMINATION

- A. Verify governing dimensions and conditions at project site before commencing any work.
- B. Verify the location and elevation of all anchor bolts and concrete surfaces supporting column bases. Tolerances for anchor bolts and concrete surfaces:
 - 1. Elevation of concrete surfaces: +3/8 inch.
 - 2. Elevation top of anchor bolts: + 1 inch, minus 3/8 inch.
 - 3. Out-of-position of anchor bolts: + 1/8 inch.

3.02 ERECTION

- A. Erect all structural steel in accordance with AISC specification.
- B. Erection Tolerances: In accordance with the AISC Code of Standard Practice for Steel Buildings. Tolerances shall be compensating, not cumulative.
- C. Field Assembly:
 - 1. Members and sections of sizes, weights, shapes, and true arrangements shown, closely fitted, and finished true to line and in precise position necessary to allow accurate erection and proper joining of parts in the field. Drifting to enlarge unfair holes will not be allowed.
 - 2. Do not heat rolled sections, except for minor details.
- D. Contact:
 - 1. Component parts of built-up members shall be well pinned and rigidly maintained in close contact using clamps or temporary bolting during welding.

2. Compression joints depending upon contact bearing shall have bearing surfaces accurately milled perpendicular to their axis.
- E. Punching, Drilling, and Reaming:
1. Material may be punched 1/16 inch larger than the nominal diameter of the bolt, wherever the thickness of the metal is equal to or less than the diameter of the bolt plus 1/8 inch.
 2. Where the metal is thicker than the diameter of the bolt plus 1/8 inch, the holes shall be drilled or sub-punched and reamed.
 3. The diameter for sub-punched holes, and the drill for sub-drilled holes, shall be 1/16 inch smaller than the nominal diameter of the bolt to be drilled.
 4. Finished holes shall be precisely located to insure passage of bolts through assembled materials without drifting. Enlargement of holes necessary to receive bolts shall be done by reaming. Poor matching of holes shall be sufficient cause for rejection.
- F. Bolting:
1. Where structural joints are made using high strength bolts, hardened washers and nuts tightened to a high tension, the materials, method of installation and tension control, types of wrenches to be used, and inspection methods shall conform to Specifications for Structural Joints using High-Strength bolts, established by the Research Council on structural connections.
 - a. High strength bolts used shall have a suitable identifying mark placed on top of the head before leaving the factory.
 - b. Hardened washers shall be installed in accordance with AISC Specifications.
 - c. Contact bearing surface of bolted parts and bolt threads shall be free of scale, slag, burrs, and pits, or dirt, paint, or other foreign material and/or any defects which would prevent solid seating of parts.
 - d. Bolt lengths shall be grip plus I-I/2 inches.
 - e. If bolting is done using Coronet load indicators, inspections may be done on aperiodic basis, but each connector in every connection will be visually examined, and a minimum of 10% of connectors in each joint checked with a Coronet gap gage.
 - f. Testing laboratory will certify to Owner in writing at completion of work, that high strength bolting has been done in accordance with contract requirements and applicable standards.
 2. Common Bolts: Unfinished bolts may be used for all connections that are so indicated on the drawings, using bolts of the sizes called for with the nuts drawn tight. The edge distances shall be at least those indicated in the reference standard referred to above.
- G. Structural steel shall be carefully planned and laid out so that a minimum of cutting will be necessary:
1. Erect the work plumb, square and true to line and level, and in precise positions as shown.
 2. Provide temporary bracing and guys wherever necessary to provide for loads and stresses to which the structure may be subjected, including those due to erection equipment and its operation. Leave in place as long as necessary for safeguarding all parts of the work.
- H. Temporary Connections: As erection progresses, the work shall be securely bolted up as necessary to maintain the steel in proper position while field bolting and welding is being done, and as necessary to take care of dead loads, winds and erection stresses.
- I. Set column base plates in exact position, both as to alignment, level, and elevation, and support on steel wedges, or equivalent, until the grout thereunder has thoroughly set.
1. The center of each base shall be true to the column center within 1/16 inch and adjust its elevation to plus or minus 0.0025 ft. (1/32 inch). Plates shall be exactly level on both axes.

- J. Gas Cutting:
 - 1. Use of a cutting torch is allowed where the metal being cut is not carrying stress during the operation, and provided stresses will not be transmitted through a flame-cut surface.
 - 2. Make gas cuts smooth and regular in contour. To determine the effective width of members so cut, deduct 1/8 inch from width of the gas cut edges. Make the radius of re-entrant gas cut fillets as large as practicable, but in no case less than 1 inch.

3.03 WELDING

- A. Welding and Welded Joints: Detail and execute in accordance with the requirements of the A WS standards, the Structural Welding Code, A WS DI.1 , and CBC Chapter 22A, and as modified by the drawings. In the event of conflict, the drawings take precedence. Perform structural welding by one of the following processes:
 - 1. All welding to be Shielded Metal Arc Welding Process.
- B. In addition, welding and welded joints shall comply with CBC Chapter 22A.

3.04 ANCHOR BOLTS

- A. Furnish to the project site when and as required to maintain project progress, all anchor bolts to be embedded in concrete and masonry for securing of structural steel in proper position.
- B. Provide the necessary drawings and templates for setting of such anchor bolts.
- C. Setting of anchor bolts in hardened concrete, necessitated through error or oversight, and in existing concrete shall be as acceptable to the Architect in suitable drilled holes solidly grouted in place, or embedded in an acceptable structural epoxy.

3.05 DRYPACKING OF BASES AND PLATES

- A. Maintain bases and bearing plates in proper location and in proper level while they are being grouted.

3.06 TESTING AND INSPECTION

- A. Testing laboratory will inspect all shop and field welding and high strength bolting.
 - 1. Inspection of welding operations shall be made by a qualified Welding Inspector approved by DSA.
 - 2. Inspection of high strength bolt installation shall be made by a Special Inspector approved by DSA.
 - 3. Testing of high strength bolts, nuts, and washers shall be made in compliance with CBC Chapter 22A, 2213A.1.
 - 4. Base metal thicker than 1-1/2 inch, when subjected to through-thickness weld shrinkage strains, shall be ultrasonically tested in accordance with CBC Chapter 22A.
- B. Inspection: According to the reference standards. The inspector shall visually inspect welds, shall be present to inspect and approve all groove, multi-pass, and penetration welding performed in the fabricator's shop or at the site, and shall inspect all erection including the drypacking under base plates.
- C. Tests of Welding and Bolting: The testing laboratory shall inspect all shop and field welding to conform to requirements of code and certify, in writing after completion of the work, that all welding has been performed in accordance with the drawings, specifications, and code.

END OF SECTION 05 12 00

SECTION 05 55 00 METAL FABRICATIONS

PART 1 – GENERAL

1.01 SUMMARY

- A. Provisions of General Conditions, Supplementary Conditions, and Division One apply to this section.
- B. Section includes metal fabrications, including:
 - 1. Handrails
- C. Related Sections:
 - 1. Structural Steel: Section 05 12 00.
 - 2. Finish field painting of material fabrications: Section 09 91 00.
 - 3. Sheet Metal Flashing and Trim: Section 07 62 00.
 - 4. Non-Structural Metal Framing: Section 09 22 16.
- D. Definition: Miscellaneous metal 10 gauge and heavier are included under this section except as otherwise specified in other sections.

1.02 SUBMITTALS

- A. Shop Drawings: submit shop drawings fully detailing work of the section, including accessories, fastenings, and welding. Include minor connections and fastenings not indicated or specified to meet required conditions; indicate in detail on shop drawings.
- B. Product Data – Manufacturer’s Literature: Brochure describing items, specifications and installation instructions for manufactured items.

1.03 QUALITY ASSURANCE

- A. Reference Standards – comply with the following:
 - 1. AIS, Design, Fabrications and Erection of Structural Steel for Buildings.
 - 2. AISI, Specifications for the Design of Cold-formed Steel Structural Members.
 - 3. AWS D.1.1, Structural Welding Code – Steel.
 - 4. ASTM A6, General Requirements for the Delivery of Rolled Steel Plates, Shapes, Sheet Piling and Bars for Structural Use.
 - 5. CBC Chapter 22A.
 - 6. Comply with CFC Chapter 35, Welding and Hot Works
- B. Regulatory Requirements
 - 1. Handrail gripping surfaces and any surfaces adjacent to the shall be free of sharp or abrasive elements and shall have rounded edges.
 - 2. Handrails shall not rotate within their fittings.
 - 3. Top of gripping surfaces of handrails shall be 34” minimum and 38” maximum vertically above walking surfaces, stair nosings, and ramp surfaces. Handrails shall be at a consistent height above such surfaces.
 - 4. Clearance between handrail gripping surfaces and adjacent surfaces shall be 1 ½” minimum. Handrail may be located in a recess if the recess is 3” maximum deep and 18” minimum clear above the top of the handrail.

5. Handrail gripping surfaces shall be continuous along their length and shall not be obstructed along their tops or sides. The bottoms of the handrail gripping surfaces shall not be obstructed for more than 20% of their length. Where provided, horizontal projections shall occur 1 ½” minimum below the bottom of the handrail gripping surface.
6. Handrail gripping surfaces with a circular cross section shall have an outside diameter of 1 ¼” minimum and 2” maximum.
7. Handrail gripping surfaces with a non-circular cross section shall have an outside dimension of 4” minimum and 6 ¼” maximum, and a cross-sectional dimension of 2 ¼” maximum.
8. Handrail gripping surfaces and any surfaces adjacent to them shall be free of sharp or abrasive elements and shall have rounded edges.
9. Handrails shall not rotate within their fittings.
10. Handrail gripping surfaces shall extend beyond and in the same direction of stair flights and ramp runs in accordance with CBC Section 11B-505.10. Such extensions are not required for continuous handrails at the inside turn of switchback or dogkeys stairs and ramps.
11. The orientation of at least one handrail shall be in the direction of the stair run, perpendicular to the direction of the stair nosing, and shall not reduce the minimum required width of the stair. CBC Section 11B-505.2.1.
12. A 2” minimum high curb or barrier shall be provided to prevent the passage of a 4” diameter sphere rolling off the edges of the ramp or landing surface. Such a curb or barrier shall be continuous and uninterrupted along the length of a ramp. CBC Section 11B-405.9.2.

1.04 PRODUCT DELIVERY AND HANDLING:

- A. Protect items from damage during shipping, handling and storage. Work showing dents, creases, deformations, weathering or other defects is not acceptable. Deliver welding electrodes to site in unopened packages bearing manufacturer’s name and product identification.

1.05 JOB CONDITIONS:

- A. Verify field measurements prior to fabrication of items. Use caution to protect concrete floor surfaces and adjacent work from damage.

PART 2 – PRODUCTS

2.01 BASIC MATERIALS

- A. Structural Steel Plates, Shapes, Bars and Sheets:
 1. Structural Sizes, Shapes and Plates: ASTM A36, except for plates to be bent or cold-formed.
 2. Plates to be Bent or Cold-Formed: ASTM A283, Grade C.
 3. Bars and Bar-Size Shapes: ASTM A663, of ASTM A36.
 4. Sheets: ASTM A653, coating class G90.
 5. Hot-Rolled Carbon Steel Bars and Bar-Size Shapes: ASTM A575, Grade as selected by the fabricator.
- B. Steel Pipe: ASTM A53, Type E of S, Grade B – use Grade A for pipe required to be bent.
- C. Steel Tubing: ASTM A500, Grade B.
- D. Malleable Iron Castings: ASTM A47.
- E. Anchors – Inserts:

1. Threaded Type: ASTM A47 or ASTM A27; hot-dip galvanized in accordance with ASTM A153.
 2. Slotted Type: ASTM A283; hot-dip galvanized in accordance with ASTM A123.
- F. Fasteners: Zinc-coated, galvanized for exterior use or when used in exterior walls, in accordance with ASTM A153. Select fasteners for the type, grade and class required for the installation of miscellaneous metal items.
1. Standard Bolts and Nuts: Regular hexagon type, ASTM A307, Grade A.
 2. Lab Bolts: Square head type, FS FF-B561.
 3. Machine Screws: Cadmium-plated steel, FS FF-S-92.
 4. Wood Screws: Flat head carbon steel, FS FF-S-111.
 5. Plain Washers: Round, general assembly grade carbon steel, FS FF-W-92.
 6. Lock Washers: Helical spring type carbon steel, FS FF-W-84.
 7. Other Fastener Type: As required for the condition of use.
- G. Welding Electrodes: Appropriate type for the metal to be welded. Comply with AWS D1.1.
- H. Prime Paint: 1009 Metal Primer by Tnemec Co., Inc., 7086 Metal Primer by Rust-Oleum Corp. or equivalent meeting SCAQMD requirements.
- I. Galvanizing: ASTM A123, hot-dip, 2 oz. per sq. ft. coating on actual surface with minimum 1.08 oz. coating on any specimen. Bonderize as required for finish painting. Galvanize exterior steel and as shown on drawings.
- J. Galvanizing repair material: All States Galvanizing Powder, Drygalv by American Solder and Flux, or equal hot applied repair material, or anodic zinc-rich galvanizing repair paint conforming to Mil Spec DOD-P-21035.
- K. Setting compound: Hallemite Inc. "Por-Rok" for interior dry conditions, "Super Por-Rok" for exterior and wet conditions.
- L. Miscellaneous Materials: Ad hereinafter specified and as necessary to complete this work.

2.02 GENERAL FABRICATION REQUIREMENTS

- A. Conform to approved submittals, Section 1.03 "Quality Assurance" above as applicable to the work, and requirements herein. Fabricate and form the work to meet actual installation conditions as verified at the site. Obtain necessary templates and information and provide holes and drilling indicated or required for securing work of other sections to metal fabrications.
- B. Fabricate items to design shown. Furnish members in longest lengths commercially available within the limits shown and specified. Fabricate straight, true, free from warp and twist, and where applicable square and in same plane. Provide holes, sinkages and reinforcement shown and required for fasteners and anchorage items. Provide opening, cut-outs, and tapped holes for attachment and clearances required for other work. Prepare members for the installation and fitting of hardware. Provide reinforcement to support cut edges where required. Fabricate surfaces and edges free from sharp edges, burrs and projections which may cause injury.
- C. Welding: Conform to AWS D1.1, as modified by referenced AISC Standards, and as indicated or noted on drawings. Unless otherwise indicated or specified, weld joints by shielded electric-arc method. Welds shall show good fusion, be free from cracks and porosity and accomplish secure and rigid joints in proper alignments. Where exposed in the finished work, continuous weld for the full length of the members joined and have depressed areas filled and protruding welds finished smooth and flush with adjacent surfaces. Grind exposed welds subject to contact to smooth surfaces free of

holes, slag, or other defects, flush with adjoining surfaces. No finishing treatment is required for concealed welds and other exposed welds except as specified. Cut out defective welding and replace.

- D. Joining: Miter or butt members at corners. Where frames members are butted at corners, cut leg of frame member perpendicular to surface, as required for clearance.
- E. Anchors: Where metal fabrications are shown to be preset in concrete, weld 1-1/4 by 1/8 inch steel trap anchors, 6 inches long with one inch hooked end, to back of member at 2 feet on center, unless otherwise shown. Where metal fabrications are shown to be built into masonry use 1-1/4 by 1/8 inch steel strap anchors, 10 inches long with 2 inch hooked end, welded to back of member at 2 feet on center, unless otherwise shown.
- F. Cutting and Fitting: Accurately cut, machine and fit joints, corners, copes, and miters. Fit removable members to be easily removed. Design and construct field connections as indicated on approved submittals. Fit pieces together as required. Joints shall be firm when assembled. Conceal joining, fitting and welding on exposed work. Do not show rivets and screws on the exposed face. The fit of components and the alignment of holes shall eliminate the need to modify component or to use exceptional force in the assembly of item and eliminate the need to use other than common tools.
- G. Miscellaneous Items: Fabricate items not specifically mentioned according to the drawings, approved shop drawings, and as required to complete the entire work. Galvanize exterior items and shop prime interior items unless otherwise shown or specified.
- H. Provide metal fabrications indicated, specified, and required to complete the work, including anchors and supports. Include parts necessary to complete metal fabrication work whether or not specifically indicated.
- I. Form exposed work true to line and level with accurate angles and surfaces and straight sharp edges. Ease exposed edges to radius of approximately 1/32" unless otherwise indicated. Form bent-metal corners to smallest radius possible without causing grain separation or otherwise impairing work.
- J. For fabrication of metal work which will be exposed to view in finished work, use only materials which are smooth and free of surface blemishes including pitting, seam marks, roller marks, mill scale, rolled trade names and roughness.
- K. Close fit exposed joints to hairline joints. Cut off exposed bolts and screws flush with adjacent metal. Cut, drill punch and tap as required for installation and attachment of other work to metal work.
- L. Form metal work with anchorage when built into concrete or masonry or provide with suitable anchors, expansion shields, or other anchoring devices indicated or required. Provide such metal work in ample time for setting and securing in place.
- M. Make threaded connections up tight so threads are entirely concealed. Provide Phillips flat head countersunk bolts and screws in exposed work and elsewhere required, unless otherwise indicated.
- N. Miscellaneous Framing and Supports:
 - 1. Provide miscellaneous steel framing and supports which are not a part of the structural steel framework, as required to complete this work.
 - 2. Fabricate miscellaneous units to the sizes, shapes and profiles shown, or if not shown, of the necessary dimensions to receive adjacent grating, plates, doors or other work to be retained by the framing.
 - 3. Except as otherwise shown, fabricate from structural steel shapes and plates and steel bars of welded construction using mitered corners, welded brackets and splice plates and a minimum number of joints for field connections.

4. Equip units with integrally welded anchor straps for casting into poured concrete wherever possible.
 5. Except as otherwise shown, space anchors 2 feet o.c. and provide minimum anchor units of 1-1/4" x 1/4" x 8" steel straps.
 6. Galvanize exterior miscellaneous frames and supports.
- O. Galvanizing: Provide the hot-dip process in accordance with ASTM A123. Galvanize specified items after fabrication is completed and produce coating free of roughness, whiskers, unsightly spangles, icicles, runs, barbs, sags, droplets, and other surface blemishes.
- P. Shop Painting:
1. Shop paint metal work specified in this section except those members or portions of members to be embedded in concrete or masonry, surfaces and edges to be field welded, galvanized and stainless steel surfaces.
 2. Remove loose mill scale, loose rust, oil, grease, and other deleterious materials before applying shop coat.
 3. Immediately after surface preparation, brush or spray primer paint. Apply in accordance with the manufacturer's instructions at a rate to provide a uniform dry film thickness of 1.0 mil for each coat. Use painting methods which will result in full coverage of joints, corners, edges and exposed surfaces.
 4. Apply one shop coat of primer paint to fabricated metal items, except apply two coats of paint to surfaces which are inaccessible after assembly or erection.

