October 17, 2025

IMPERIAL COMMUNITY COLLEGE DISTRICT
IMPERIAL VALLEY COLLEGE
WATER AND WASTEWATER PLANT IMPROVEMENTS

ADDENDUM #01

THE FOLLOWING ITEMS ARE LISTED AS CORRECTIONS OR CLARIFICATIONS TO THE CONSTRUCTION DOCUMENTS.

GENERAL ITEMS

1. CONTRACTOR LICENSE
    a. The legal Advertisement described only an A License in error. The project may be accomplished by both an A and B License

PROJECT MANUAL

1. BID SET
    a. Project Manual previously issued shall be replaced by Project Manual dated 2025/10/17

DRAWINGS

1. BID SET
    a. Drawings previously issued shall be replaced by Drawing dated 2025/10/17
    b. Imperial Valley College TTHM 60% Submittal shall be replaced by 90% Submittal

END OF ADDENDUM #01

Edgar A. Barajas

Attachments:	Specifications	00 11 16	Notice Inviting Bids
		00 21 13	Imported Materials Certification
		00 41 43	Bid Forms
		00 52 13	Contract
		00 52 14	Workers Compensation Certification

	00 52 15	Prevailing Wage & Related Labor Requirements Certification
	00 52 16	Drug-Free Workplace Certification
	00 52 17	Tobacco-Free Environment Certification
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	01 35 23	Contractor Safety
	01 45 24	Testing and Inspection Requirements
	01 50 00	Construction Facilities
	01 74 00	Progress and Final Cleaning
	01 77 19	Contract Closeout Procedures
	01 78 39	Project Record Documents
	01 81 00	Sustainable Design
	01 81 00.01	Constructive IAQ Management Plan - Attachment
	02 41 31	Selective Site Demo
	03 31 13	Structural Concrete
	03 31 16	Lightweight Structural Concrete
	26 05 00	Common Work Results for Electrical
	26 05 13	Power Conductors
	26 05 26	Grounding
	26 05 43	Underground Pull Box
	26 20 00	Electrical Distribution
	31 23 33	Trenching and Backfilling
	32 12 16	Asphalt Paving
	32 13 00	Sitework Concrete

Drawings	T, AS1, AS3, AS5, ASX2, ASX5
(full sheet)	P001, P002, P100, P201, P202, 301, P302, P401, P501
	G0.0, G1.0, G2.0, G3.0, G4.0,
	M1.0, M2.0, M3.0, M4.0, M4.1, M4.2, M4.3, M4.4, M5.0

IMPERIAL COMMUNITY COLLEGE DISTRICT

SPECIFICATIONS

FOR

IMPERIAL VALLEY COLLEGE
WATER AND WASTEWATER PLANT IMPROVEMENTS

Prepared By:

Sanders, Inc. Architecture/Engineering

October 17, 2025

IMPERIAL COMMUNITY COLLEGE DISTRICT

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DIVISION 31 - EARTHWORK

31 23 33 Trenching and Backfilling

DIVISION 32 - EXTERIOR IMPROVEMENTS

32 12 16 Asphalt Paving
32 13 00 Sitework Concrete

IMPERIAL COMMUNITY COLLEGE DISTRICT

00 11 16 – NOTICE INVITING BIDS

1.1 Submittal of Bids.

A. Imperial Community College District ("District") will receive bids for the Water and Wastewater Plant Imprvements project no later than 2:00 P.M. on November 4, 2025, at which time or thereafter bids will be opened and read aloud. Late bids will not be accepted. 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 Imperial, CA 92251 on the following date and time: Tuesday, October 21, 2025 at 9:00 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 copy of the Contract Documents at https://www.imperial.edu/faculty-and-staff/administrative-services/request-for-proposals.html. 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/faculty-and-staff/administrative-services/request-for-proposals.html. It is the responsibility of each prospective bidder to check the District 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.

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 license classification: Class A – General Engineering Contractor.

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: _____, 20_____ By: _____

_____
Director of Engineering

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, Attn: Christopher De La Rosa. 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 on the District website. 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 thirty percent (30%) 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 in writing and shall be submitted to chris.delarosa@imperial.edu.

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 at once, in writing, notify District of such finding, by submission of a written request for an interpretation or correction to District. Any such submission must be sent to chris.delarosa@imperial.edu. 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 to the District website.