PART 3 - EXECUTION

3.01 EXAMINATION

- A. Examine building construction that is to receive this work. Do not proceed with installation until conditions are suitable.

3.02 GENERAL INSTALLATION REQUIREMENTS

- A. Grouting: Provide grouting for work of this section as shown, specified, and required. Use non-shrink grout and conform to manufacturer's directions.
- B. Galvanizing Repair: Wire brush welds and damaged coating to clean bright metal. Apply one coat of galvanizing repair paint where surfaces are concealed or are to be finish painted. Use the specified hot-applied galvanizing repair compound where surfaces remain exposed and unpainted.
- C. Shop Prime Coat Repair: Do not apply metal primer in wet weather unless steel is protected from dampness and is dry. Clean field welds, field bolts, and damaged shop primer after erection and apply a spot coat of the same primer used for the shop coat.
- D. Fasteners: Provide fasteners and connectors of approved types as required for the installations, whether or not indicated. Provide galvanized fasteners for galvanized items and for exterior use. Fasten metal work to solid masonry with expansion bolts and to hollow masonry with toggle bolts. Provide screws threaded full length to screw head.
- E. Protection of Dissimilar Materials: Protect aluminum from contact with dissimilar materials by painting the contact surfaces of each with two heavy coats of bituminous paint, or by suitable isolation gaskets, as approved and as applicable for each condition.

- F. Set work accurately, in alignment and where shown, plumb, level, free of rack and twist, and set parallel or perpendicular as required to line and plane of surface.
- G. Items set into concrete or masonry. Provide temporary bracing for such items until concrete or masonry is set. Place in accordance with setting drawings and instructions. Build strap anchors, into masonry as work progresses. Set frames flush with finish floor or wall surface and, where applicable, flush with side of opening.
- H. Fastening: Field weld in accordance with AWS. Design and finish as specified for shop welding. Use continuous weld unless specified otherwise. Install anchoring devices and fasteners as shown and as necessary for securing metal fabrications to building construction as specified. Power actuated drive pins may be used except for removable items and where members would be deformed or substrate damaged by their use.
- I. Spot prime abraded and damaged areas of zinc coating as specified and abraded damaged areas of shop prime coat with same kind of paint used for shop priming.

3.03 INSTALLATION OF CHANNEL AND ANGLE FRAMES

- A. Secure clip angles at bottom of door frames to concrete slab with expansion bolts as shown. Level and plumb frame; brace in position required. At masonry, set frames in walls so anchors are built-in as the work progresses unless shown otherwise. Set frame in formwork for frames cast into concrete. Where frames are set in prepared openings, bolt to wall with spacers and expansion bolts.

3.04 BUILT-IN ANCHORAGE

- A. Provide bolts, eyebolts, dowels, anchors, plates, Unistruts, inserts and other miscellaneous steel fastenings that are to be installed in concrete forms.

3.05 SCHEDULE OF ITEMS

- A. Pipe Railings: Railings and supports shall withstand a concentrated load of not less than 200 pounds applied at any point, downward or horizontally and uniformly distributed load of not less than 50 pounds per lineal foot applied downward or horizontally. Fabricate of steel pipe, not lighter than Schedule 40, with joints mitered at angles and coped at intersections unless otherwise shown, and continuously welded, welds ground smooth and flush. Provide cast malleable steel brackets with mounting plates for railings on walls. Return exposed rail ends to within 1/2" of walls unless otherwise shown. Provide removable sections where indicated.
 - 1. Exterior Post Anchors: Fabricate or pipe sleeves with closed ends or plates as shown. Where inserts interfere with reinforcing bars, provide flanged fittings welded or threaded to posts for securing to concrete with expansion bolts. Provide heavy pattern sliding flange base plate with set screws at base of pipe or tube posts. Base plates are not required on pipe sleeves where ornamental railings occur.
 - 2. Finish:
 - a. Interior: Shop prime coat.
 - b. Exterior: Hot dip galvanize after fabrications.
- B. Handrails: Close free ends of rails with flush metal caps welded in place except where flanges for securing to walls with bolts are shown. Make provisions for attaching handrail brackets to wall, posts, and handrail as shown.
 - 1. Elevator Entrance Wall Openings: Fabricate of channels shapes, plates, and angles as shown, and as specified above. Weld or bolt head to jamb as shown. Weld clip angles to bottom of

- frame and top of jamb members extended to structure above for framed construction. Provide holes for anchors. Weld to jamb members.
2. Provide supports for guide rail bracket attachment in pit, at each floor and top of hoistway. Provide intermediate rail bracket supports to maintain a maximum spacing between brackets of not more than 12'-10" vertically. Supports shall be within 12" of the clear hoistway rail and located on centerline of the car rail.
 3. Elevator Threshold Angles: Sizes and connections shown.
 4. Screen: Fabricate of 1-1/2" diamond mesh 10-gauge woven wire fabric, with frames of 1" steel channels and shapes, frame joints full welded and ground smooth or mortised and tenoned and peen riveted, mesh wires extended through holes in frames, clinched, and spot welded at 6" intervals.
- C. Steel channel and angle frames for doors, duct openings, scuttles, mechanical equipment, louvers and other frames as shown and detailed of structural shapes shall be neatly fabricated to the exact size required and in accordance with approved shop drawings. Corners shall be neatly joined, welded and ground smooth. Concealed anchors for securing to concrete or masonry shall be welded on the back. Wherever required, steel frames shall be prepared to receive the necessary hardware. Provide galvanized sheet metal guards behind hardware attachment points. Where mechanical equipment such as fans, blowers, etc., and sheet metal are shown or specified to be attached to steel frames, the drilling, tapping, and attachment will be done as part of the work of the section in which the items are specified. Frames shall be galvanized where embedded in concrete or masonry.
- D. Pipe Bollards: Provide bollards of 8" diameter steel pipe welded to steel baseplates, and with top edges ground smooth. Galvanize after fabrication. Securely anchor to substrate as indicated. Anchor chain to eye bolts welded to bollards. Fill with 2,000 psi concrete domed to shed water.
- E. Removable Pipe Bollards: Provide sleeves with steel baseplates. Top of sleeve shall be inside threaded for plug. Provide removable pipe bollards with edges smooth and with top fitted with welded cap. If inside diameter of sleeve and outside diameter of bollard allow too loose a fit, weld a sleeve to bottom of bollard of diameter to provide snug, but removable fit. Galvanize after fabrication. Provide chains in lengths as required to reach from bollard to bollard with some slack. Provide 2 eye bolts welded to each bollard for attachment of chains. Chains will be secured with padlocks furnished by Owner. Provide brass or cast iron plug for each sleeve with special tool for plug removal.
- F. Steel Backing Plates:
1. Backing plates in connection with studs and furring necessary for engaging and fastening of wall hung items shall be provided in locations shown and as necessary. Backing plates shall be securely welded to steel studs supporting members in the required position.
 2. Finish: Shop prime coat.
- G. Mechanical Chase: Fabricate and install as shown on drawings. Provide welded-on anchor devices. Shop prime.
- H. Steel gates and fencing: Fabricate and install as shown on drawings. Hot dip galvanize and shop prime.
- I. Other items as shown and in accordance with reviewed drawings.

END OF SECTION 05 55 00

SECTION 09 91 00 PAINTING

PART 1 - GENERAL

1.01 SUMMARY

- A. Provisions of General Conditions, Supplementary Conditions, and Division 01 apply to this section.
- B. Scope of work: The work under this section includes furnishing all labor, materials, and equipment, and performing all operations in connection with Painting, as indicated on the drawings, specified herein, or reasonably required to complete the work. The work includes, but is not limited to the following:
 - 1. Surface preparation.
 - 2. Prime coat application.
 - 3. Finish coat application.
 - 4. Upon completion of work under this contract, all surfaces within the contract limits and within vision, shall have a painters finish on the interior and exterior except excluded items defined herein. Include all roof mounted mechanical and electrical equipment which do not have factory finish. The surfaces to be painted include, but are not limited to the following:
 - a. Steel Shade Structures
- C. Related Sections:
 - 1. Division 05 Sections for shop priming of metal substrates with primers specified in Division 05.
- D. Work not included:
 - 1. Surfaces not to be painted:
 - a. Prefinished wall, ceiling and floor coverings.
 - b. Items with factory-applied final finish.
 - c. Concealed ducts, pipes and conduit.
 - d. Glass, plastic laminate, ceramic tile, anodized aluminum.
 - e. Steel items embedded in concrete.
 - f. Surfaces specifically scheduled or noted on the drawings not be painted.
 - g. Fire-rated labels on doors or frames.
 - h. Exterior Plaster
 - i. Pre-Finished Interior Wood Doors

1.02 REFERENCES

- A. AQMD – Air Quality Management District, Local Regulations.
- B. ASTM D4442 – Direct Moisture Content Measurement of Wood and Wood-Base Materials.
- C. ASTM D4444 – Use and Calibration of Hand-Held Moisture Meters.
- D. MPI – Master Painters Institute

1.03 SUBMITTALS

- A. Product Data: For each type of product indicated.

- B. Samples for Initial Selection: For each type of topcoat product indicated.
- C. Samples for Verification: For each type of paint system and in each color and gloss of topcoat indicated.
 - 1. Submit samples on rigid backing, 8-1/2" x 11".
 - 2. Step coats on samples to show each coat required for system.
 - 3. Label each coat of each sample.
 - 4. Label each sample for location and application area.
- D. Product List: For each product indicated, include the following:
 - 1. Cross-reference to paint system and locations of application areas. Use same designations indicated on drawings and in schedules.
 - 2. Printout of current "MPI Approved Product List" for each product category specified in Part 2, with the proposed product highlighted.
- E. LEED Submittal:
 - 1. Product Data for Credit MR 4 and MR 5: For products having recycled content and/or regional materials content, submit recycled content and regional materials documentation for each such product provided under work of this Section.
 - 2. Product Data for Credit EQ 4.2: For paints and coatings, certify each interior field-applied paint and coating product meets the VOC requirements.
 - a. Include manufacturer's product data sheet and Material Safety Data Sheet (MSDS) highlighting VOC content for each product.

1.04 QUALITY ASSURANCE

- A. MPI Standards:
 - 1. Products: Complying with MPI standards indicated and listed in "MPI Approved Products List."
 - 2. Preparation and Workmanship: Comply with requirements in "MPI Architectural Painting Specification Manual" for products and paint systems indicated.
- B. Mockups: Apply benchmark samples of each paint system indicated and each color and finish selected to verify preliminary selections made under sample submittals and to demonstrate aesthetic effects and set quality standards for materials and execution.
 - 1. Architect will select one surface to represent surfaces and conditions for application of each paint system specified in Part 3.
 - a. Wall and Ceiling Surfaces: Provide samples of at least 100 sq. ft.
 - b. Other Items: Architect will designate items or areas required.
 - 2. Apply benchmark samples after permanent lighting and other environmental services have been activated.
 - 3. Final approval of floor selections will be based on benchmark samples.
 - a. If preliminary color selections are not approved, apply additional benchmark samples of additional colors selected by Architect at no added cost to Owner.

- C. Regulatory Requirements: Materials shall comply with the current rules and regulations of the local air quality management district, with the rules regarding volatile organic compounds, and with FDA rules and regulations for dangerous materials in paint. Comply with governmental and local regulations for field applied products.
- D. Coats: The number of coats specified is the minimum number acceptable. If full coverage is not obtained with the specified number of coats, apply such additional coats as are necessary to produce the required finish, at no additional cost to the Owner.
- E. Employ coats and undercoats for types of finishes in accordance with the recommendations of the paint manufacturer whose products are used.

1.05 PRODUCT DELIVERY, STORAGE, AND HANDLING

- A. Deliver materials to the project site in unopened containers bearing manufacturer's name and product descriptions corresponding to designation on material list.
- B. Store paint materials at minimum ambient temperature of 45 degrees F and a maximum of 90 degrees F, in well ventilated area unless permitted otherwise by manufacturer's instructions.
- C. Protection: Protect floors and adjacent surfaces from paint smears, spatters, and droppings. Cover fixtures not to be painted. Mask off areas where necessary. Exercise care to prevent paint from contacting surfaces not to be painted. During painting of exterior work, cover windows, doors, concrete, and other surfaces not to be painted.

1.06 PROJECT REQUIREMENTS

- A. Environmental Requirements:
 - 1. Provide continuous ventilation and heating facilities to maintain surface and ambient temperatures above 45 degrees F for 24 hours before, during and 48 hours after application of finishes, unless permitted otherwise by manufacturer's instructions.
 - 2. Do not apply exterior coatings during rain, or when relative humidity is above 50 percent, unless permitted otherwise by manufacturer's instructions.
 - 3. Minimum application temperatures for Latex paints: 45 degrees F for interiors; 50 degrees F for exterior; unless permitted otherwise by manufacturer's instructions.
 - 4. Minimum application temperature for Varnish and transparent finishes: 65 degrees F for interior or exterior, unless permitted otherwise by manufacturer's instructions.
 - 5. Provide lighting level sufficient to conduct painting operations.
- B. Hardware: Remove hardware before painting is started and replace only when paint finishes are thoroughly dry.

1.07 EXTRA STOCK

- A. Provide a one gallon container of each color, type and gloss of paint used in the work.
- B. Label each container with color, texture and room locations in addition to the manufacturer's label.

1.08 WARRANTY

- A. Guarantee the painting work against peeling, fading, cracking, blistering or crazing for a period of two years from the Date of Substantial Completion.

- B. Water Repellent: Provide 10 year warranty. A site visit shall be conducted by an agent of RAINGUARD and warranty application shall be completed by applicator.

PART 2 - PRODUCTS

2.01 GENERAL

A. Manufacturers:

1. Products of the following manufacturer or supplier form the basis for design and quality intended.
 - a. ICI Paints, North America, Los Angeles, CA.
2. Equal products of the following may be submitted for approval:
 - a. Dunn-Edwards Corporation, Los Angeles, CA.
 - b. Frazee Paint and Wallcovering, Inc., City of Commerce, CA.
 - c. Sherwin Williams Paint Co.
 - d. Vista Paint
3. Or approved equal.
4. The Construction Specification Institute (CSI) shall be used to cross reference paint products from different manufacturers.

B. Materials:

1. Coatings: Ready mixed, except field catalyzed coatings. Process pigments to a soft paste consistency, capable of being readily and iniformly dispersed to a homogeneous coating.
2. Colors and Glosses: The Architect will select color and hue to be used in the various types of paint specified and will be the sole judge of acceptability of the various glosses obtained from the materials proposed to be used in the work.
3. Undercoats and Thinners: Provide undercoat paint produced by the same naufacturer as the finish coat. Use only the thinners recommended by the paint manufacturer and use only to the recommended limits. Insofar as practicable, use undercoat, finish coat and thinner material as parts of a unified system of paint finish.
4. Coatings: Good flow and brushing properties; capable of drying or curing free of streaks or sags.
5. Accessory Materials: Linseed oil, shellac, turpentine, paint thinners and other materials not specifically indicated but required to achieve the finishes specified of commercial quality.

C. Application Equipment:

1. For application of the approved paint, use only such equipment as is recommended by the manufacturer.
2. Compatibility: Prior to actual use of application equipment, use all means necessary to verify that the proposed equipment is actually compatible with the material to be applied and that the integrity of the finish will not be jeopardized by use of the proposed application equipment.

PART 3 - EXECUTION

3.01 INSPECTION

- A. Verify that surfaces are ready to receive work as instructed by the product manufacturer.
- B. Examine surfaces scheduled to be finished prior to commencement of work. Report any condition that may potentially affect proper application.
- C. Measure moisture content of new surfaces using an electronic moisture meter. Do not apply finishes unless moisture content of surfaces are below the following maximums:
 - 1. Plaster and Gypsum Wallboard: 12 percent.
 - 2. Masonry, Concrete and Concrete Unit Masonry: 12 percent.
 - 3. Interior Located Wood: 15 percent, measured in accordance with ASTM D4442 and ASTM D4444.
 - 4. Exterior Located Wood: 19 percent, measured in accordance with ASTM D4442 and ASTM D4444.
- D. Beginning of installation means acceptance of existing surfaces.

3.02 MATERIALS PREPARATION

- A. Comply with manufacturer's written instructions and recommendations in "MPI Architectural Painting Specification Manual" applicable to substrates indicated.
- B. Store materials not in actual use in tightly covered containers.
- C. Maintain containers used in storage, mixing and application of paint in a clean condition, free from foreign materials and residue.
- D. Stir all materials before application to produce a mixture of uniform density and as required during the application of materials. Do not stir into the material any film which may form on the surface. Remove the film and strain the material before using.

3.03 PREPARATION

- A. Remove plates, machined surfaces, and similar items already in place that are not to be painted. If removal is impractical or impossible because of size or weight of item, provide surface-applied protection before surface preparation and painting.
 - 1. After completing painting operations, use workers skilled in the trades involved to reinstall items that were removed. Remove surface-applied protection if any.
 - 2. Do not paint over labels of independent testing agencies or equipment name, identification, performance rating, or nomenclature plates.
- B. Clean substrates of substances that could impair bond of paints, including dirt, oil, grease, and incompatible paints and encapsulates.
 - 1. Remove incompatible primers and reprime substrate with compatible primers as required to produce paint systems indicated.
- C. Concrete Substrates: Remove release agents, curing compounds, efflorescence, and chalk. Do not paint surfaces if moisture content or alkalinity of surfaces to be painted exceeds that permitted in manufacturer's written instructions.
- D. Concrete Masonry Substrates: Remove efflorescence and chalk. Do not paint surfaces if moisture content or alkalinity of surfaces to be painted exceeds that permitted in manufacturer's written instructions.

- E. Steel Substrates: Remove rust and loose mill scale. Clean using methods recommended in writing by paint manufacturer.
- F. Galvanized-Metal Substrates: Remove grease and oil residue from galvanized sheet metal fabricated from coil stock by mechanical methods to produce clean, lightly etched surfaces that promote adhesion of subsequently applied paints.
- G. Gypsum Board Substrates: Do not begin paint application until finishing compound is dry and sanded smooth.

3.04 PROTECTION

- A. Protect elements surrounding the work of this Section from damage or disfiguration.
- B. Repair damage to other surfaces caused by work of this Section.
- C. Furnish drop cloths, shields and protective methods to prevent spray or droppings from disfiguring other surfaces.
- D. Remove empty paint containers from site.

3.05 APPLICATION

- A. Apply products in accordance with manufacturer's instructions.
- B. Do not apply finishes to surfaces that are not dry.
- C. Apply each coat to uniform finish. Number of coats specified is a minimum. Additional coats shall be applied at no extra cost, if coatings show evidence of uneven application, uneven pigmentation, brush strokes or otherwise unsatisfactory distribution of material.
- D. Under coats shall be lighter and brighter in tint than finish coat.
- E. Sand lightly between coats to achieve required finish.
- F. Allow applied coat to dry before next coat is applied.
- G. Where clear finishes are required, tint fillers to match wood. Work fillers into the grain before set. Wipe excess from surface.
- H. Prime back surfaces of interior and exterior woodwork with primer paint.
- I. Prime back surfaces of interior woodwork scheduled to receive stain or varnish finish with gloss varnish reduced 25 percent with mineral spirits.
- J. Seal tops, bottoms and cutouts for hardware and accessories of wood or plastic laminate covered doors.
- K. Split paint door frames to match color of walls on each side of opening.
- L. The number of coats of each product specified in the finish schedule is the minimum required. Contractor shall provide additional coats as required to produce proper finish.

3.06 FINISHING MECHANICAL AND ELECTRICAL EQUIPMENT

- A. Paint shop primed equipment.
- B. Remove unfinished louvers, grilles, covers, and access panels on mechanical and electrical components and paint separately.
- C. Prime and paint insulated and exposed pipes, conduit, boxes, insulated and exposed ducts, hangers, brackets, collars and supports, except where items are prefinished.
- D. Replace identification markings on mechanical or electrical equipment when painted accidentally.
- E. Paint interior surfaces of air ducts that are visible through grilles and louvers with one coat of flat black paint, to limit of sight line. Paint dampers exposed behind louvers and grilles to match face panels.
- F. Paint exposed conduit and electrical equipment occurring in finished area.
- G. Paint both sides and edges of plywood backboards for electrical and telephone equipment before installing equipment.
- H. Color code equipment, piping, conduit and exposed ductwork in accordance with requirements indicated. Color band and identify with flow arrows names and numbering, using stencils or other approved systems.
- I. Replace electrical plates, hardware, light fixture trim and fittings removed prior to finishing.

3.07 FINISHING HOLLOW METAL DOORS AND FRAMES

- A. Paint for hollow metal doors and window frames shall be applied with mechanical sprayer.
- B. Paint shall be installed prior to installing finish hardware or hardware shall be installed, removed for painting and reinstalled after painting is complete.

3.08 WATER REPELLANT

- A. Install exterior and interior water repellent as per manufacturer's recommendations for a 10 year warranty.

3.09 PLANETARIUM DOME

- A. All surfaces behind the planetarium dome shall be painted flat black.

3.10 FIELD QUALITY CONTROL

- A. Testing of Paint Materials: Owner reserves the right to invoke the following procedure at any time and as often as Owner deems necessary during the period when paints are being applied:
 - 1. Owner will engage the services of a qualified testing agency to sample paint materials being used. Samples of material delivered to project site will be taken, identified, sealed, and certified in presence of Contractor.
 - 2. Testing agency will perform tests for compliance with product requirements.
 - 3. Owner may direct Contractor to stop applying paints if test results show materials being used do not comply with product requirements. Contractor shall remove noncomplying paint materials from project site, pay for testing, and repaint surfaces painted with rejected materials.

Contractor will be required to remove rejected materials from previously painted surfaces if, on repainting with complying materials, the two paints are incompatible.

3.11 CLEANING AND PROTECTION

- A. At end of each work day, remove rubbish, empty cans, rags, and other discarded materials from project site.
- B. After completing paint application, clean spattered surfaces. Remove spattered paints by washing, scraping, or other methods. Do not scratch or damage adjacent finished surfaces.
- C. Protect work of other trades against damage from paint application. Correct damage to work of other trades by cleaning, repairing, replacing, and refinishing, as approved by Architect, and leave in an undamaged condition.
- D. At completion of construction activities of other trades, touch up and restore damaged or defaced painted surfaces.

3.12 PAINT FINISH SCHEDULE

EXTERIOR SURFACE	COAT	PRODUCT
Steel Shade Structures	1	ICI 203 Devran W/B Epoxy Primer
	2 and 3	ICI 379H Devthane Aliphatic Urethane Gloss Enamel

END OF SECTION 09 91 00

SECTION 11 68 23.33 TENNIS EQUIPMENT

1.1 GENERAL

- A. Scope of work: The work under this section includes furnishing all labor, materials, and equipment and performing all operations in connection with exterior athletic equipment as indicated on the drawings, specified herein, or reasonably required to complete the work. The work includes, but is not limited to the following.
 - 1. Provide tennis equipment.
- B. Submittals: Submit the following as per Section 01 33 00:
 - 1. Product Data
 - 2. Manufacturers literature and cut sheets
 - 3. Operating and maintenance
- C. Quality Assurance: Installation shall be performed by manufacturers certified installers.
- E. Warranty: Manufacturer's standard one year warranty

1.2 PRODUCTS

- A. Manufacturers: Products of the following manufacturers form the basis for design and quality intended.
 - 1. PW Athletic
 - 2. or equal
- B. Basketball Standards:
 - 1. Quantity: Total (6)
 - 2. Posts: PW Athletic Model 2205-GR
 - 3. Net: PW Athletic Model 8532, Premium Tennis Net, 42'x 3-1/2'
 - 4. Installation: Permanent concrete footing

1.3 EXECUTION

- A. Installation: As per manufacturer

END OF SECTION 11 68 23.33

SECTION 26 05 00 – COMMON WORK RESULTS FOR ELECTRICAL

PART 1 - GENERAL

1.01 SUMMARY

- A. Scope Of Work: The work under this division includes furnishing all labor, material, and equipment necessary for the installation and placing into operation of the electrical systems as indicated on the drawings. The work includes, but is not necessarily limited to, furnishing and installing the following:
1. Complete power and lighting, distribution board, generator and all accessories, transformers, panels, switches, feeders, branch circuits, lighting fixtures, lamps, controls and accessories.
 2. Motor and power wiring for all motor and/or equipment furnished under the contract. Except as otherwise specified to be furnished by or under other divisions of this specification, all wiring devices, conduit, feeders, and final connections to all equipment shall be furnished under this section.
 3. Install electrical control wiring for all equipment, except as described in 1.24, "Mechanical/Electrical Coordination Requirements".
 4. All equipment and materials specified in this division.
 5. Empty conduit systems as indicated on the drawings.
 6. All other items and/or work indicated on the drawings.
 7. Extension of the existing power and communications systems.
- B. This division of the specification outlines the provisions of the contract work to be performed under this division. This section applies to and forms a part of each section of specifications in Division 26 and all work performed under the electrical and communications contracts. In addition, work in this division is governed by the provisions of the bidding requirements, contract forms, general conditions, supplementary conditions, and all sections under general requirements.
- C. These specifications contain statements which may be more definitive or more restrictive than those contained in the General Conditions. Where these statements occur, they shall take precedence over the General Conditions.
- D. Where the word 'provide' or 'provision' is used, it shall be definitely interpreted as 'furnishing and installing complete in operating condition'. Where the words 'as indicated' or 'as shown' are used, it shall mean as shown on contract drawings.
- E. Where items are specified in the singular, this division shall provide the quantity as shown on drawings plus any spares or extras mentioned on drawings or specifications. All specified and supplied equipment shall be new.

1.02 DEFINITIONS

- A. Concealed: Hidden from sight, as in trenches, chases, hollow construction, or above furred spaces, hung ceilings B acoustical or plastic type, or exposed to view only in tunnels, attics, shafts, crawl spaces, unfinished spaces, or other areas solely for maintenance and repair.
- B. Exposed, Non-concealed, Unfinished Space: A room or space that is ordinarily accessible only to building maintenance personnel, a room noted on the 'finish schedule' with exposed and unpainted construction for walls, floors, or ceilings or specifically mentioned as 'unfinished'.
- C. Finish Space: Any space ordinarily visible, including exterior areas.

1.03 SUBMITTALS

A. Shop Drawings:

1. Submit shop drawings and all data in accordance with Section 01 33 00 for all equipment provided under this division.
2. Shop drawings submittals processed are not change orders: the purpose of shop drawings submittals by the contractor is to demonstrate to the Architect that the Contractor understands the design concept. He demonstrates his understanding by indicating which equipment and material he intends to furnish and install and by detailing the fabrication and installation methods of material and equipment he intends to use. If deviations, discrepancies, or conflicts between submittals and specifications are discovered either prior to or after submittals are processed, the design drawings and specifications shall control and shall be followed.

B. Manufacturer's data and dimension sheets shall be submitted giving all pertinent physical and engineering data including weights, cross sections and maintenance instructions. Standard items of equipment such as receptacles, switches, plates, etc., which are cataloged items, shall be listed by manufacturer.

C. Index all submittals and reference to these specifications. All submittal items shall be assembled and submitted in a single complete binder. Partial submittals will not be reviewed.

D. Project Closeout: Prior to completion of project, compile a complete equipment maintenance manual for all equipment supplied under sections of this division, as described below.

1. Equipment Lists and Maintenance Manuals:

- a. Prior to completion of job, contractor shall compile a complete equipment list and maintenance manuals. The equipment list shall include the following items for every piece of material equipment supplied under this section of the specifications:
 2. Name, model, and manufacturer
 3. Complete parts drawings and lists
 4. Local supply for parts and replacement and telephone number.
5. All tags, inspection slips, instruction packages, etc., removed from equipment as shipped from the factory, properly identified as to the piece of equipment it was taken from.
6. Maintenance manuals shall be furnished for each applicable section of the specifications and shall be suitably bound with hard covers and shall include all available manufacturers' operating and maintenance instructions, together with "as-built" drawings to properly operate and maintain the equipment. The equipment lists and maintenance manuals shall be submitted in duplicate to the Architect for approval not less than 10 days prior to the completion of the job. The maintenance manuals shall also include the name, address, and phone numbers of all subcontractors involved in any of the work specified herein. Four copies of the maintenance manuals bound in single volumes shall be provided.

1.04 QUALITY ASSURANCE

A. The following standard publications of the latest editions enforced and supplements thereto shall form a part of these specifications. All electrical work must, as a minimum, be in accordance with these standards.

1. National Electrical Code
2. National Fire Protection Association

3. Underwriters' Laboratories, Inc. (UL)
 4. Certified Ballast Manufacturers' Association (CBM)
 5. National Electrical Manufacturers' Association (NEMA)
 6. Institute of Electrical & Electronics Engineers (IEEE)
 7. American Society for Testing & Materials (ASTM)
 8. National Board of Fire Underwriters (NBFU)
 9. National Board of Standards (NBS)
 10. American National Standards Institute (ANSI)
 11. Insulated Power Cable Engineers Association (IPECS)
 12. Electrical Testing Laboratories (ETL)
 13. National Electrical Safety Code (NESC)
 14. California Electrical Code Title 24, Part 3
 15. California Building Code
 16. Americans with Disability Act (ADA)
- B. Comply with all applicable laws, ordinances, rules, regulations, codes, or rulings of governmental units having jurisdiction as well as standards of NFPA, and serving utility requirements.
- C. Owner shall pay all permit fees and inspections required by any public authority having jurisdiction. Contractor shall coordinate work and arrange inspections with any public authority having jurisdiction.
- D. Installation procedures methods and conditions shall comply with the latest requirements of the Federal Occupational Safety and Health Act (OSHA).
- E. Cover no work until inspected, tested, and approved by the Architect. Where work is covered before inspection and test, uncover it and when inspected, tested, and approved, restore all work to original proper condition at no additional cost to Owner.

1.05 DRAWINGS AND SPECIFICATIONS

- A. Drawings and specifications are intended to complement each other. Where a conflict exists between the requirements of the drawings and/or the specifications, request clarification.
- B. The Architect shall interpret the drawings and the specifications, and his decision as to the true intent and meaning thereof and the quality, quantity, and sufficiency of the materials and workmanship furnished there under shall be accepted as final and conclusive.
- C. In case of conflicts not clarified prior to Bidding deadline, use the most costly alternative (better quality, greater quantity, or larger size) in preparing the Bid. A clarification will be issued to the successful Bidder as soon as feasible after the Award and if appropriate, a deductive change order will be issued.
- D. All provisions shall be deemed mandatory except as expressly indicated as optional by the word "may" or "option".

1.06 EXAMINATION OF PREMISES

- A. Examine the construction drawings and premises prior to bidding. No allowances will be made for not being knowledgeable of existing conditions.

1.07 WORK AND MATERIALS

- A. Unless otherwise specified, all materials must be new and of the best quality. Perform all labor in a thorough and workmanlike manner, to the satisfaction of the Architect.
- B. All materials provided under the contract must bear the UL label where normally available. Note that this requirement may be repeated under equipment specifications. In general, such devices as will void the label should be provided in separate enclosures and wired to the labeled unit in proper manner.

1.08 SUBSTITUTIONS

- A. Substitutions will be allowed only in strict conformance with the General Conditions of the Contract and Division.
 - 1. Whenever in specifications any materials, process, or article is indicated or specified by grade, patent, or proprietary name or by name of manufacturer such specification shall be deemed to be used for the purpose of facilitating description of material, process, or article desired and shall be substantially equal or better in every respect to that so indicated or specified. If material, process, or article offered by Contractor is not, in opinion of architect, substantially equal or better in every respect to that specified, then Contractor shall furnish material, process or article specified. Burden of proof as to equality of any material, process, or article shall rest with Contractor. Contractor shall submit request together with substantiating data for substitution of an "or equal" item within thirty-five (35) days after award of contract. Provision authorizing submission of "or-equal" justification data shall not in any way authorize an extension of time for performance of this contract.

1.09 EQUIPMENT PURCHASES

- A. Arrange for purchase and delivery of all materials and equipment within 20 days after approval of submittals. All materials and equipment must be ordered in ample quantities for delivery at the proper time. If items are not on the project in time to expedite completion, the Owner may purchase said equipment and materials and deduct the cost from the contract sum.
- B. Provide all materials of similar class or service by one manufacturer.

1.10 COOPERATIVE WORK

- A. Correct without charge any work requiring alteration due to lack of proper supervision or failure to make proper provision in time. Correct without charge any damage to adjacent work caused by the alteration.
- B. Cooperative work includes: General supervision and responsibility for proper location and size of work related to this division, but provided under the other sections of these specifications, and installation of sleeves, inserts, and anchor bolts for work under each section in this division.

1.11 VERIFICATION OF DIMENSIONS

- A. Scaled and figured dimensions are approximate only. Before proceeding with work, carefully check and verify dimensions, etc., and be responsible for properly fitting equipment and materials together and to the structure in properly fitting equipment and materials together and to the structure in spaces provided.
- B. Drawings are essentially diagrammatic, and many offsets, bends, pull boxes, special fittings, and exact locations are not indicated. Carefully study drawings and premises in order to determine best methods, exact location, routes, building obstructions, etc. and install apparatus and equipment in

manner and locations to avoid obstructions, preserve headroom, keep openings and passageways clean, and maintain proper clearances.

1.12 CLEANUP

- A. In addition to cleanup specified under other sections, thoroughly clean all parts of the equipment. Where exposed parts are to be painted, thoroughly clean off any spattered construction materials and remove all oil and grease spots. Wipe the surface carefully and scrape out all cracks and corners.
- B. Use steel brushes on exposed metal work to carefully remove rust, etc., and leave smooth and clean.
- C. During the progress of the work, keep the premises clean and free of debris.

PART 2 – PRODUCTS (Not Applicable)

PART 3 - EXECUTION

3.01 CUTTING AND PATCHING

- A. Cut existing work and patch as necessary to properly install new work. As the work progresses, leave necessary openings, holes, chases, etc., in their correct location. If the required openings, holes, chases, etc., are not in their correct locations, make the necessary corrections at no cost to the Owner. Avoid excessive cutting and do not cut structural members without the consent of the Architect and DSA.

3.02 CONCRETE

- A. Where used for structures to be provided under the contract such as bases, etc., concrete work, and associated reinforcing shall be as specified under architectural. See architectural drawings for details.
- B. See other sections for additional requirements for underground vaults, cable ducts, etc.

3.03 PAINTING

- A. Paint all unfinished metal with one coat of rust-inhibiting primer. (Galvanized and factory painted equipment shall be considered as having a sub-base finish.)
- B. Finished painting is specified Under "Finishes".
- C. Furnish all connections to electrical services furnished under other sections except as otherwise specifically designated. Provide all necessary connections, etc., required to properly connect all services and equipment.
- D. General: Painting requirements of this section are supplementary to other Painting Sections.
- E. Switchboards, panels, terminal cabinets, equipment enclosures, wireways, boxes, conduit, etc.: Standard gray or galvanized manufacturers' finish unless otherwise noted herein.
- F. Exceptions in public areas:
 - 1. Flush panels and cabinets: Fronts shall have factory applied primer and field applied oil base semi-gloss enamel finish coat (except metal plated parts) to match adjacent wall surfaces.

2. Surface panels, cabinets and wireways: Same as “1. Flush Panels” above except also paint the enclosure (can) using the same paint as is on adjacent surface in lieu of semi-gloss paint. Apply etching compound (galvanized surfaces) and undercoater prior to finish coat.
3. Surface and flush boxes: Paint to match adjacent surfaces as described in “2. Surface panels” above.
4. Exposed conduit: Paint to match adjacent surfaces as described in “2. Surface panels” above.
5. Ferrous metal miscellaneous parts (except stainless steel): Galvanized in accordance with ASTM A123 or A153.
6. Lighting fixtures in public areas: Standard manufacturers’ finish except as modified by the LIGHTING section, including Fixture Schedule. Exception: Paint the trims of recessed fixtures to match adjacent wall or ceiling surface if so directed by Owner’s representative.
7. Wiring devices, device plates and floor boxes in public areas: As specified in WIRING DEVICES and DEVICE PLATES Sections.

3.04 UTILITY SERVICES

- A. Upon notification of award of contract, notify the serving power, telephone utilities of the following:
 1. Name and address of Contractor.
 2. Estimated times of construction start, completion and required service connections.
 3. Project service voltage, phase load, and service size.

3.05 TEMPORARY LIGHTING AND POWER

- A. Contractor shall provide on-site generation, labor, materials and/or any required utility fees associated with the installation and maintenance of a temporary power source for Contractor’s equipment or field offices during the period of construction.
- B. Building and site shall be sufficiently illuminated so that construction work can be safely performed. Lights shall be controlled by switches located with consideration for safety, security, and convenience.