D. Any interpretation of the Bid or Contract Documents will be made only by written addenda from District duly issued and posted to https://www.imperial.edu/faculty-and-staff/administrative-services/request-for-proposals.html. 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/faculty-and-staff/administrative-services/request-for-proposals.html. 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 Douments.

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 in hard copy directly to District as follows:

By Mail:	By Courier or walk in:
Imperial Community College District	Imperial Community College District
Attn: Christopher De La Rosa	Attn: Christopher De La Rosa
380 E. Aten Road	380 E. Aten Road
Imperial, CA 92251	Imperial, CA 92251

The Bid Security must be received prior to the specified date and time for bid opening.

If Bidder elects to provide the required Bid Security in the form of a Bid Bond, the original hard copy Bid Bond must be submitted to District at the address indicated above prior to the specified date and time for bid opening.

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 Iran Contracting Act 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 to chris.delarosa@imperial.edu no later than 5:00 p.m. on Friday, October 24, 2025.

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: _____

BIDDER: _____

A. In response to the Notice Inviting Bids dated _____ 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 thirty percent (30%) 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
IRAN CONTRACTING ACT 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 is hereby representing that it will be properly licensed at the time the Contract is awarded, if the Contract is awarded to the undersigned.

1. Individual Contractor. Undersigned certifies that it will be licensed in accordance with the provisions of the Contractor's License Law of the State of California at the time the Contract is awarded. [Provide this information only if contractor is licensed when bid is submitted.]

   License number _____

   Expiration date _____

   License classification _____

2. Joint Venture. Undersigned certifies that the individual members of the joint venture will be licensed in accordance with the provisions of the Contractor's License Law of the State of California at the time the Contract is awarded. [Provide this information only if the contractor is licensed when bid is submitted.]

   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.)

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

BIDDER:

_____
(Company Name)

By _____
(Signature)

_____
(Type or print name)

_____
(Title)

_____
(Where signed) (City, State)

Bidder's Business Address:

_____
_____
_____
_____

(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, material, l, 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 fourth 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, employess 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 Schedule of Pay Items 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 inckudes an Allowance Amount in the aggregate amount of _____ ($) 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 witten 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, Attachement 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: _____

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

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 AND CSLB License Number**	**Location of Business**	**DIR Registration Number**

Portion of Work	Subcontractor Name AND 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 Iran Contracting Act Certification.
(Public Contract Code Section 2200 et seq.)

As required by California Public Contract Code Section 2204, the Contractor certifies subject to penalty for perjury that the option checked below relating to the Contractor's status in regard to the Iran Contracting Act of 2010 (Public Contract Code Section 2200 et seq.) is true and correct:

A. The Contractor is not:

1. identified on the current list of persons and entities engaging in investment activities in Iran prepared by the California Department of General Services in accordance with subdivision (b) of Public Contract Code Section 2203; or

2. a financial institution that extends, for 45 days or more, credit in the amount of $20,000,000 or more to any other person or entity identified on the current list of persons and entities engaging in investment activities in Iran prepared by the California Department of General Services in accordance with subdivision (b) of Public Contract Code Section 2203, if that person or entity uses or will use the credit to provide goods or services in the energy sector in Iran.

B. Agency has exempted the Contractor from the requirements of the Iran Contracting Act of 2010 after making a public finding that, absent the exemption, Agency will be unable to obtain the goods and/or services to be provided pursuant to the Contract.

C. The amount of the Contract payable to the Contractor for the Project does not exceed $1,000,000.

Signed_____

Titled_____

Firm_____

Date_____

Note: In accordance with Public Contract Code Section 2205, false certification of this form shall be reported to the California Attorney General and may result in civil penalties equal to the greater of $250,000 or twice the Contract amount, termination of the Contract and/or ineligibility to bid on contracts for three years.