3.06 RECORD DRAWINGS

- A. The Electrical Division shall maintain record drawings as specified in Section 01 78 39.
- B. Drawings shall show locations of all concealed and exposed conduit runs, giving the number and size of conduit wires. Underground ducts shall be shown with cross section elevations. Drawing changes shall not be identified only with referencing COR’s and RFI’s, the drawings shall reflect all the actual changes made.
- C. Two sets of reproducible as-built drawings shall be delivered to the Architect. See Section 01 78 39 for additional requirements.

3.07 EXCAVATION AND BACKFILL

- A. Perform all necessary excavation, shoring, and backfilling required for the proper laying of all conduits inside the building and premises, and outside as may be necessary. Remove all excess excavated materials from the site, or as otherwise directed by the Architect.
- B. Excavate all trenches open cut, keep trench banks as nearly vertical as practicable, and sheet and brace trenches where required for stability and safety. Excavate trenches true to line and make bottoms no wider than necessary to provide ample work room. Grade trench bottoms accurately. Machine grade only to the top line of the conduits, doing the remainder by hand. Do not cut any trench near or under

footings without first consulting the Architect. All trenches shall be done in accordance with OSHA standards and regulations.

- C. Trenching and backfilling shall be done as per Section 31 23 33. No stones or coarse lumps shall be laid directly on conduit or conduits.
- D. Provide pumps and drainage of all open trenches for purposes of installing electrical duct and wiring.

3.08 ACCESSIBILITY

- A. Install all control devices or other specialties requiring reading, adjustment, inspection, repairs, removal, or replacement conveniently and accessibly throughout the finished building.
- B. All required access doors or panels in walls and ceilings are to be furnished and installed as part of the work under this section.
- C. Provide doors which pierce a fire separation with same fire ratings as the separations.
- D. Refer to 'Finish Schedule' for types of walls and ceilings in each area and the architectural drawings for rated wall construction.
- E. Coordinate work of the various sections to locate specialties requiring accessibility with others to avoid unnecessary duplication of access doors.

3.09 FLASHING

- A. Flash and counterflash all conduits penetrating roofing membrane.

3.10 IDENTIFICATION OF EQUIPMENT

- A. All electrical equipment shall be labeled, tagged, stamped, or otherwise identified in accordance with the following schedules:
- B. General:
 - 1. In general, the installed laminated nameplates as hereinafter called for shall also clearly indicate its use, areas served, circuit identification, voltage and any other useful data.
 - 2. All auxiliary systems, including communications, shall be labeled to indicate function.
 - 3. All labels, tags, and stamps shall use the owner room designation and room numbering system.
 - 4. Provide nameplates for safety switches, switchboards, breakers mounted in switchboards, relay cabinets, signal terminal cabinets, individually mounted enclosed breakers, panelboards, starters, time clocks, remote control switches and similar items. Nameplates shall be laminated black-white-black backlit or phenolic plastic with ¼-inch high lettering engraved through the outer covering except where specifically described otherwise. Affix with self-tapping machine screws (no rivets or glue). The screws shall not project beyond the backside face of enclosure doors or panels.
- C. Conduits and outlet boxes for all special systems including emergency power, fire alarm, and communications systems shall be color coded for identification throughout. Conduits shall be spray painted with the system color code at 3-foot intervals. Outlet and junction boxes shall be spray painted with the system color code on the exterior of the box, except boxes which are flush mounted in walls, ceilings, or floors shall be painted on the inside of the box. System color codes shall be as follows:
 - 1. Emergency Power Systems Orange
 - 2. Fire Alarm System Red

3.	Nurse Call System	Blue
4.	Music/Paging System	Yellow
5.	Intercom System	Pink
6.	Telephone System	White
7.	Data System	Gray
8.	SMATV/Radio Program System	Brown
9.	Miscellaneous Signaling Systems	Violet

D. Lighting and Local Panelboards Transformers:

1. Panel identification shall be with white and black micarta nameplates. Emergency power distribution panels shall be identified with red and white micarta nameplates. Letters shall be no less than 3/8" high.
2. Circuit directory shall be 2-column typewritten card set under glass or glass equivalent. Each circuit shall be identified by the room number and/or number of unit and other pertinent data as required.
3. The circuit directory shall reference the building number and room number as designated by the school directory. Circuit directories which reference the building number and room number as designated on drawings are not acceptable.

E. Distribution Switchboards and Feeders Sections, Motor Control Centers, Automatic Transfer Switches:

1. Identification shall be with 1" H 4" laminated white micarta nameplates with black lettering on each major component, each with name and/or number of unit and other pertinent data as required. Emergency power distribution panels shall be identified with red micarta nameplates and white lettering. Letters shall be no less than 3/8" high.
2. Circuit breakers and switches shall be identified by number and name with 3/8" H 1-1/2" laminated micarta nameplates with 3/16" high letters mounted adjacent to or on circuit breaker or switch.

F. Disconnect Switches, Motor Starters and Transformers:

1. Identification shall be with white micarta laminated labels and 3/8" high black lettering.
2. Emergency equipment shall be identified with red labels and 3/8" high white lettering.

3.11 CONSTRUCTION FACILITIES

- A. Furnish and maintain from the beginning to the completion all lawful and necessary guards, railings, fences, canopies, lights, warning signs, etc. Take all necessary precautions required by City, State Laws, and OSHA to avoid injury or damage to any persons and property.
- B. Temporary power and lighting for construction purposes shall be provided under this section. Refer to 'temporary facilities' for description of work.

3.12 GUARANTEE

- A. Guarantee all material, equipment and workmanship for all sections under this division in writing to be free from defect of material and workmanship for one year from date of final acceptance, as outlined in the general conditions. Replace without charge any material or equipment proving defective during this period. The guarantee shall include performance of equipment under all site conditions, conditions of load, installing any additional items of control and/or protective devices, as required.

3.13 PATENTS

- A. Refer to the General Conditions for Contractor's responsibilities regarding patents.

3.14 MECHANICAL / ELECTRICAL COORDINATION REQUIREMENTS

- A. All electrical work performed for this project shall conform to the National Electrical Code, to Local Building Codes and in conformance with Division 26 of these specifications whether provided under the Mechanical or the Electrical sections of the specifications. Where the mechanical contractor is required to provide electrical work, he shall arrange for the work to be done by a licensed electrical contractor using qualified electricians. The Mechanical Contractor shall be solely and completely responsible for the correct functioning of all mechanical equipment regardless of who provided the electrical work.
- B. The Mechanical Contractor shall provide the following:
1. All motors required by mechanical equipment.
 2. All starters for mechanical equipment which are integral to equipment scheduled and / or specified.
 3. All wiring interior to packaged equipment furnished as an integral part of the equipment.
 4. All control wiring for mechanical systems.
 5. All control systems required by mechanical equipment.
 6. Control wiring shall be defined as all wiring, either line voltage or low voltage, required for the control and interlocking of equipment, including but not limited to wiring to motor control stations, solenoid valves, pressure switches, limit switches, flow switches, thermostats, humidistats, safety devices and other components required for the proper operation of the equipment.
 7. Motor starters supplied by Mechanical shall be fused combination type minimum size 1, and conform to appropriate NEMA standards for the service required. Provide NEMA type 3R/12 enclosures in wet locations. Provide all starters with appropriately sized overload protection and heater strips provided in each phase, hand/off auto switches, a minimum of 2 NO and NC auxiliary contacts as required, and an integral disconnecting means. For 1/2 horsepower motors and below, when control requirements do not dictate the use of a starter, a manual motor starter switch with overload protection in each phase may be provided. Acceptable manufacturers are Allen Bradley, General Electric, Square D, Furnas and Westinghouse.
- C. The Electrical Contractor shall provide the following for mechanical equipment:
1. All power wiring.
 2. Electrical disconnects as shown on the electrical drawings.
 3. All starters not integral to equipment scheduled and / or specified and all starters forming part of a motor control center.
- D. All power wiring and conduit to equipment furnished under Mechanical Division shall be provided under Electrical Division. Control wiring, whether line voltage or low voltage, shall be provided under the division which furnishes the equipment.
- E. Conduit for wiring for all HVAC and plumbing control shall be furnished and installed under Electrical Division.
- F. Power wiring shall be defined as all wiring between the panelboard switchboard overcurrent device, motor control center starter or switch, and the safety disconnect switch or control panel serving the equipment. Also, the power wiring between safety disconnect switch and the equipment line terminals.
- G. All motor starters which are not part of motor control centers and which are required for equipment furnished under this division shall be furnished and installed under the Electrical Division.

- H. Electrical Division shall make all final connections of power wiring to equipment furnished under this division.
- I. Wiring diagrams complete with all connection details shall be furnished under each respective section.

3.15 EQUIPMENT ROUGH-IN

- A. Rough-in all equipment, fixtures, etc. as designed on the drawings and as specified herein. The drawings indicate only the approximate location of rough-ins. The exact rough-in locations for manufactured equipment must be determined from large scale certified drawings. Mounting heights of all switches, receptacles, wall mounted fixtures and such equipment must be coordinated with the architectural designs. The contractor shall obtain all rough-in information before progressing with any work for rough-in connections. Minor changes in the contract drawings shall be anticipated and provided for under this division of the specifications to comply with rough-in drawings.

3.16 OWNER-FURNISHED AND OTHER EQUIPMENT

- A. Rough-in and make final connections to all Owner-furnished equipment shown on the drawings and specified, and all equipment furnished under other sections of the specifications.

3.17 EQUIPMENT FINAL CONNECTIONS

- A. Provide all final connections for the following:
 - 1. All equipment furnished under this Division.
 - 2. Electrical equipment furnished under other sections of the specification.
 - 3. Owner-furnished equipment as specified under this Division.

3.18 INSERTS, ANCHORS, AND MOUNTING SLEEVES

- A. Inserts and anchors must be:
 - 1. Furnished and installed for support of work under this Division.
 - 2. Adjustable concrete hanger inserts installed in new concrete work shall be as manufactured by Grinnell or approved equal.
 - 3. Installed in location as approved by the Architect. Expandable lead type anchors installed in existing concrete with minimum surface damage, as manufactured by Ackerman-Johnson, Pierce, Diamond, or Hilti.
 - 4. Toggle Bolts, or "Molly-Anchors" where installed in concrete block walls.
 - 5. Complete with 3/16" or heavier steel back-up plate where used to support heavy items. Thru-bolts for back-up plate shall be concealed from view, except as otherwise indicated. Refer to drawings for details of supports at post-tension concrete slab.
 - 6. Mounting of equipment that is of such size as to be free standing and that equipment which cannot conveniently be located on walls such as motor starters, etc., shall be rigidly supported on a framework of galvanized steel angle of Unistrut or B-line systems with all unfinished edges painted.
- B. Furnish and install all sleeves as required for the installation of all work under all sections of this division. Sleeves through floors, roof, and walls shall be as described in conduit section.

3.19 SEISMIC RESTRAINTS

- A. Provide the work in compliance with the most stringent seismic requirements for site specific, of applicable Codes including the Title 24 and California Code of Regulations (CCR) Uniform Building Code, but with the requirements herein as minimum standards. Provide seismic restraints for materials and equipment of this Division, including (but not limited to) the items listed below. The attachments shall resist forces applied to the center of gravity of the components. Criteria shall be the operating weight of the item times .5g for horizontal forces and .33g for vertical forces. Design for the horizontal force to be applied in any direction. Wall mounted or suspended components shall, in addition, resist a downward force of 200 pounds minimum added to the operating weight.
- B. All switchgear and other free standing electrical equipment shall be anchored to withstand seismic forces in this area.
- C. Switchboards, transformers, and all free-standing panels or cabinets and similar equipment.
- D. Suspended lighting fixtures.
- E. Lighting fixtures integral with ceiling or directly mounted to ceiling.
- F. Suspended conduit hangers and trapezes.
- G. Suspended electrical conduit, 2-1/2" nominal size and larger, shall have individual hangers not longer than 12" from the top of the pipe to the bottom of the support for the hanger. If a longer hanger is used, Contractor shall apply seismic restraints. Supporting calculations and details shall be submitted for Title 24 compliance review.
- H. Four #9-12 gauge hanger wires shall be provided to each recessed troffer one located at each diagonal corner. In addition troffers shall be fastened with two self tapping screws at each end of fixture through housing to main runners of the T-bar grid. Installation of these screws shall in no way deform the fixture housing. Provide spacers between the fixture housing and the T-bar grid where required.
- I. Provide bracing and anchorage of conduit hangers and trapezes in accordance with SMACNA published "Guidelines for Seismic Restraints of Mechanical Systems".
- J. Pendant, suspended, or stem mounted lighting fixtures shall have approved earthquake resistant hangers if code required and have movable joints at ceiling and fixture when more than one stem is used per fixture. In addition, fixtures shall have steel stranded aircraft cable attached to the structure and to the fixture at each point of support, in addition to the fixture hanger. Cables shall be installed slack and shall be capable of supporting four times the vertical load. The fixture shall be capable of swinging 45° in any direction. Where a 45° swing would cause the fixture to strike a wall or other object, suitable cables or other means of bracing shall be added to prevent the fixture from swinging against the other object.
- K. Carefully review the space available to insure that the restraint systems proposed will not impair the required equipment clearance, working space or access.
- L. Submit details of the seismic anchorages and receive approval of the IOR and EOR prior to installation. Details shown on the drawings are for reference only and may not be suitable for the actual equipment to be installed. Exception: Details for seismic anchorage may be omitted for equipment installed on a floor or roof and weighing less than 400 lbs. but the installation shall be subject to the approval of the Owner's representative.

3.20 RUSTPROOFING

- A. Rust proofing must be applied to all ferrous metals as follows:

1. Hot-dipped galvanized shall be applied after forming of angle-iron, bolts, anchors, etc.
2. Hot-dipped galvanized shall be applied after fabrication for junction boxes and pull boxes cast in concrete.

3.21 GENERAL WIRING

- A. Where located adjacent in walls, outlet boxes shall not be placed back to back, nor shall extension rings be used in place of double boxes, all to limit sound transmission between rooms. Provide short horizontal nipple between adjacent outlet boxes, which shall have depth sufficient to maintain wall coverage in rear by masonry wall.
- B. In those isolated instances in which construction conditions will not permit staggered outlet boxes, provide "Flamesafe" FSD 1077 fire stopping pads or approved equal, over the outlet box.
- C. Complete rough-in requirements of all equipment to be wired under the contract are not indicated. Coordinate with respective trades furnishing equipment or with the Architect as the case may be for complete and accurate requirements to result in a neat, workmanlike installation.
- D. Provide proper size and type of feeds from proper sources for all such items indicated, checking drawings of all trades to ensure inclusion of all items.

3.22 SEPARATE CONDUIT SYSTEMS

- A. Each electrical and signal system shall be contained in a separate conduit system as shown on the drawings and as specified herein. This includes each power system, each lighting system, each signal system of whatever nature, telephone, emergency system, sound system, control system, fire alarm system, etc.
- B. Further, each item of building equipment must have its own run of power wiring. Control wiring may be included in properly sized conduit for equipment feeders of #6 AWG and smaller, having separate conduit for larger sizes.

3.23 SPECIAL CONDUIT REQUIREMENTS

- A. The electrical contractor shall furnish and install all conduits for the total and complete conduit for the following communication systems.
 1. Clock and Bell
- B. The fire alarm system shall be in conduit at all areas.
- C. Conduit for all low voltage systems, including fire alarm and clock and bell located above suspended ceiling shall be installed below gypsum board on bottom chord of truss, exposed.
- D. Provide a pull chord in all spare conduit and where conductors are installed by others.

END OF SECTION 26 05 00

SECTION 26 05 13 – POWER CONDUCTORS

PART 1 - GENERAL

1.01 SUMMARY

- A. Provisions of General Conditions, Supplementary Conditions, Division One, and Section 26 05 00 Common Work Results for Electrical apply to this section.
- B. Scope of Work: The work under this section includes furnishing all labor, materials, and equipment and performing all operations in connection with Conductors, as indicated on the drawings, specified herein, or reasonably required to complete the work. The work includes, but is not limited to the following:
 - 1. Furnishing and installing wire and cable for branch circuits and feeders.

1.02 SUBMITTALS

- A. Submit manufacturer's data for the following items:
 - 1. 600 volt cables

PART 2 - PRODUCTS

2.01 WIRE AND CABLE RATED 120 VOLT TO 600 VOLT

- A. All wire and cable shall be new, 600 volt insulated copper, of types specified below for different application.
 - 1. Conductor Material: Copper
 - 2. All conductor sizes shall be designated by American Wire Gauge (AWG) or Thousand Circular Mills. (kcmil).
 - 3. Wire used as feeders to switchboards, panelboards, motor control centers or other major electrical components shall be type XHHW-2.
 - 4. All underground conductors shall be Type XHHW-2.
 - 5. Wire and cable larger than #6 AWG shall be type XHHW-2
 - 6. Wire #6 AWG and smaller shall be type THHN.
 - 7. Conductors for branch circuit lighting, receptacle, power and miscellaneous systems shall be a minimum of No. 12 AWG.
 - 8. Increase conductor size to No. 10 AWG for 120 volt circuits greater than 100 feet from the panel to the load and for 277 volt circuits greater than 200 feet from the panel to the load.
 - 9. Wire indicated to be larger than No. 12 must be increased the entire length of the circuit.
 - 10. Wire sizes No. 14 through No. 10 shall be solid. No. 8 and larger shall be stranded.
- B. All wire and cable shall bear the UL label and shall be brought to the job in unbroken packages.
- C. Wire insulation shall be color as specified herein.

2.02 WIRE AND CABLE FOR SYSTEMS BELOW 120 VOLTS

- A. All low voltage and communications systems cable shall be plenum rated.

PART 3 - EXECUTION

3.01 SYSTEMS 600 VOLT OR BELOW

- A. Wire and cable shall be pulled into conduits without strain using powdered soapstone, mineralac, or other approved lubricant. In no case shall wire be repulled if same has been pulled out of a conduit run for any purpose. No conductor shall be pulled into conduit until conduit system is complete, including junction boxes, pull boxes, etc.
- B. All connections and joints in wires shall be made as noted below:
- C. Connections to outlets: Wire formed around binding post of screw.
- D. No. 8 wire and larger - Burndy "Quick-Lug" type QDA, or approved equal, round flange, solderless lug.
- E. Fixture Connections: Circuit wiring connections to fixture wire shall be made with pressure type solderless connectors, Buchanan, Scotchlock, Wing Nut, or approved equal.
- F. Joints in Wire: No. 6 wire and larger, Burndy or approved equal.
- G. No. 8 wire and smaller - Buchanan, Scotchlock, Wing Nut, or equal pressure type solderless connectors.
- H. Uninsulated solderless connectors shall be insulated as follows: Tape and covering of rubber tape, equal in thickness in the insulation. This shall be followed with an outer covering of vinyl tape in two layers.
- I. All wiring throughout shall be color-coded as follows:

	<u>480-Volt System</u>	<u>208-Volt System</u>
A Phase	Brown	Black
B Phase	Orange	Red
C Phase	Yellow	Blue
Neutral	Grey	White
Ground	Green	Green
- J. Wiring must be color-coded throughout its entire length, except feeders may have color-coded plastic tape at both ends and any other accessible point.
- K. All control wiring in a circuit shall be color-coded, each phase leg having a separate color, and with all segments of the control circuit, whether in apparatus or conduit, utilizing the same color coding.
- L. At all terminations of control wiring, the wiring shall have a numbered T & B or Brady plastic wire marker.
- M. 120 volt control wiring may be installed with the power conductors when insulated at the same voltage level as the power conductors. All other control and instrumentation wiring must be installed in a separate conduit.

- N. Cables when installed are to be properly trained in junction boxes, etc., and in such a manner as to prevent any forces on the cable which might damage the cable.
- O. Wire and cables when installed in underground pull boxes shall not be spliced. All wire and cable in underground pull boxes shall be continuous.
- P. Wire and cable when installed in underground pull boxes shall be neatly strapped / looped together and anchored to side walls of junction box. The wire and cable shall be neatly strapped to the side walls of junction boxes to keep the floor of the junction box open.

END OF SECTION 26 05 13

SECTION 26 05 26 - GROUNDING

PART 1 - GENERAL

1.01 SUMMARY

- A. Provisions of General Conditions, Supplementary Conditions, Division One, and Section 26 05 00 Common Work Results for Electrical apply to this section.
- B. The scope of work under this section includes furnishing all labor, materials, and equipment and performing all operations in connection with Grounding, as indicated on the drawings, specified herein, or reasonably required to complete the work. The work includes, but is not limited to the following:
 - 1. Furnish and install grounding and grounding conductors.

PART 2 – PRODUCTS (Not Applicable)

PART 3 - EXECUTION

3.01 GROUNDING

- A. All panelboard cabinets, equipment, enclosures, and complete conduit system shall be grounded securely in accordance with pertinent sections of Article 250 of CEC. Conductors shall be copper. All electrically operated equipment shall be bonded to the grounded conduit system. All non-current carrying conductive surfaces that are likely to become energized and subject to personal contact shall be grounded by one or more of the methods detailed in Article 250 CEC. All ground connections shall have clean contact surfaces. Install all grounding conductors in conduit and make connections readily accessible for inspection. Furnish and install grounding electrodes as described on the drawings.
- B. Grounding of metal raceways shall be assured by means of provisions of grounding bushings on feeder conduit terminations at the panelboard, and by means of insulated continuous stranded copper grounding wire extended from the grounds bus in the panelboard to the conduit grounding bushings.
- C. Except for connections which access for periodic testing is required, make grounding connections which are buried or otherwise inaccessible by exothermite type process.
- D. Equipment Grounding Conductors:
 - 1. Provide copper THWN insulated equipment grounding conductors in all raceways.
 - 2. The grounding conductors shall be provided whether scheduled or shown on the drawings or not, and, if necessary, the conduit size shall be increased to accommodate them. These grounding conductors shall be connected to the ground terminals on the device or enclosure at each end of the installation and shall be interconnected with the other ground terminals and conductors to form a continuous wired grounding system throughout the electrical wiring system.
- E. Ground Rods: 3/4" diameter × 8-foot copper clad steel. Drive full length into earth with the top 3-inch minimum below grade or underside of slab. Where ground rods cannot be driven vertically to the desired depth below grade, they shall be driven at an angle away from or parallel to the exterior wall. When driven parallel to the wall, the angle shall not exceed 45degrees. The rod shall penetrate to a depth of permanent ground moisture. When ground rods cannot be driven because of bedrock at

less than 4 feet below grade level, a counterpoise ground electrode shall be used in place of rods. The counterpoise system shall consist of not less than 50 feet of No. 2 AWG bare tinned copper wire, buried to a depth of at least 18" below grade, for each ground rod shown. The wires shall be run in a straight line. Each pad-mounted transformer and vacuum interrupting sectionalizing switch shall be grounded using the methods indicated herein.

- F. Connections: Connection to inaccessible ground rods below ground shall be made using exothermic welding devices. Above ground and accessible connections shall be made using exothermic devices. Multiple bolt silicon bronze connectors, Burndy or O.Z. Electric; or exothermic welded, Burndy, Erico Cadweld products, or equal.
- G. Test each grounding electrode for resistance at the connection point before connecting any wires. Resistance at the grounding electrode shall not exceed the following:
 - 1. Service Equipment, 25 ohms
 - 2. Interior Electrical Systems, 25 ohms
 - 3. Exterior Transformers, 10 ohms
 - 4. Junction Boxes and Manholes, 10 ohms
- H. If the above values are not achieved with the installed system, notify the Owner's representative.
- I. Each ground electrode shall be tested using a ground resistance meter, or other suitable instrument, in conformance with the manufacturer's directions. Submit a report listing as a minimum the date of testing, name of tester, instrument used, location and type of ground electrode, and resistance in ohms. Submit within five (5) days after testing is completed.

END OF SECTION 26 05 26

SECTION 26 05 43 - UNDERGROUND PULL BOXES

PART 1 – GENERAL

1.01 SUMMARY

- A. The provisions of Section 26 05 00 entitled Common Work Results for Electrical, General Conditions, Supplementary Conditions, and Division One apply to this section.
- B. Scope of Work: The work under this section includes furnishing all labor, materials, and equipment and performing all operations in connection with furnishing and installing underground pull boxes and manholes, as indicated on the drawings, specified herein, or reasonably required to complete the work.

PART 2 - PRODUCTS

2.01 GENERAL

- A. Communication Pull Box: JENSON PRECAST Variable Depth Pull Box, 3672 DPB, 3'-8" x 6'-8" dimension.
- B. Communication Pull Box Cover: JENSON PRECAST, Parkway, Hinged Cover, Style E, (2) Piece, with hold open assembly. Marked as "Communication".
- C. Electrical Pull Box: JENSON PRECAST Variable Depth Pull Box, 3048 DPB, 3'-2" x 4'-8" dimension.
- D. Electrical Pull Box Cover: JENSON PRECAST, Parkway, Bolt Down Cover, (1) Piece, Style F, with hold open assembly. Marked as "Electrical"

PART 3 - PRODUCTS

3.01 INSTALLATION

- A. Communication and Electrical Pull Boxes shall be installed so that elevation of cover shall be 6" above adjacent soil.
- B. Installation of Wire and Cable:
 - 1. Wire and cables when installed in underground pull boxes shall not be spliced. All wire and cable in underground pull boxes shall be continuous.
 - 2. Wire and cable when installed in underground pull boxes shall be neatly strapped / looped together and anchored to side walls of junction box. The wire and cable shall be neatly strapped to the side walls of junction boxes to keep the floor of the junction box open.
- C. Install as per manufacturers instructions.

END OF SECTION 26 05 43

SECTION 26 20 00 ELECTRICAL DISTRIBUTION

PART 1 - GENERAL

1.01 SUMMARY

- A. Drawings and general provisions of this contract, including General and Supplementary Conditions and Division One apply to this section.
- B. Scope of Work: The work under this section includes furnishing all labor, materials, and equipment and performing all operations in connection with Electrical Distribution, as indicated on the drawings, specified herein, or reasonably required to complete the work.

1.02 SUBMITTALS

- C. Comply with requirements of Section 01 33 00 – SUBMITTALS
- D. Material List and Manufacturers' Literature
- E. Shop Drawings
- F. Operating and Maintenance Manuals.

1.03 ACCEPTABLE MANUFACTURERS

- A. Switchboards, breakers, service/metering equipment, panelboards, transformers, and safety switches: General Electric, Siemens, Square D, Westinghouse, or equal.
- B. Fuses: Bussman, Littel Fuse, Gould/Shawmut, or equal.
- C. Motor Starters: Allen Bradley, Furnas, General Electric, Square D, Westinghouse, or equal.
- D. Lighting Contractors: General Electric, Square D, Asco, or equal.

PART 2 - PRODUCTS

2.01 DRY-TYPE TRANSFORMERS – UNDER 600 VOLTS PRIMARY

- A. Transformers shall be ventilated dry type Class H, 150°C. rise, self-cooled with KVA ratings as shown on the drawings. Single phase and three phase transformers 10 KVA and below shall have two 5% full capacity taps below normal. Transformers above 10 KVA shall have two 2-1/2% full capacity primary taps above normal and two 2-1/2% full capacity primary taps below normal. Taps will be changed only when transformer is de-energized. The transformer core shall be cold-rolled, grain oriented silicon steel. Basic impulse level shall conform to ANSI Standard C57.12. Sound level shall not exceed 3 dB below ANSI and NEMA Standards. Impedance shall be approximately 4% for under 500 KVA and approximately 5.75% for 500 KVA and over.
- B. The enclosure shall be fabricated from 14 gauge or thicker steel. For floor mounting type, the base shall be 11 gauge or heavier and suitable for rolling or skidding into position. The terminal compartment shall be at the bottom. Accessories for installation such as lifting rings, jacking plates and wall mounting tabs shall be provided as required. Construction shall be drip proof and rodent proof. Where mounted outside, transformers shall be rain tight with non-ventilated enclosures. Finish shall be baked on enamel.

- C. Ventilated transformers shall have front, bottom and/or side openings for cooling. Transformers shall be mounted on rubber isolation pads and connected with flexible conduits for sound attenuation. The Contractor shall ascertain that the transformers he proposes to use will fit in the space allowed.
- D. A metal nameplate shall be installed by the manufacturer prominently on the outside of the enclosure. Nameplate shall have as a minimum the following information: Manufacturer, KVA, voltages, serial number, catalog number, type, impedance and wiring data.

2.02 SWITCHBOARDS – UNDER 600 VOLTS

- A. All new switchboards shall be by the same manufacturer.
- B. Sections shall be shipped connected together by the manufacturer, or separated and ready for field connection by the Contractor, in sizes that will allow them to be moved through the doors into their positions in the building.
- C. Sections shall be free standing, with front access, as shown or required, of angle iron or formed steel framework with steel panels enclosing all except the bottom. No raw or sharp metal edges shall be visible. Sections shall be constructed to UL standards.
- D. Finish shall be manufacturer's standard cataloged for indoor or outdoor use, as shown on the drawings. Finish shall be applied by the manufacturer.
- E. Busing shall be copper or aluminum and shall be formed and braced to withstand the effects of a fault current of minimum 50,000 amperes symmetrical. Copper bussing shall be silver plated at joints, and be connected with bolts and lock washers torqued as recommended by the manufacturer. All joints shall be made by welding or use of bolts and Bellville washers made up tight. Main bussing shall extend through all sections of the switchboard, and shall be of a current carrying capacity equal to the current rating of the main protective device as shown on the drawings. Neutral bussing shall be rated 100%. Busses shall be spaced according to the UL and NEC standards for bare busbar. Provide top and bottom provisions for future crossbus and cable extension. The vertical bus shall be drilled and tapped to accommodate new and future breakers, switches and devices. Cross busses near the bottom of the boards shall be insulated or barriered.
- F. A continuous copper ground bus shall be provided through all sections of the switchboard. All non-current carrying parts of the switchboard shall be solidly connected to this ground bus. The ground bus shall be sized to an ampacity of not less than 33% of the rating of the respective main bus.
- G. With 70° temperature in the room where installed, the phase, neutral, and ground bus shall be sized and rated for 100% continuous current carrying capacity based upon an ampere per square inch formula. Bus current carrying capacity ratings and physical sizing shall not be based on temperature rise alone. Copper bus shall have a minimum conductivity of 1000A/square inch. The temperature in any interior part of the switchyard shall not exceed 115°F.
- H. All lugs for cable connection shall be positive pressure bolted clamp type.
- I. Exterior plates and blank spaces not presently utilized shall be held in place by rigid supports arranged to prevent screws and plates from falling against energized parts. Interiors shall be fastened to the enclosure by adjustable supports to provide for proper alignment.
- J. Underground service pull section shall be top bussed and shall comply with the requirements of the serving utility.

- K. Securely anchor switchboard to a channel iron base which shall be furnished complete by the switchboard manufacturer. Bases shall be drilled and tapped to receive the switchboard and shall be fastened securely to the pad. Fill the entire base with grout and finish smooth. Switchboards shall be secured in accordance with Section 26 05 00 – COMMON WORK RESULTS FOR ELECTRICAL.
- L. Switchboards located outside shall have weatherproof enclosures and finish, and padlockable doors. Switchboards installed outdoors or exposed to weather shall have hinged front doors with vault type padlockable handles and three point latches. All openings shall be suitably designed to prevent the entry of weather, dust, animals and foreign matter.
- M. Provide a nameplate for each switchboard section and each item on the face of the switchboard as specified in Section 26 05 00 – COMMON WORK RESULTS FOR ELECTRICAL. Switchboard submittal shall contain a nameplate schedule.
- N. After installation, the boards shall be carefully cleaned. Any damaged paint shall be retouched with matching paint provided by the manufacturer of the switchboards.
- O. When the equipment is energized, live parts shall be protected by faceplates which shall not be removed or left unplaced without the immediate presence of the Electrical Contractor.
- P. Circuit breakers, switches, meters, ground fault protection, starters and other equipment to be included as an assembled part of a switchboard shall comply with the paragraphs where those items are specified.

2.03 CIRCUIT BREAKERS

- A. General: Breakers 400 ampere frame and larger shall be solid state trip (SST) type unless other special types are indicated on the drawings. Breakers with smaller than 400 ampere frames may be thermal magnetic trip (TM) or SST type unless otherwise indicated on the drawings. Thermal magnetic breakers rated 200 ampere and larger shall have adjustable instantaneous trip. Mounting height of breaker operating handles shall not exceed 6-1/2 foot above floor (consider housekeeping pad for floor mounted gear when determining the measurement).
- B. Solid state trip breakers (SST) shall be insulated or molded case type, ratings as indicated, equipped with ambient insensitive solid-state trips, with current sensors and solid-state logic circuits integral to the circuit breaker frame. Settings shall be sealable to prevent tampering.
- C. Breakers 600 amp frame and smaller shall have the following settings:
 - 1. Long time delay
 - 2. Continuous ampere setting
 - 3. Instantaneous pickup
- D. Breakers 800 amp frame and above shall have the following settings:
 - 1. Long time ampere rating
 - 2. Long time delay
 - 3. Long time pickup
 - 4. Short time pickup
 - 5. Short time delay
 - 6. Instantaneous pickup
 - 7. Ground fault pickup
 - 8. Ground fault delay

- E. Ground fault protection for solid state breakers shall be integral and shall have tripping devices, sensors and a test button allowing testing without tripping the breaker. Provide all other accessories shown, or needed for proper operation.
- F. Short circuit interrupting capacity shall be as indicated on the drawings and shall in no case be less than 10,000 at 120/240 volts or 14,000 RMS at 480 volts RMS symmetrical amps at the applied voltage.
- G. Breakers shall be molded case bolt-on type, except where other types are shown. Clamp-on, push-on, or plug-in type are not acceptable. Removable handle ties and dual, quad or tandem breakers are not acceptable. Mounting hardware, accessories, faceplates, and enclosures shall be provided as necessary for the intended use.
- H. Ground fault circuit interrupter (GFCI) type circuit breakers shall occupy the same space in a panel as a conventional breaker of the same rating and shall have a push-to-test button on the front. A ground current of 5 milliamps (\pm) or more shall trip the breaker in less than 1/40 second. Each outlet on a GFI circuit shall be tested after installation and results of the test submitted in writing to the Architect.
- I. Submittal shall include interrupting capacities in RMS symmetrical amps at the applied voltage. Letter designations are not sufficient.
- J. Light duty commercial/residential type thermal magnetic breakers. Use only in Panels (not in Power Panels). Westinghouse Quicklag or equal.

2.04 DISTRIBUTION PANELS

- A. Distribution panelboards shall be metal-enclosed, dead front type with sections joined together to form one assembly. Assembly shall consist of group mounted devices arranged so that they may be removed or interchanged from the front of the panel without disturbing the adjacent devices. Provide full capacity bus full height of panel with filler panels for unused portion of panel. Ties between sections shall be bussed. Busbars shall be braced for the available short circuit current indicated.
- B. General Electric CCB, Westinghouse type PR3 or PR4, or equal for 208/120V, or 480/277V panels.
- C. Busbars shall be copper or aluminum. Provide copper equipment ground bus. When indicated on drawings, provide panel with neutral busbar sized for at least 100% of phase busbars.
- D. Provide a nameplate for each panel indicating its designation (such as "DISTRIBUTION PANEL DP-1" in 1/4 inch high letters) as indicated on drawings, the voltage system (such as "208/120V-3PH-4W"), and origin of feeder (such as "FED FROM SWBD MSB"). Provide a nameplate for each circuit breaker unit indicating the load served (such as "PANEL A").

2.05 PANELS

- A. Panelboards for lighting and miscellaneous power shall be dead front safety type equipped with bolt-on circuit breakers of the numbers and sizes shown on the drawing and herein. Multiple pole breakers shall have an internal common trip. Tie handles will not be permitted. Breakers serving multi-wire branch circuits passing through fixtures shall be multiple pole breakers, even if indicated as single pole on the drawings. Breakers shall have a SWD listing. Provide GFCI type breakers as indicated on drawings and when required by Code.
- B. General Electric type AQ, Westinghouse type PR1, or equal for 208/120V, and General Electric type AE, Westinghouse type PR2, or equal for 480/277V.

- C. Busbars shall be copper or aluminum, braced for the available short circuit current, and have the capacities required on the plans by not less than the ampere frame size of the protective device supplying the panelboard. All panelboards shall be equipped with a copper equipment ground bus. When indicated in panel schedule, provide an oversized neutral comprised of split neutral busbars and each half shall have the same ampere rating as the phase busbars and be equipped with double lugs. Termination lugs shall be rated for 75°C.
- D. Each branch circuit shall have a permanently fixed number. Provide a typewritten directory mounted in a metal frame with a clear plastic front cover on the inside of the cabinet door giving the circuit number and a complete description of all outlets controlled by each panel circuit breaker. Consult Architect for correct room and/or furniture system module designation scheme (not necessarily those shown on drawings). Mark spaces with pencil only.
- E. Provide a nameplate for each panelboard indicating the panel designation (such as "PANEL 3A") as indicated on drawings, the voltage system (such as 208/120V-3PH-4W"), and origin of feeder (such as "FED FROM SWBD MSA").
- F. Special panelboard construction or features shall be as shown on drawings. For circuit breakers, switches, contactors and other equipment to be included as an assembled part of the panelboard, refer to the paragraph where those items are specified.
- G. Refer to Paint, Finishes and Colors subsection.
- H. Doors shall be fastened to trim with concealed hinges and provided with flush type combination catch and lock. All locks shall be keyed alike. Mount floor standing panelboards on a base. Refer to Concrete Equipment Bases subsection.