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:

WATER AND WASTEWATER PLANT IMPROVEMENTS

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-one 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
Workers Compensation Certification
Prevailing Wage and Related Labor Requirements Certification
Drug-Free Workplace Certification
Tobacco-Free Environment Certification
DVBE Participation Certification
Hazardous Materials and Requirements
Hazardous Materials Certification
Lead-Based Materials Certification
Imported Materials Certification
General Conditions
Special Provisions (or Special Conditions)
Technical Specifications prepared by ., dated _
Standard Specifications (Excluding sections 1-9 in their entirety)
Addenda
Plans prepared by Sanders, Inc. dated _____
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

By: _____

Printed Name: _____

Title: _____

Dated: _____

ATTEST:

_____
Clerk of the Board

CONTRACTOR

By: _____
(Authorized Representative of Contractor)

Printed Name: _____

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

License No. _____

Dated: _____

END OF CONTRACT

00 52 14
WORKERS' COMPENSATION CERTIFICATION

Labor Code section 3700, in relevant part, provides:

> Every employer except the State shall secure the payment of compensation in one or more of the following ways:
>
> a. By being insured against liability to pay compensation by one or more insurers duly authorized to write compensation insurance in this state; and/or
>
> b. By securing from the Director of Industrial Relations a certificate of consent to self-insure, which may be given upon furnishing proof satisfactory to the Director of Industrial Relations of ability to self-insure and to pay any compensation that may become due to his employees.

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

Date: _____

Proper Name of Developer: _____

Signature: _____

Print Name: _____

Title: _____

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

END OF DOCUMENT

00 52 15
PREVAILING WAGE AND
RELATED LABOR REQUIREMENTS CERTIFICATION

I hereby certify that I will conform to the State of California Public Works Contract requirements regarding prevailing wages, benefits, on-site audits with 48-hours' notice, payroll records, and apprentice and trainee employment requirements, for all Work on the above Project including, without limitation, labor compliance monitoring and enforcement by the Department of Industrial Relations.

Date: _____

Name of Developer: _____

Signature: _____

Print Name: _____

Title: _____

END OF DOCUMENT

00 52 16
DRUG-FREE WORKPLACE CERTIFICATION

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

The District is not a "state agency" as defined in the applicable section(s) of the Government Code, but the District is a local agency and public school district under California law and requires all contractors on District projects to comply with the provisions and requirements of Government Code section 8350 et seq., the Drug-Free Workplace Act of 1990.

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

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

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

   (1) The dangers of drug abuse in the workplace.

   (2) The person's or organization's policy of maintaining a drug-free workplace.

   (3) The availability of drug counseling, rehabilitation, and employee-assistance programs.

   (4) The penalties that may be imposed upon employees for drug abuse violations.

c. Requiring that each employee engaged in the performance of the contract or grant be given a copy of the statement required above, and that, as a condition of employment on the contract or grant, the employee agrees to abide by the terms of the statement.

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

I also understand that if the District determines that I have either (a) made a false certification herein, or (b) violated this certification by failing to carry out the requirements of section

8355, that the Contract awarded herein is subject to termination, suspension of payments, or both. I further understand that, should I violate the terms of the Drug-Free Workplace Act of 1990, I may be subject to debarment in accordance with the requirements of the aforementioned Act.

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

Date: _____

Proper Name of Developer: _____

Signature: _____

Print Name: _____

Title: _____

END OF DOCUMENT

00 52 17
TOBACCO-FREE ENVIRONMENT CERTIFICATION

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

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

Date: _____

Proper Name of Developer: _____

Signature: _____

Print Name: _____

Title: _____

END OF DOCUMENT

00 52 18
DISABLED VETERAN BUSINESS
ENTERPRISE PARTICIPATION CERTIFICATION
GENERAL INSTRUCTIONS

Pursuant to Education Code section 71028 and Public Contract Code section 10115, the District has a participation goal for disabled veteran business enterprises ("DVBE") of at least three percent (3%) per year of the overall dollar amount expended each year on District projects. Therefore, the DBE awarded the Contract must submit this document to the District with its executed Agreement, identifying the steps DBE took to solicit DVBE participation in conjunction with this Contract.

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

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

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

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

	TOTAL CONTRACT PRICE
A. Prime Bidder, if DVBE (own participation)	$
DVBE Subcontractor or Supplier	
Subtotal (A & B)	
Non-DVBE	
Total Bid	

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

CATEGORY	**TELEPHONE NUMBER**	**DATE CONTACTED**	**PERSON CONTACTED**
The District, if any			*
OSB, which publishes a list of DVBE's; Internet Address: http://www.dgs.ca.gov/osbcr	(916) 323-5478 (916) 322-5060		*
DVBE Organization (List)			*

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

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

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

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

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

DISABLED VETERANS BUSINESS ENTERPRISES CONTACTED	**SELECTED**		**REASON NOT SELECTED**	**NO RESPONSE**
	YES	**NO**		

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

CERTIFICATION

I, _____ certify that I am Developer's _____ and that I have made a diligent effort to ascertain the facts with regard to the representations made herein.