2.06 MINI-POWER CENTERS

- A. Mini-power centers shall be three phase units 480 volt primary and 120/208 volt; 3 phase secondary.
- B. All transformers shall have a minimum of 2-5% full capacity primary taps below normal and shall be rated 115°C temperature rise above 40°C maximum ambient. All insulating materials are to be in accordance with current NEMA ST20 standards for a 185°C UL component recognized insulation system.
- C. Transformers are to be encapsulated using a sand-epoxy resin mixture to provide maximum protection against moisture, dust and corrosive environments.
- D. Package power supplies shall include integrally mounted and wired primary and secondary circuit breakers in accordance with the National Electric Code.
- E. Branch circuit breakers shall be plug-on type, Square D type "Q0", or equal. Trip indication shall be clearly shown by the breaker handle taking a position between "ON" and "OFF".
- F. A hinge access door shall be provided which maintains itself in the open position when desired and which has padlock provisions.
- G. Mini-power centers shall be U.L. listed.

2.07 SAFETY SWITCHES

- A. Externally operated switches shall be quick-make, quick-break, with interlocking cover. Switches and enclosures shall be heavy duty type. Provide Class J rejection clips if used with fuses. Switches used in indoor dry conditions shall have NEMA 1 enclosures. Switches exposed to wet or outdoor conditions shall have NEMA 3R enclosures.
- B. Provide a nameplate on each disconnect switch as specified in "NAMEPLATES". Nameplate shall show item controlled, voltage, phase, and source of power.
- C. In case of a substitution of material or equipment protected, the disconnect, fuses, circuit conductors, conduit, conduit and feeder circuit breaker shall be resized accordingly and provided at no additional cost.

2.08 FUSES

- A. Fuses for feeders and motor branch circuits shall be time delay current limiting type with 200,000 AIC. The time delay shall be minimum 10 seconds at 500% load for 600A or smaller fuses and 4 seconds at 500% load for larger than 600A. 600 ampere and smaller fuses shall be Class J. Fuses larger than 600A shall be Class L.
- B. Upon Owner's acceptance of the electrical distribution system, provide the Architect with spare fuses and cabinet to hold same as follows: Three fuses of each rating installed 601 amperes and larger, 10% of each type and rating installed 0 to 600 amperes but not less than three of each. Fuses shall be provided in a 24" x 30" 6"D spare fuse cabinet where noted on the drawings. Fuse cabinet shall have hinged, key lockable door with engraved nameplate. Written documentation shall be submitted by the Contractor and approved by the Owner Representative prior to completion of project.
- C. Fuse sizes shown on drawings are for reference only based on specified mechanical/plumbing equipment. Final determination of fuse sizes shall be made by Contractor based on approved mechanical/plumbing equipment nameplate ratings.
- D. Fuses shall be installed so that the rating can be clearly read from the front of the open switch without removing the fuse.

2.09 MOTOR STARTERS – INDIVIDUALLY MOUNTED

- A. Starters used in indoor dry conditions shall have NEMA 1 enclosures. Starters exposed to wet or outdoor conditions shall have non-metallic NEMA 3R enclosures. Provide a nameplate for each starter unit indicating the load served (such as "EXH. FAN E-1").
- B. Magnetic: Shall be combination starters. Provide with a motor circuit protector unless specifically indicated on drawings to be with a fused switch. Provide accessories (start/stop pushbuttons, H.O.A. switches, red neon pilot running lights, interlock contacts, control transformer, etc.) as required by this Division and by Division 15 – Mechanical plans and specifications. Confirm ratings (watts, volts, amps, etc.) with mechanical control system supplier prior to ordering of components. Each starter unit shall, as a minimum, have in its cover an overload reset, hand-off-auto selector switch and a red pilot running light. Equip each starter unit with the number of auxiliary N.O. and N.C. contacts required but at least four N.O./N.C. convertible contacts. Equip each starter with an overload relay in each under grounded wire. Select overload ratings to match the characteristics of the motors actually installed. Control voltage shall be per mechanical documents except for external mechanical control circuits. Source shall be unit transformers in each starter compartment. Transformer shall be 100 VA minimum rating.

- C. Manual: Toggle type with integral melting alloy overload protection. Where shown on the drawings, fractional horsepower motors shall have toggle type manual starters with thermal overload protection in each phase. Provide a padlocking-off device on the handle, and where the motor is out of sight of the switch provide a pilot light in the cover to indicate switch is closed.

2.10 LIGHTING CONTACTORS

- A. 20 amp, mechanically held with coil clearing feature or electrically held as indicated on drawings.
- B. Separate enclosures shall be NEMA 1 for interior dry locations and NEMA 3R for exterior or damp locations, or as otherwise shown on the drawings, with finish as required for panelboards.
- C. Contractors shall be selected and rated for the proper voltage, loads, and type of duty. Mounting shall be either in a separate compartment of the panelboard cabinet, or where wall space permits, in a separate cabinet adjacent to the panelboard. Compartments and cabinets shall conform to the specification for panelboard cabinet work and shall be sized for adequate mounting and wiring space.
- D. New contactors or relays for existing switchboards or panelboards shall be by the same manufacturer as those existing in the board or by the manufacturers listed above.

2.11 DISCONNECTS

- A. Acceptable manufacturers shall be Square D, General Electric, and Westinghouse or ITE.
- B. All switches shall be heavy-duty type, externally operated, quick-make, quick-break, rated 600 volts or 240 volts as required, with the number of poles and ampacity as noted. All switches for motors shall be HP rated. Switches shall have NEMA-type 1 enclosures. Switches located where exposed to outdoor conditions shall have NEMA type 3R/12 enclosure. Switches generally shall be fused except where noted to be non-fused on the drawings.

PART 3 - EXECUTION

3.01 INSTALLATION

- A. Installation shall conform to the requirements of the NEC and to the manufacturer's shop drawings and mounting instructions. Equipment base for floor standing equipment shall have an adequate number of anchor bolt holes to put the base in direct contact shear and tension with the mounting surface at all anchor bolt locations. Refer to Section 26 05 00 Common Work Results for Electrical, for seismic restraint requirements.
- B. Disconnects:
 - 1. Mount all switches to structure or U-channel support. U-channel supports shall be cleaned and painted to prevent rust.
 - 2. Switches shall be accessible with proper clearances in front per NEC 110-16.

3.02 GROUNDING

- A. Grounding and bonding shall be in accordance with Section 26 05 26 Grounding.

END OF SECTION 26 20 00

SECTION 26 56 68 SPORTS FIELD LIGHTING

PART I - GENERAL

1.01 Related Documents

Drawings and general provisions of the bid documents, including general and supplementary conditions apply to this section.

1.02 Description of Work

A. The Sports Lighting section includes:

1. Galvanized steel pole and luminaire mounting crossarms
2. LED Luminaires, with appropriate glare/spill light control
3. Remote driver enclosure
4. Pole Foundations
5. Control System

B. The purpose of this specification is to define the performance standards, product values and features, required manufacturer's service responsibilities, and design standards for Imperial Valley College Tennis in Imperial, CA.

1.03 Submittals

A. It has been predetermined that these project specifications are the minimum acceptable criteria for this project. Musco Sports Lighting LLC, Total Light Control – TLC for LED™ technology is the only pre-approved equipment supplier.

B. Manufacturers requesting approval shall provide submittal information as per Section 1.03 D. Submittal information must be received 10 days prior to bid opening, approved manufacturers will be notified by addendum.

C. Submit each item in this article according to the conditions of the contract and specification section. Any deviations to the specification require the manufacturer to list and describe in detail such deviations. Failure to provide this information shall be grounds for immediate rejection.

D. Submittal information required:

1. Light scans as per Section 1.04 of the specification.
2. Spill scans as per Section 1.05 of the specification.
3. Detailed warranty information as per Section 3.01 of the specification.
4. Detail foundation design as described in Section 2.01
5. Provide written information for the automated control system to include monitoring. Also provide examples of system reporting and access for numbers for personal contact to operate the system.
6. The manufacturer must submit evidence in the form of a letter from a California Licensed structural engineer that the manufacturer has the ability to confirm to the California Title 24 structural design requirements. The manufacturer must provide five (5) similar pole submittal project reviews approved by the California Division of State Architecture's office in the past two (2) years. The examples are to include the D.S.A. file numbers.

7. Lighting Manufacturer will supply certified photometric reports from Independent Testing Lab (ITL) or a Certified Lab along with an aiming angle summary for verification.

1.04 Sports Lighting Performance

- A. Illumination Levels and Design Factors: The illumination levels specified shall be based on light levels for 25 years. Light levels shall not drop below specified targeted lighting levels during the specified warranty period. Appropriate light loss factors shall be applied and submitted for the basis of design.

Area of Lighting	Light Levels	Uniformity	# of Points	Grid Spacing
Tennis 1 – 3	75fc	2:1	45	20' x 20'
Tennis 4 – 6	75fc	2:1	45	20' x 20'

1.06 Materials

A. Pole Structural Steel

1. The pole shafts shall be high strength low alloy tapered tubular steel that is equal to current ASTM A595 standards, with galvanized coating inside and out. All connections of pole sections shall be by slip fitting the top section over the lower section by a length of at least 1.5 times the diameters.
2. Steel components of the poles shall be hot dip galvanized to current ASTM A-123. Steel portions of the pole shall be constructed such that all segments of the pole can be readily heated to like temperatures in commercially available galvanizing methods.
3. To avoid problems of galvanize adherence to differing steel alloys, all steel components used for the pole must be of the same type steel.
4. All exposed steel components of the pole shall be at least 18” above the surface of the ground to avoid exposure of the steel to the heavily moisture and oxygen laden air, both above and below the surface. There shall be a cap to cover the top of the pole so that rain will not enter the interior of the pole.
5. To avoid stress corrosion of the pole, there shall be no weld points of the steel portion of the pole within 18” of the ground. The pole shall be galvanized steel.
6. The poles for this project have been designed to withstand 110 mph winds based upon CBC-C standards. The premise of the wind speed criteria will be the 50 year mean recurrent isotach wind map. Applicable gust factors to be applied per code.

B. Foundation Design

1. The Manufacturer shall provide a stamped foundation design, prepared by a Structural Engineer, licensed in the State of California based on 2019 CBC, 100mph.

2. The foundation design shall be based upon recommendations contained in the Geotechnical Report furnished by the Owner. If a Geotechnical Report is not provided by the Owner, the foundation design shall be based on soils that meet or exceed those of a Class 5 material as defined by the 2010 CBC Table 1806.2.

3. It is the contractor's responsibility to notify the owner of soil conditions other than the design criteria. The owner shall then be responsible and absorb the additional costs associated with: Providing engineered foundation embedment design by a registered engineer in the State of California for soils other than specified soil conditions. Additional materials required to achieve alternate foundation. No direct burial steel poles allowed.

4. Lightning Protection: Manufacturer shall provide integrated lightning grounding via concrete encased electrode grounding system as defined by NFPA 780 and be UL Listed per UL 96 and UL 96A. If grounding is not integrated into the structure, the Manufacturer shall supply grounding electrodes, copper down conductors and exothermic weld kits. Electrodes and conductors shall be sized as required by NFPA 780. The grounding electrode shall be not less than 5/8 inch diameter and 8 feet long, with a minimum of 10 feet embedment. Grounding electrode shall be connected to the structure by a grounding electrode conductor with a minimum size of 2 AWG for poles with 75 feet mounting height or less, and 2/0 AWG for poles with more than 75 feet mounting height.

C. LED Sports Lighting Fixtures:

The lens is permanently sealed to keep optics away from harmful environmental elements. Fixture is vented and filtered to adapt to environmental elements. Heat sink with a unique convective air cooling design with high thermal conductivity and corrosion resistant construction. Machine mounted surface for maximum heat transfer of diode assembly and maintains low LED junction temperature during high wattage operation. Custom high power diode package with a metal core printed circuit board. The light control visors are factory aimed. Controls and directs more light onto the field which reduced glare and spill and enhances the on-field playability. Fixture is powder coated gray.

D. Remote Electrical Enclosure:

Remote drivers and supporting electrical equipment shall be mounted approximately 10 feet above grade in aluminum enclosures. Drivers are remote for ease of installation and servicing. The enclosures shall be touch-safe and include drivers and fusing with indicator lights on fuses to notify when a fuse is to be replaced for each luminaire. Disconnect per circuit for each pole structure will be located in the enclosure.

E. Wire Harness: Spiral wound, abrasion protection sleeve, strain relief, plug-in connections

F. Energy Consumption: The average kWh consumption for the entire facility shall not exceed 35.36kW for the lighting system.

G. Controls and Monitoring System:

1. Factory assembled lighting control cabinet (LCC) – The LCC shall be assembled and wired by a UL listed panel builder. The LCC shall contain Contactors, Monitoring and Control System and door mounted Manual off-on-auto selector switches. The LCC shall arrive at the job site ready to attach to an existing wall, switchgear, or a free standing enclosure.

- a. Control Wire Terminations - The Control Wire Terminations shall include UL listed terminal blocks mounted on a DIN rail and 250 volt, 16 amp, touch safe type fuse holders.
 - b. The ECE shall be constructed of aluminum and shall be powder coated gray. The cabinet door shall utilize a lockable, 3 point latching assembly that provides a NEMA 4 rated seal.
 - c. Contactor Modules – Contactors shall be UL listed for lighting applications. They shall be rated at full capacity, be electrically held, utilize a 120 volt coil and be rated for operation in a ambient temperature range from -40 degrees C to +70 degrees C.
 - d. Manual off-on-auto Selector Switches – For on site manual control, three position selector switches shall be factory mounted to the ECE door. The switches shall be keyed and maintain position, with make before break contacts. The switches shall be factory wired to control terminal blocks.
 - e. Warranty – The LCC shall be covered under the standard warranty for the accompanying lighting equipment.
2. Remote Monitoring System: System shall monitor lighting performance and notify manufacturer if individual luminaire outage is detected so that appropriate maintenance can be scheduled. The manufacturer shall notify the owner of outages within 24 hours, or the next business day. The controller shall determine switch position (manual or auto) and contactor status (open or closed). The Monitoring System shall be factory wired to control terminal blocks.
 3. Remote Lighting Control System: The Lighting Control System shall allow owners and users with a security code to schedule on/off system operation via a web site, phone, fax or email up to ten years in advance. Manufacturer shall provide and maintain a two-way TCP/IP communication link. Trained staff shall be available 24/7 to provide scheduling support and assist with reporting needs. The Light Control System shall be factory wired to control terminal blocks.

3.01 Warranty

- A. 25-Year Warranty: Each manufacturer shall supply a signed warranty covering materials and labor for the entire system for 25 years from the date of shipment. Warranty shall specify light levels, system energy consumption, monitoring, maintenance and control services, spill light control, and structural integrity. Manufacturer shall maintain specifically-funded financial reserves to assure fulfillment of the warranty for the full term. Warranty does not cover weather conditions events such as lightning or hail damage, improper installation, vandalism or abuse, unauthorized repairs or alterations, or product made by other manufacturers.

3.02 Field Technician

- A. Manufacturer shall have available a local factory trained technician to provide project support including but not limited to: Lamp replacement, confirm luminaire, aiming points, troubleshoot, and educate customer maintenance personnel.

SECTION 31 23 00 EXCAVATION AND FILL

PART 1 - GENERAL

1.01 SUMMARY

- A. Provisions of General Conditions, Supplementary Conditions, and Division 01 apply to this section.
- B. Scope of work: The work under this section includes furnishing all labor, materials, and equipment and performing all operations in connection with Excavation and Fill, as indicated on the drawings, specified herein, or reasonably required to complete the work. The work includes, but is not limited to the following:
 - 1. Moisture condition existing granular material.
 - 2. Import and compact engineered fill for concrete hardscape

1.02 DEFINITIONS

- A. Definitions in this section include the following:
 - 1. Backfill: Soil materials used to fill an excavation.
 - 2. Borrow: Satisfactory soil imported from off-site for use as fill or backfill.
 - 3. Excavation: Removal of material encountered above subgrade elevations.
 - 4. Fill: Soil materials used to raise existing grades.
 - 5. Subgrade: Surface or elevation remaining after completing excavation, or top surface of a fill or backfill immediately below subbase, drainage fill, or topsoil materials.
 - 6. Utilities include on-site underground pipes, conduits, ducts, and cables, as well as underground services within buildings.

1.03 PROJECT CONDITIONS

- A. Soils Report: A geotechnical investigation report was made for this project and is on file at the District and Architects Office. Soils Report No. LE22111 dated June 2022. Landmark Consultants, Inc., 780 North 4th Street, El Centro, CA 92243. (760) 370-3000.
 - 1. All General Contractors and Earthwork Sub-Contractors shall review the soils report prior to commencing any work.
- B. It shall be the responsibility of the Contractor to examine the site of the work and to make all investigation necessary, both surface and subsurface, to determine the character of materials to be encountered and all other existing conditions affecting the work.
- C. The School District shall obtain and pay for the services of a Soils Engineer, who shall be responsible for the review and testing of all compaction. Contractor shall be responsible to notify Soils Engineer for testing of each phase of compaction.
- D. Existing Utilities: Do not interrupt utilities serving facilities occupied by Owner or others unless permitted in writing by Architect and then only after arranging to provide temporary utility services according to requirements indicated.

PART 2 - PRODUCTS

2.01 GENERAL

- A. Import materials required for fill or backfill shall be provided by the contractor from areas outside the site at contractor's expense. Import materials shall conform to the requirements herein specified and as required by the soils report. All import materials shall be tested and approved by geotechnical engineer prior to being hauled to the site.
- B. All imported fill soils shall be non-expansive (Expansion Index less than 5) granular soils meeting the USCS classifications or SM, SP-SM, or SW-SM with a maximum rock size of 3 inches and 5 to 20% passing the No. 200 sieve and a minimum sand equivalent of 25.

PART 3 - EXECUTION

3.01 PREPARATION

- A. Clearing and Grubbing: Not applicable for this project. New tennis courts shall be constructed over the existing courts.
- B. Concrete Hardscape Preparation: The existing surface soils within the concrete hardscape are shall be removed and replaced with non-expansive compacted fill to a minimum depth of 12 inches below bottom of concrete hardscape. Removal and replacement shall extend at least 1 foot beyond edge of concrete hardscape. After removal the bottom of the excavation shall be scarified to a depth of 8 inches; moisture conditioned to 5 to 10% above optimum moisture content, and recompacted to 85 to 90% of ASTM D1557 maximum density. Imported fill soil shall be placed in the excavation. The imported fill shall be placed in two lifts and compacted to a minimum of 95% of ASTM D1557 maximum dry density. The moisture content of the imported fill shall be within 2% of optimum moisture. The moisture content of the imported fill shall be maintained within 2% of optimum moisture at time of compaction.
- C. Tennis Court Preparation: Remove existing base and grind on site to create base material. Moisture condition existing base. Install ac paving grindings and additional Class II base as required to install concrete to specified elevations. AC paving grindings and Class II shall be placed on over existing granular material. The existing base material shall be moisture conditioned to be within 2% of optimum moisture. The ac grinding and imported Class II base shall be placed in 8" maximum lifts and compacted to a minimum of 95% of ASTM D1557 maximum dry density. The moisture content of the ac grindings and Class II base shall be within 2% of optimum moisture. The moisture content of the base be maintained within 2% of optimum moisture at time of compaction.
- D. Utility Trench Backfill: All conduit trenches within the building pad and site concrete shall be backfilled with imported fill material and compacted as required for building pad preparation.
- E. Contractor may encounter existing electrical / signals conduits within the building pad area. Contractor shall be responsible to verify exact location and depth prior to excavation. Contractor shall protect during excavation, moisture conditioning of native soil and placement of imported fill.
- F. Finish Grading: Place native top soil removed from excavation uniformly graded to a smooth surface adjacent to building or concrete hardscape and slope to existing site concrete or native soil elevation.
- G. Testing Agency: Owner will engage a qualified independent geotechnical engineering testing agency to perform field quality-control testing. All site preparation and fill placement shall be observed and tested.
 - 2. Allow testing agency to inspect and test subgrades and each fill or backfill layer. Proceed with subsequent earthwork only after test results for previously completed work comply with requirements.

3. When testing agency reports that subgrades, fills, or backfills have not achieved degree of compaction specified, scarify and moisten or aerate, or remove and replace soil to depth required; recompact and retest until specified compaction is obtained.
 4. The cost of retesting deficient materials shall be deducted from progress payments to the contractor.
- H. Disposal: Remove surplus satisfactory soil and waste material, including unsatisfactory soil, trash, and debris, and legally dispose of it off Owner's property.
- I. Unknown Obstacles: Any underground utility service, unnatural condition or obstacle encountered during excavation in unknown to the Owner. Construction shall stop immediately in the vicinity of the encounter until identification is positive and authorization to proceed again is granted by the Owner.

END OF SECTION 31 23 00

SECTION 31 23 33 – TRENCHING AND BACKFILLING

PART 1 - GENERAL

1.01 SUMMARY

- A. Provisions of General Conditions, Supplementary Conditions, and Division One apply to this section.
- B. Scope of Work: The work under this section includes furnishing all labor, materials, and equipment and performing all operations in connection with Trenching and Backfilling, as indicated on the drawings, specified herein, or reasonably required to complete the work. The work includes but is not limited to the following:
 - 1. Excavation, backfill and compaction for utilities.
- C. Related Section:
 - 1. Section 33 11 16: Site Water Distribution Piping.
 - 2. Section 33 31 00: Sanitary Sewerage Piping.

1.02 GENERAL PROVISIONS

- A. Contractor is responsible for the accuracy of all layout work and grades. Erect sheeting, shoring and bracing as necessary for protection of persons, improvements, and excavations. Keep excavation free from water and other fluids until backfilling is completed.

PART 2 - PRODUCTS

2.01 MATERIALS

- A. Backfill material shall be non-expansive granular soils that meet the USCS classifications of SM, SP-SM, or SW-SM, with a maximum rock size of 3 inches, and 5 to 20% passing the No. 200 sieve and a minimum sand equivalent of 20.
- B. Select bedding sand shall be Class A screened fill sand with a maximum particle size of 1-1/2 inches, not to exceed 18 percent, free of expansive materials, debris, and organic matter.

PART 3 - EXECUTION

3.01 TRENCHING

- A. Layout: Lay out route of each underground utility prior to trenching. Review drawings and coordinate with adjacent underground work to avoid conflicts.
- B. Clearances: Maintain required horizontal and vertical depth clearances from structural footings or utility trenches running parallel to footings. Maintain area of footing bearing prism and in event that the utility cannot be relocated or its depth changed, proceed as directed by Architect. Where required, lowering of structural footings to maintain proper clearances for underground utilities trenching shall be accomplished as directed.

- C. Excavate trenches for utilities to required lines, grades and elevations indicated on drawings and as specified. Hand trim changes in direction and bottoms of trenches. Provide shoring in trenches over 5 feet in depth and also in trenches where unstable soil conditions are encountered.
- D. Pipe Trench Dimensions: Following requirements are considered minimal unless drawings indicate otherwise in order to provide adequate pipe clearances and bedding. Provide trenches wider than specified minimum where required to properly install particular type of piping. In event that utility company regulations, code requirements, or pipe manufacturer's recommendations differ from these provisions, most restrictive requirements shall take precedence. Pipe burial depth is from finish grade or pavement surface to top of pipe. Trench width shall be measured at top of pipe.
1. Pipe Burial Depths:

Sewer and Drainage:	24" + pipe O.D. + 3" bed
Gas:	30" + pipe O.D. + 4" bed
Water (Domestic)	
PVC:	30" + pipe O.D. + 4" bed
 2. Trench Width:

Sewer & Drainage:	12" min., 18" max + pipe O.D. for 4" to 18" dia. pipe
Gas:	8" + pipe O.D.
Water (Domestic):	8" + pipe O.D.
- E. Common Trench Requirements:
1. Copper piping or metal gas piping shall not be installed in a common trench with any other dissimilar.
 2. Multiple parallel lines of piping in a common trench shall be separated a minimum of 12 inches, both horizontally and vertically, between individual pipes.
 3. Domestic water piping shall not run parallel in a common trench with sewer or drainage lines.
 4. Electrical power and communications conduit, etc. shall not be run in a common trench with sewer, drainage, water or gas piping.
- F. Additional provisions for Underground Piping within Building Areas: Refer to applicable specification sections of Division 15 and as indicated on drawings.
- G. Requirements for Underground Electrical and Communications Conduit, Ducts, etc.: Refer to applicable specification sections of Division 23 and as indicated on drawings.

3.02 BEDDING AND BACKFILLING OF TRENCHING

- A. Bedding: Lay and bed pipe in compacted select bedding sand of thickness specified above, and backfill with same material to a height of 8" above top of pipe. Place in 8" layers and compact to a minimum relative density of 90 percent. Compact in a manner that will not displace or damage pipe.
1. Excavate under bell portions of the piping for uniform bearing.
 2. Conduits and ducts which are laid in a single layer, parallel and in same horizontal plane and which are not concrete encased, shall have bedding as specified above. Select sand bedding for multi-layered banks of unencased conduit shall be water settled but not flooded to fill voids between conduits with sand.
- B. Backfilling: Trenches above top of bedding, and concrete encased utilities, shall be backfilled with select backfill material at optimum moisture content, placed in 6 to 8 inch layers and compacted to a minimum relative density of 90 percent. Trench backfill in pavement or other areas where

compaction greater than 90 percent is required shall be compacted in accordance with those requirements to specified depth.

- C. Do not backfill until installation has been approved. Promptly install pipe after trenching has been done to keep excavation open as short a time as possible.
- D. Underground utility materials requiring special bedding and backfilling methods shall be installed as recommended in conjunction with these materials or as indicated on drawings.

3.03 PROTECTION OF WORK FROM FLOODING

- A. Construct all temporary ditches and berms and supply and maintain adequate pumps, piping, and other equipment necessary to protect work, existing structures, and equipment, and to other property located on premises or adjacent thereto, from damage by flooding due to rain or subsurface water. Utility lines shall not be laid in trenches which contain water or that are muddy.

3.04 SITE CLEANUP

- A. All excess and unsuitable excavated material shall be removed from site.

3.05 FIELD QUALITY CONTROL

- A. Obtain Soils Engineer's approval for excavation, fill materials, method of placing and compaction. Soils Engineer will perform tests to evaluate compliance with specifications.

END OF SECTION 31 23 33

SECTION 32 13 00 SITEWORK CONCRETE

PART 1 - GENERAL

1.01 SUMMARY

- A. Provisions of General Conditions, Supplementary Conditions, and Division 01 apply to this Section.
- B. Scope of work: The work under this section includes furnishing all labor, materials, and equipment, and performing all operations in connection with Sitework Concrete, as indicated on the Drawings, specified herein, or reasonably required to complete the work. The work includes, but is not limited to the following.
 - 1. Cast-In-Place concrete sidewalks.
 - 2. Concrete curbs, ribbons and fence curbs.
 - 3. Tennis Courts
- C. Related Sections:
 - 1. Section 31 22 19 Finish Grading

1.02 REFERENCES

- A. ASTM A185 – Steel Welded Wire Fabric, Plain, for Concrete Reinforcement.
- B. ASTM A615 – Deformed and Plain Billet-Steel Bars for Concrete Reinforcement.
- C. ASTM C33 – Concrete Aggregates.
- D. ASTM C94 – Ready-mixed Concrete.
- E. ASTM C150 – Portland Cement.
- F. ASTM C171 – Sheet Materials for Curing Concrete.
- G. ASTM C979 – Pigments for Integrally Colored Concrete.
- H. ASTM D1751 – Preformed Expansion Joint Fillers for Concrete, Paving and Structural Construction.
- I. ASTM C309 – Liquid Membrane-Forming Compounds for Curing Concrete.
- J. Chapter 19A, California Building Code.

1.03 ACCESSIBILITY REQUIREMENTS

- A. Concrete paving shall be stable, firm, and slip resistant and shall comply iwht CBC Section 11B-302 and 11B-403.

1.04 SUBMITTALS

- A. Submit under provisions of Section 01 33 00, Submittal Procedures.
- B. Layout Drawings: Provide layout drawing showing location of each type of pavement and construction, and dimensioned locations of expansion and control joints. Do not deviate from location of expansion joints and control joints shown on the drawings.
- C. Design Mixtures: Provide design mix for each concrete mixture. Design mix shall include data substantiating the reliability of the proposed mix. Submit alternate design mixtures when characteristics of materials, project conditions, weather, test results, or other circumstances warrant adjustments.
 - 1. Each design mixture shall be stamped and signed by a registered professional engineer licensed in the state of California.

2. Indicate amounts of mixing water to be withheld for later addition at project site.

D. Product Data

1. Expansion material
2. Curing materials

E. Site Samples

1. Prepare samples indicating slab construction and finish, at the site, cast in the directed locations and orientations. Prepare a minimum 8 foot square sample of each texture and finish required for the project. Include a transverse expansion joint, control joints and edging. Where paving adjoins other material such as pavers, include one edge of sample constructed of the other materials.
2. Approved samples may be part of permanent construction if the sample meets all project requirements and is approved.

1.05 QUALITY ASSURANCE

- A. Sitework Concrete work subject to the provisions of Section 01 45 24, Testing and Inspection Requirements, at the option of the Architect.
- B. Maintain one copy of all records on site.
- C. Acquire cement and aggregate from same source for all work.
- D. Conform to Section 1904A.1of CBC and 5.13 of AC1 318-11 when concreting during hot weather.
- E. Conform to Section 1904A.1of CBC and 5.12 of AC1 318-11 when concreting during cold weather. No pouring permitted below 40 degrees Fahrenheit.

1.06 PROJECT RECORD DOCUMENTS

- A. Accurately record actual locations of embedded sleeves, utilities and components which are concealed from view.

PART 2 - PRODUCTS

2.01 CONCRETE MATERIALS

- A. Cement: ASTM C150 – Type V Portlant Type, one manufacturing plant only.
- B. Aggregates: ASTM C33, single source for all materials.
- C. Water: Clean, fresh and potable

2.02 ACCESSORIES

- A. Expansion joints:
 1. Expansion Joint Filler – ASTM D1751: Close cell bituminous saturated fiberboard, ½ inch thick; FIBER EXPANSION JOINT manufactured by The Burke Co., Montebello, CA, or approved equal.
 2. Joint Devices: Integral extruded polystyrene plastic; ½ inch thick, with removable top strip exposing sealant trough; JOINT CAPS, manufactured by The Burke Company, or equal.

3. Sealant: Polyurethane two-component type, self leveling, for level surface application, UREXPAN NR-200, manufactured by the Pecora Corp., Harleysville PA, or equal. Color shall be selected by the Architect from manufacturer's standard list of colors.
4. Sealant Primer: As recommended by Sealant Manufacturer.

2.03 CONCRETE MIX

- A. Mix and deliver concrete in accordance with Section 1905A, California Building Code.
 1. Deliver concrete in transit mixers only. Mix concrete for 10 minutes minimum at a peripheral drum speed of approximately 200 feet per minute. Mix at jobsite minimum 3 minutes. Discharge loads in less than 1-1/2 hours or under 300 revolutions of the drum, whichever comes first, after water is first added.
 2. Design Mix: Conform to 1904A.2 California Building Code.
 3. A registered civil engineer with experience in concrete mix design shall select the relative amounts of ingredients to be used as basic proportions of the concrete mixes proposed for use under this provision.
 4. Selection of Concrete Proportions: Concrete proportions shall be determined in accordance with the provisions of ACI 318, Section 5.2.
 5. Quantities of Materials: Provide Weighmaster's Certificate for each load of concrete.
 6. Do not exceed 0.45 water-cement ratio, by weight.
 7. Concrete shall be mixed by transit mixers only.
- B. Required Strength: Minimum 4,500 psi for sitework concrete.

2.04 REINFORCEMENT

- A. Reinforcing Steel: ASTM A615; 40 ksi yield grade; deformed billet steel bars, uncoated finish.
- B. Welded Steel Wire Fabric: Plain type, ASTM A185; in flat sheets; uncoated finish, 6 x 6 inch, No. 6 gage.
- C. Tie Wire: Annealed steel, minimum 16 gage size.
- D. Dowels: ASTM A615; 40 ksi yield grade, deformed steel, uncoated finish.
- E. Fiber Reinforced Concrete
 1. FIBERMESH 150: ASTM C 1116/C 1116M, Type III Fiber Reinforced Concrete. Manufactured by PROPOX CONCRETE SYSTEMS. 100% virgin homopolymer polypropylene multifilament fibers containing no reprocessed olefin materials. Provide 1.0 – 1.5 lbs. per cubic yard.
 - a. Location: provide fibermesh at all sidewalks, ramps and tennis courts.

2.05 CURING MATERIALS

- A. Polyethylene Film ASTM C171; 8 mil thick, clear, manufactured from virgin resin with no scrap or additives. POLYETHYLENE, No. 227, manufactured by The Burke Co., Montebello, CA, or equal.
- B. Water: Potable and not detrimental to concrete.
- C. Curing Compound: ASTM C309; wax resin base, WHITE PIGMENTED CURING COMPOUND, by The Burke Co., Montebello, CA, or equal.

PART 3 - EXECUTION

3.01 EXAMINATION

- A. Verify site concerns.
- B. Verify requirements for concrete cover over reinforcement.
- C. Verify that anchors, seats, plates, reinforcement and other items to be cast into concrete are accurately placed, positioned securely and will not cause hardship in placing concrete.

3.02 PREPARATION

- A. Prepare previously placed concrete by cleaning with steel brush and applying bonding agent in accordance with manufacturer's instructions.
- B. In locations where new concrete is doweled to existing work, drill holes in existing concrete, insert steel dowels and pack solid with non-shrink grout. Clean substrate of dust, debris, moisture, and other substances detrimental to roofing installation according to roofing system manufacturer's written instructions. Remove sharp projections.

3.03 PLACING CONCRETE (GENERAL)

- A. Convey and deposit concrete in accordance with Section 1905A, California Building Code. Remove loose dirt from excavations.
- B. Notify Job Inspector minimum 24 hours prior to commencement of operations.
- C. Ensure reinforcement, inserts, embedded parts, formed joint fillers, joint devices and accessories are not disturbed during concrete placement.
- D. Ensure sub-base or base materials have been compacted or otherwise treated.
- E. Install joint fillers, primer and sealant in accordance with manufacturer's instructions.
- F. Place concrete continuously between predetermined expansion joints.
- G. Do not interrupt successive placement; do not permit cold joints to occur. Avoid segregation of materials. Perform tamping and vibrating so as to produce a dense, smooth application free of rock pockets and voids. Do not use vibrators to move concrete horizontally.
- H. Do not allow concrete to fall free from any height which will cause materials to segregate. Maximum height of free fall permitted in any case: 5 feet.
- I. Defective Installation: Repair and clean at Contractor's expense all concrete damaged or discolored during construction. Where concrete requires repair before acceptance, the repair shall be made by removing and replacing entire section between joints and not by refinishing the damaged portion.
- J. Proper curing of concrete surfaces is the responsibility of the Contractor. Concrete failing to meet specified strength shall be removed and replaced.

3.04 ON-SITE CONCRETE SIDEWALKS AND RAMPS

- A. Forms, Wood: Free from warp, with smooth and straight upper edges, surfaced one side, minimum thickness 1-1/2 inches adequate to resist springing or deflection from placing concrete.
- B. Forms, Metal: Gage sufficient to provide equivalent rigidity and strength.
- C. Reinforcement: Unless indicated otherwise on the drawings, provide welded steel wire fabric, 6 inches by 6 inches, No. 6 gage at mid-height of sidewalks and ramps. Interrupt reinforcement at expansion joints.
- D. Concrete Placement: Dampen subgrade to retain moisture in concrete mix. Tamp and spade to consolidate concrete for entire length of pour. Strike off upper surface to specified grades.
- E. Expansion Joint: Locate joint filler as shown on drawings or at maximum 60 feet centers and where slabs join vertical surfaces. Install vertically, full depth of concrete leaving plastic cap at 1/2 inch depth at top for sealant application.
 - 1. Provide 1/2 inch diameter greased steel dowels, 12 inches long at expansion joints with one end of dowel lubricated to allow for longitudinal movement. Spacing: 16 inches on center maximum, 6 inches from edges.
 - 2. Remove plastic caps. Prime both sides of joint and apply self-leveling sealant. Provide smooth concave surface.
- F. Control Joints – Saw Cut: After floating and finishing, saw cut concrete to a depth of: depth of concrete/4. Curved or non-aligned joints not acceptable. Sealant application not required. Space joints 12 ft maximum oc both ways or as patterned on the drawings.
- G. Finish:
 - 1. Screed concrete to required grade, float to a smooth, flat, uniform surface. Edge all headers to 1/4 inch radius. Edge expansion joints to 1/4 inch radius. Steel trowel to hard surface.
 - 2. Grades less than 6 percent: After final troweling, apply a medium hard broom finish transverse to centerline or direction of traffic.
 - 3. Grades 6 percent or more: Apply slip resistant heavy broom finish and remark as necessary after final finish to assure neat uniform edges, joints and score lines.
 - 4. Walkway grades in excess of five percent shall conform to Section 1133B.7, California Building Code.
- H. Curing: Cure surfaces utilizing one of the following methods:
 - 1. Spraying: Spray water over slab areas and maintain wet for 7 days.
 - 2. Spread polyethylene film over slab areas, lapping edges and sides, minimum 6 inches and sealing with pressure sensitive tape; cover with plywood or otherwise protect film from damage; maintain in place for 7 days.
 - 3. Apply liquid curing compound at rate of 200 sf per gallon, using power sprayer equipped with agitator. Do not apply liquid curing compound to surfaces scheduled to receive paving units of any kind.