Date: _____

Name of Developer: _____

Signature: _____

Print Name: _____

Title: _____

END OF DOCUMENT

00 52 19
HAZARDOUS MATERIALS
PROCEDURES & REQUIREMENTS

Summary

This document includes information applicable to hazardous materials and hazardous waste abatement.

Notice of Hazardous Waste or Materials

Developer shall give notice in writing to the District, the Construction Manager, and the Architect promptly, before any of the following materials are disturbed, and in no event later than twenty-four (24) hours after first observance, of any:

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

Other material that may present a substantial danger to persons or property exposed thereto in connection with Work at the site.

Developer's written notice shall indicate whether the hazardous waste or material was shown or indicated in the Contract Documents to be within the scope of Work, and whether the materials were brought to the site by Developer, its Subcontractors, suppliers, or anyone else for whom Developer is responsible. As used in this section the term "hazardous materials" shall include, without limitation, asbestos, lead, Polychlorinated biphenyl (PCB), petroleum and related hydrocarbons, and radioactive material.

In response to Developer's written notice, the District shall investigate the identified conditions.

If the District determines that conditions do not involve hazardous materials or that no change in terms of Contract is justified, the District shall so notify Developer in writing, stating reasons. If the District and Developer cannot agree on whether conditions justify an adjustment in Contract Price or Contract Time, or on the extent of any adjustment, Developer shall proceed with the Work as directed by the District.

If after receipt of notice from the District, Developer does not agree to resume Work based on a reasonable belief it is unsafe, or does not agree to resume Work under special conditions, then District may order such portion of Work that is in connection with such hazardous condition or such affected area to be deleted from the Work, or performed by others, or District may invoke its rights to terminate the Contract in whole or in part. District will determine entitlement to or the amount or extent of an adjustment, if any, in Contract Price or Contract Time as a result of deleting such portion of Work, or performing the Work by others.

If Developer stops Work in connection with any hazardous condition and in any area affected thereby, Developer shall immediately redeploy its workers, equipment,

and materials, as necessary, to other portions of the Work to minimize delay and disruption.

Additional Warranties and Representations

Developer represents and warrants that it, its employees, and its subcontractors and their employees, shall at all times have the required levels of familiarity with the Site and the Work, training, and ability to comply fully with all applicable laws and contractual requirements for safe and expeditious performance of the Work, including whatever training is or may be required regarding the activities to be performed (including, but not limited to, all training required to address adequately the actual or potential dangers of Contract performance).

Developer represents and warrants that it, its employees, and its subcontractors and their employees, shall at all times have and maintain in good standing any and all certifications and licenses required by applicable federal, state, and other governmental and quasi-governmental requirements applicable to the Work.

Developer represents and warrants that it has studied carefully all requirements of the Specifications regarding procedures for demolition, hazardous waste abatement, or safety practices, specified in the Contract, and prior to submitting its bid, has either (a) verified to its satisfaction that the specified procedures are adequate and sufficient to achieve the results intended by the Contract Documents, or (b) by way of approved "or equal" request or request for clarification and written Addenda, secured changes to the specified procedures sufficient to achieve the results intended by the Contract Documents. Developer accepts the risk that any specified procedure will result in a completed Project in full compliance with the Contract Documents.

Monitoring and Testing

District reserves the right, in its sole discretion, to conduct air monitoring, earth monitoring, Work monitoring, and any other tests (in addition to testing required under the agreement or applicable law), to monitor Contract requirements of safe and statutorily compliant work methods and (where applicable) safe re-entry level air standards under state and federal law upon completion of the job, and compliance of the work with periodic and final inspection by public and quasi-public entities having jurisdiction.

Developer acknowledges that District has the right to perform, or cause to be performed, various activities and tests including, but not limited to, pre-abatement, during abatement, and post-abatement air monitoring, that District shall have no obligation to perform said activities and tests, and that a portion of said activities and tests may take place prior to the completion of the Work by Developer. In the event District elects to perform these activities and tests, Developer shall afford District ample access to the Site and all areas of the Work as may be necessary for the performance of these activities and tests. Developer will include the potential impact of these activities or tests by District in the Contract Price and the Scheduled Completion Date.