3.05 RAISED PLANTER, BENCHES AND SIMILAR SITE STRUCTURES

- A. Forms: Suitable material and type, size, shape, quality and strength to insure construction as designed, true to line and sufficiently rigid to resist deflection during placing of concrete. Clean forms of all dirt, mortar and foreign matter before use.

- B. Reinforcement: Refer to drawings for size and spacing. Place accurately and hold in position, using metal chairs, spacers, metal hangers, supporting wires and other devices of sufficient strength to resist crushing under full load. Clean reinforcing steel of mortar, oil, dirt, loose or thick rust and coatings.
- C. Coordinate installation of conduits or other inserts.
- D. Finish: Provide a smooth, straight, plumb and acceptable finish without burrs or form marks. Cement sacking is not acceptable.
- E. Curing: Cure surfaces utilizing one of the following methods:
 - 1. Spraying: Spray water over slab areas and maintain wet for 7 days.
 - 2. Spread polyethylene film over slab areas, lapping edges and sides, minimum 6 inches and sealing with pressure sensitive tape; cover with plywood or otherwise protect film from damage; maintain in place for 7 days.
 - 3. Apply liquid curing compound at rate of 200 sf per gallon, using power sprayer equipped with agitator. Do not apply liquid curing compound to surfaces scheduled to receive paving units or finish of any kind.

3.06 CURB AND GUTTER

- F. Subgrade Preparation: Subgrade material, base material and compaction requirements as approved by the Geotechnical Engineer.
- G. Forms: Single face type required, cut to conform exactly with face batter and radius, sufficiently rigid to resist springing or deflection from concrete placement. Clean forms of all loose dirt, mortar or similar materials and apply a light coating of oil or other suitable material prior to concrete placement.
 - 1. Slip Forms: contractor's option upon approval of the Architect.
- H. Reinforcement: Refer to drawings for size and spacing. Interrupt reinforcement at expansion joints.
- I. Concrete Placement: Dampen subgrade to retain moisture in concrete mix. Tamp and spade to consolidate concrete to entire length of pour. Strike off upper surface to specified grades. Cut drain pipes to conform to curb batter.
- J. Expansion Joints: Locate joint filler as shown on drawings, or at maximum 20 foot centers. Trim off excess filler material flush to finish surface. No sealant application required.
- K. Finish: Trowel to a smooth and even finish with a fine hair broom applied parallel with the line of the work. Round all edges to ½ inch radius. No Contractor identification permitted.
- L. Curing: Cure surfaces utilizing one of the following methods:
 - 1. Spraying: Spray water over curb and gutter and maintain wet for 7 days.
 - 2. Spread polyethylene film over areas, lapping edges and sides, minimum 6 inches and sealing with pressure sensitive tape; cover with plywood or otherwise protect film from damage; maintain in place for 7 days.
 - 3. Apply liquid curing compound at rate of 200 sf per gallon, using power sprayer equipped with agitator.

END OF SECTION 32 13 00

SECTION 32 18 23 – TENNIS COURT SURFACING

PART 1 - GENERAL

1.01 SUMMARY

- A. Scope: This guide specification covers the construction and installation of the LAYKOLD ColorCoat system. The work to be performed under this specification includes all labor, equipment, materials and supplies necessary for the installation of the courts included in this contract. Advanced Polymer Technology Corporation of Harmony, Pennsylvania, U.S.A. provides technical data and guideline specifications only. Consult with a professional engineer or architect for a formal specification. The LAYKOLD ColorCoat system is for the protection, beautification and surface pace of many recreational surfaces, including tennis courts, basketball courts, playgrounds, handball courts, paddle tennis courts, etc. LAYKOLD products should only be applied to properly prepared concrete or asphalt substrates. The LAYKOLD ColorCoat system is comprised of LAYKOLD Acrylic Deep Patch, LAYKOLD Acrylic Resurfacer, LAYKOLD ColorCoat Concentrate, LAYKOLD Line Prime and LAYKOLD Textured White Line Paint. When applying the LAYKOLD ColorCoat system to a concrete substrate LAYKOLD Epoxy Concrete Primer, or if approved, LAYKOLD Acrylic Concrete Primer, is required.
- B. Court Construction: refer to the American Sports Builders Association (ASBA) manual Tennis Courts: A Construction Manual for court construction details. This publication may be obtained by calling the ASBA at 866-501-2722 or visiting www.sportsbuilders.org.
- C. Provide LAYKOLD system to new ac paved courts.

1.02 QUALITY ASSURANCE

- A. Tennis court surfacing materials shall be LAYKOLD as manufactured by Advanced Polymer Technology (APT) of Harmony, PA, an ISO 9001:2000 certified manufacturer. APT may be contacted via telephone 888-266-4221, fax 724-452-1703, or web sites www.laykold.com and www.advpolytech.com.
- B. All work shall be done in accordance with American Sports Builders Association (ASBA) guidelines.

1.03 SUBMITTALS

- A. Submit one set of Advanced Polymer Technology’s “LAYKOLD ColorCoat Specifications”.
- B. Submit system components Technical Data Sheets (TDS) and one LAYKOLD Color Chart.

1.04 WORKING CONDITIONS AND LIMITATIONS

- A. Asphalt and concrete substrates shall be allowed to cure a minimum of 30 days before any coatings are applied.
- B. The substrate shall be CLEAN and DRY before coatings are applied. The surface of the substrate shall be inspected and made sure to be free of grease=, oil, dust, dirt and other foreign matter before any coatings are applied.
- C. Water used in all mixtures shall be fresh and potable.
- D. No part of the surfacing system shall be applied during a rainfall, or when rainfall is imminent, and unless the air temperature is at least 50°F (10°C) and rising.

- E. No coatings are to be applied if surface temperatures exceed 130°F (54°C).
- F. All materials shall be delivered to the job site in sealed containers with the manufacturer's label affixed.
- G. Color(s) of acrylic color coating system is to be selected by owner from manufacturer's product color card.
- H. If all the above conditions are met, surfacing materials shall have a one-year limited warranty as supplied by the manufacturer.

1.05 WARRANTY

- A. Advanced Polymer Technology Corp. (APT) warrants, subject to limitations, exclusions, terms and conditions contained herein, that the material supplied by APT, and which is covered by this Warranty, will not fail due to defects for one (1) year. APT's maximum responsibility under this Limited Warranty shall be limited to the replacement of material in a quantity not in excess of the quantity of material furnished by APT in connection with the project. No salesman or other employee or agent of APT is authorized to bind APT by any agreement, warranty, promise, or understanding not herein expressed.

This Limited Warranty is made and given in lieu of all other warranties and conditions, expressed or implied, statutory or otherwise, including but not limited to any warranties or conditions of merchantability, durability and of fitness for a particular purpose. Under no circumstances shall APT be liable or otherwise obligated for indirect, incidental or consequential damages of any nature or kind whatsoever, including damages arising in contract, tort, product liability or otherwise.

PART 2 – PRODUCTS

2.01 LAYKOLD COLORCOAT MATERIALS

- A. All components of LAYKOLD ColorCoat system shall be supplied by Advanced Polymer Technology, an ISO 9001:2000 certified manufacturer. ColorCoat system components shall not contain ANY lead, mercury, nor any heavy metals, PCB, or formaldehyde.
- B. LAYKOLD Epoxy Concrete Primer (concrete courts only) shall be a two-component, 100% solids, solvent-free epoxy primer. LAYKOLD Acrylic Concrete Primer may be substituted if approved by owner and/or design professional.
- C. LAYKOLD Acrylic Resurfacer. Acrylic-based emulsion used for smoothing rough pavements. LAYKOLD NuSurf may be used as a substitute.
- D. LAYKOLD ColorCoat Concentrate textured batch mixture. Pigmented wear-resistant acrylic emulsion. 2-coats required. Advantage LAYKOLD factory textured color or LAYKOLD Colorflex textured batch mixture are acceptable substitutes.
- E. LAYKOLD ColorCoat Concentrate finish batch mixture. Pigmented wear-resistant acrylic emulsion. 1-coat required. LAYKOLD Colorflex finish batch mixture is an acceptable substitute.
- F. LAYKOLD Line Prime. Clear drying acrylic emulsion line primer. 1-coat required.

- G. LAYKOLD Textured White Line Paint. Factory textured, wear resistant acrylic emulsion line marking paint. 1-2 coats as required.

PART 3 – EXECUTION

3.01 INSPECTION

- A. Inspect concrete substrate for dryness. Report any discrepancies to general contractor.
- B. Surface of substrate shall be cleaned by general contractor as required.
- C. Surfacing contractor to approve site and surface conditions prior to proceeding with application of any coatings.

3.02 INSTALLATION

- A. Primer (when surfacing concrete substrates only): LAYKOLD Epoxy Concrete Primer is mixed by pouring the “B” component into the “A” component and mixing using a low speed jiffy mixer (400 to 600 rpm) for 2 minutes. Scrape down the sides of the bucket and mix for an additional minute. Do not incorporate air when mixing. Spread the mixed primer on the substrate using a high-quality, medium nap roller to achieve a total coverage of approximately 0.025 gal/yd² (0.12 kg/m² - 360 ft²/gal). The working time for the Epoxy Primer is approximately 35 minutes and is reduced in high temperatures. Lightly broadcast 40 to 60 mesh silica sand into the wet primer at the rate of 5 pounds per 100 sq. ft. (0.24 kg/m²) to create a rough texture. Allow 5 to 6 hours drying time before proceeding.
- B. Once the surface has been thoroughly cleaned and is free of all loose material, dirt, or dust, the court should be flooded and allowed to drain a minimum of 30 minutes and a maximum of 1 hour. Any area that holds water (birdbaths) in a depth greater than 1/16 inch (1.6 mm or the thickness of a nickel) shall be outlined and patched.
- a. Surface Leveling: Birdbaths shall be leveled using a LAYKOLD Acrylic Deep Patch court patch binder slurry. Prime area with a 50/50 mixture of LAYKOLD Acrylic Deep Patch and water. Primer shall be brushed into place and allowed to dry prior to patching. Patch mix shall consist of LAYKOLD Acrylic Deep Patch, 50-mesh sand and Portland Cement. Mix as per manufacturer directions.
- b. Crack Filling: Cracks shall be cleaned, primed, and filled using LAYKOLD Acrylic Resurfacer if cracks are 1/16 inch or less. If greater than 1/16 inch, LAYKOLD Acrylic Deep Patch court patch binder slurry should be used to fill cracks.
- c. All areas that are repaired/leveled/corrected using a court patch binder mixture shall be allowed to fully cure and then ground smooth and level with the substrate by stone or an acceptable mechanical method.
- C. Acrylic Resurfacer: Apply one coat of LAYKOLD Acrylic Resurfacer using a 24”, 30” or 36” wide 70 Durometer flexible rubber squeegee. Batch mix shall consist of 55 gallons (260 kg) of LAYKOLD Acrylic Resurfacer, 30 to 40 gallons (115-130 kg) of potable water, and 600 to 900 pounds (270-400 kg) of clean, bagged silica sand (60 to 80 mesh). The application rate shall be 0.05-0.07 gal/yd² (0.29-0.40 kg/m² - 129-180 ft²/gal) of undiluted LAYKOLD Acrylic Resurfacer per coat. NOTE: If the asphalt is very porous, an optional 2nd application of LAYKOLD Acrylic Resurfacer may be applied. Each coat should be completely dry before applying subsequent coats.
- D. Textured ColorCoats: Apply two coats of LAYKOLD ColorCoat Concentrate textured batch mixture using a 24”, 30” or 36” 50 Durometer flexible rubber squeegee. Batch mix shall consist of 55 gallons (260 kg) of ColorCoat Concentrate, 25 to 35 gallons (95-115 kg) of potable water and 300 to 450

- pounds (135-203 kg) of clean, bagged silica sand (70 to 100 mesh). The application rate shall be 0.04-0.05 gal/yd² (0.23-0.29 kg/m² - 180-225 ft²/gal) of undiluted ColorCoat Concentrate per coat. Each coat should be completely dry before applying subsequent coats.
- E. Finish ColorCoat: Apply one coat of LAYKOLD ColorCoat Concentrate finish batch mixture using a 24", 30" or 36" 50 Durometer flexible rubber squeegee. Batch mix shall consist of 55 gallons (260 kg) of ColorCoat Concentrate and 55 gallons (260 kg) of potable water. The application rate shall be 0.03-0.04 gal/yd² (0.17-0.23 kg/m² - 225-300 ft²/gal) of undiluted ColorCoat Concentrate per coat. Each coat should be completely dry before applying subsequent coats. Allow topcoat to cure a minimum of 24 hours before applying game lines.
- F. Game Lines: Apply 1 to 2 coats as needed of LAYKOLD Textured White Line Paint with a brush or roller.
- a. Wait a minimum of 24 hours after Finish ColorCoat before applying line paint.
 - b. All lines are to be applied by painting between masking tape with a paintbrush or roller according to U.S.T.A. and A.S.B.A. specifications.
 - c. Prime masked lines with LAYKOLD Line Prime and allow a minimum drying time of 1 hour.
 - d. Remove masking tape immediately after lines are dry.
- G. Remove all excess and waste materials from the area of work. Dispose of empty containers in accordance with federal and local statutes.

3.04 PROTECTION

- A. Cure Time: No traffic or other trades shall be allowed on the surface for a period of one week following completion to allow for complete and proper cure of the finish.
- B. Other Trades. It is the responsibility of the general contractor to protect the surface from damage by other trades before acceptance by the owner or the owner's authorized agent.

SECTION 32 31 13 - CHAIN LINK FENCES AND GATES

1.1 GENERAL

- A. Scope of Work : The work under this section includes all labor, materials and equipment and performing all operations in connection with site fencing as indicated on Drawings. Work shall include, but not limited to:
1. 10' high fencing at tennis courts
 2. Gates and fencing as shown on drawings
- B. Submit the following according to the Conditions of the Contract and Division 1 Specifications:
1. Product data including manufacturer's technical data, specifications, and installation instructions.
 2. Shop drawings showing locations, dimensions, and wiring diagrams.
- C. Accessibility Requirements: Gates in path of travel must comply with exit door requirements as per Section 1133B.1.1.1.4, California Building Code and ADAAG 4.13.3. Hardware on gates in path of travel shall not require pinching, grasping, or twisting motion to operate. Provide solid kick pates 10" minimum high 3" maximum from the paving on both sides of the gate.

1.2 PRODUCTS

A. Tennis Court Fencing:

1. Terminal Post: 6.0" dia. x .160", 6.56 lb./ft.
2. Corner Post: 6.0" dia. x .160", 6.56 lb./ft.
3. Line Post: 4.0" dia. x .160", 4.46 lb./ft.
4. Top Rail: 1.66" dia. x .110", 1.82 lb./ft.
5. Mid Rail: 1.66" dia. x .110", 1.82 lb./ft.
6. Bottom Rail: 1.66" dia. x .110", 1.82 lb./ft.
7. Fabric: 2" x 9 Ga. KK, 1.2 oz. of zinc / sq. ft.
8. Single Walk Gate: Same as terminal post
9. Double Walk Gate: Same as terminal post

B. Fencing and Gates:

1. Terminal Post: 4.0" dia. x .160", 6.56 lb./ft.
2. Corner Post: 2.875" dia. x .160", 4.64 lb./ft.
3. Line Post: 2.875" dia. x .160", 4.46 lb./ft.
4. Top Rail: 1.66" dia. x .110", 1.82 lb./ft.
5. Mid Rail: 1.66" dia. x .110", 1.82 lb./ft.
6. Bottom Rail: 1.66" dia. x .110", 1.82 lb./ft.
7. Fabric: 2" x 9 Ga. KK, 1.2 oz. of zinc / sq. ft.
8. Single Walk Gate: Same as terminal post
9. Double Walk Gate: Same as terminal post

- B. All line post, corner post, terminal post and horizontal railing shall be TUF-40 galvanized inside and out.

- D. Fittings and Accessories: Comply with ASTM F 626.

1. Post and Line Caps: Provide weathertight cap for each post. Provide line post caps with loop to receive top rail.

E. Concrete: Portland cement, 1-inch maximum size aggregate, and potable water producing concrete with a 3-inch slump and a 28-day compressive strength of at least 3000 psi.

1.3 EXECUTION

A. Installation: Install fence to comply with ASTM F 567. Do not begin installation and erection before final grading is completed, unless otherwise permitted.

B. Excavation: Drill post holes to diameters and spacings indicated.

C. Setting Posts: Center and align posts in holes 3 inches above bottom of excavation. Space posts not more than 10 feet o.c. Align posts vertically and align tops. Extend concrete footings 2 inches above grade and trowel to a crown to shed water.

D. Top Rails: Run rail continuously through line post caps with expansion couplings as recommended by fencing manufacturer.

E. Brace Assemblies: Install braces at end and gate posts and at both sides of corner and pull posts so posts are plumb when diagonal rod is under proper tension.

F. Bottom Tension Wire: Install within 6 inches of bottom of fabric and tie to each post. Fasten to fabric with 0.120-inch-diameter (11-gage) hog rings spaced not more than 24 inches o.c.

G. Fabric: Install fabric on security side of fence with approximately 2 inches between finish grade and bottom selvage or 1 inch between concrete and bottom selvage. Anchor to framework so that fabric remains under tension after pulling force is released.

H. Tie Wires: Use to secure fabric to posts and rails. Tie fabric to line posts 12 inches o.c. and to rails and braces not more than 24 inches o.c.

I. Gates: Install gates according to manufacturer's instructions, plumb, level, and secure for full opening without interference.

END OF SECTION 32 31 13