Notwithstanding District's rights granted by this paragraph, Developer may retain its own industrial hygiene consultant at Developer’s own expense and may collect samples and may perform tests including, but not limited to, pre-abatement,

during abatement, and post-abatement personal air monitoring, and District reserves the right to request documentation of all such activities and tests performed by Developer relating to the Work and Developer shall immediately provide that documentation upon request.

Compliance with Laws

Developer shall perform safe, expeditious, and orderly work in accordance with the best practices and the highest standards in the hazardous waste abatement, removal, and disposal industry, the applicable law, and the Contract Documents, including, but not limited to, all responsibilities relating to the preparation and return of waste shipment records, all requirements of the law, delivering of all requisite notices, and obtaining all necessary governmental and quasi-governmental approvals.

Developer represents that it is familiar with and shall comply with all laws applicable to the Work or completed Work including, but not limited to, all federal, state, and local laws, statutes, standards, rules, regulations, and ordinances applicable to the Work relating to:

(1) The protection of the public health, welfare and environment;

Storage, handling, or use of asbestos, PCB, lead, petroleum based products, radioactive material, or other hazardous materials;

The generation, processing, treatment, storage, transport, disposal, destruction, or other management of asbestos, PCB, lead, petroleum, radioactive material, or hazardous waste materials or other waste materials of any kind; and

The protection of environmentally sensitive areas such as wetlands and coastal areas.

Disposal

Developer has the sole responsibility for determining current waste storage, handling, transportation, and disposal regulations for the job Site and for each waste disposal facility. Developer must comply fully at its sole cost and expense with these regulations and any applicable law. District may, but is not obligated to, require submittals with this information for it to review consistent with the Contract Documents.

Developer shall develop and implement a system acceptable to District to track hazardous waste from the Site to disposal, including appropriate "Hazardous Waste Manifests" on the EPA form, so that District may track the volume of waste it put in each landfill and receive from each landfill a certificate of receipt.

Developer shall provide District with the name and address of each waste disposal facility prior to any disposal, and District shall have the express right to reject any proposed disposal facility. Developer shall not use any disposal facility to which District has objected. Developer shall document actual disposal or destruction of waste at a designated facility by completing a disposal certificate or certificate of destruction forwarding the original to the District.

Permits

Before performing any of the Work, and at such other times as may be required by applicable law, Developer shall deliver all requisite notices and obtain the approval of all governmental and quasi-governmental authorities having jurisdiction over the Work. Developer shall submit evidence satisfactory to District that it and any disposal facility:

(1) have obtained all required permits, approvals, and the like in a timely manner both prior to commencement of the Work and thereafter as and when required by applicable law; and

are in compliance with all such permits, approvals and the regulations.

For example, before commencing any work in connection with the Work involving asbestos-containing materials, or PCBs, or other hazardous materials subject to regulation, Developer agrees to provide the required notice of intent to renovate or demolish to the appropriate state or federal agency having jurisdiction, by certified mail, return receipt requested, or by some other method of transmittal for which a return receipt is obtained, and to send a copy of that notice to District. Developer shall not conduct any Work involving asbestos-containing materials or PCBs unless Developer has first confirmed that the appropriate agency having jurisdiction is in receipt of the required notification. All permits, licenses, and bonds that are required by governmental or quasi-governmental authorities, and all fees, deposits, tap fees, offsite easements, and asbestos and PCB disposal facilities expenses necessary for the prosecution of the Work, shall be procured and paid for by Developer. Developer shall give all notices and comply with the all applicable laws bearing on the conduct of the Work as drawn and specified. If Developer observes or reasonably should have observed that Plans and Specifications and other Contract Documents are at variance therewith, it shall be responsible for promptly notifying District in writing of such fact. If Developer performs any Work contrary to applicable laws, it shall bear all costs arising therefrom.

In the case of any permits or notices held in District's name or of necessity to be made in District's name, District shall cooperate with Developer in securing the permit or giving the notice, but Developer shall prepare for District review and execution upon approval, all necessary applications, notices, and other materials.

Indemnification

To the fullest extent permitted by law, the indemnities and limitations of liability expressed throughout the Contract Documents apply with equal force and effect to any claims or liabilities imposed or existing by virtue of the removal, abatement, and disposal of hazardous waste. This includes, but is not limited to, liabilities connected to the selection and use of a waste disposal facility, a waste transporter, personal injury, property damage, loss of use of property, damage to the environment or natural resources, or "disposal" and "release" of materials associated with the Work (as defined in 42 U.S.C. § 960l *et seq*.).

Termination

District shall have an absolute right to terminate for default immediately without notice and without an opportunity to cure should Developer knowingly or recklessly commit a material breach of the terms of the Contract Documents, or any applicable law, on any matter involving the exposure of persons or property to hazardous waste. However, if the breach of contract exposing persons or property to hazardous waste is due solely to an ordinary, unintentional, and non-reckless failure to exercise reasonable care, then the procedures for termination for cause shall apply without modification.

END OF DOCUMENT

00 52 20
HAZARDOUS MATERIALS CERTIFICATION

Developer hereby certifies that no asbestos, or asbestos-containing materials, polychlorinated biphenyl (PCB), or any material listed by the federal or state Environmental Protection Agency or federal or state health agencies as a hazardous material, or any other material defined as being hazardous under federal or state laws, rules, or regulations ("New Hazardous Material"), shall be furnished, installed, or incorporated in any way into the Project or in any tools, devices, clothing, or equipment used to affect any portion of Developer's work on the Project for District.

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

Asbestos and/or asbestos-containing material shall be defined as all items containing but not limited to chrysotile, crocidolite, amosite, anthophyllite, tremolite, and actinolite. Any or all material containing greater than one-tenth of one percent (0.1%) asbestos shall be defined as asbestos-containing material.

Any disputes involving the question of whether or not material is New Hazardous Material shall be settled by electron microscopy or other appropriate and recognized testing procedure, at the District's determination. The costs of any such tests shall be paid by Developer if the material is found to be New Hazardous Material.

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

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

Date: _____

Proper Name of Developer: _____

Signature: _____

Print Name: _____

Title: _____

END OF DOCUMENT

00 52 21
LEAD-BASED MATERIALS CERTIFICATION

This certification provides notice to Developer that:

(1) Developer's work may disturb lead-containing building materials.

(2) Developer shall notify the District if any work may result in the disturbance of lead-containing building materials.

(3) Developer shall comply with the Renovation, Repair and Painting Rule, if lead-based paint is disturbed in a six-square-foot or greater area indoors or a 20-square-foot or greater area outdoors.

1. Lead as a Health Hazard

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

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

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

2. Overview of California Law

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

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

Both the Federal Occupational Safety and Health Administration ("Fed/OSHA") and the California Division of Occupational Safety and Health ("Cal/OSHA") have implemented

safety orders applicable to all construction work where a contractor's employee may be occupationally exposed to lead.

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

a. Demolition or salvage of structures where lead or materials containing lead are present;

b. Removal or encapsulation of materials containing lead;

c. New construction, alteration, repair, or renovation of structures, substrates, or portions thereof, that contain lead, or materials containing lead;

d. Installation of products containing lead;

e. Lead contamination/emergency cleanup;

f. Transportation, disposal, storage, or containment of lead or materials containing lead on the site or location at which construction activities are performed; and

g. Maintenance operations associated with the construction activities described in the subsection.

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

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

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

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

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

4. Developer's Liability

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

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

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

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

DEVELOPER HEREBY ACKNOWLEDGES, UNDER PENALTY OF PERJURY, THAT IT:

1. HAS RECEIVED NOTIFICATION OF POTENTIAL LEAD-BASED MATERIALS ON THE OWNER'S PROPERTY;

2. IS KNOWLEDGEABLE REGARDING AND WILL COMPLY WITH ALL APPLICABLE LAWS, RULES, AND REGULATIONS GOVERNING WORK WITH, AND DISPOSAL, OF LEAD.

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

Date: _____

Proper Name of Developer: _____

Signature: _____

Print Name: _____

Title: _____

END OF DOCUMENT

00 52 22
IMPORTED MATERIALS CERTIFICATION

This form shall be executed by all entities that, in any way, provide or deliver and/or supply any soils, aggregate, or related materials ("Fill") to the Project Site and shall be provided to the District at least ten (10) days before delivery. All Fill shall satisfy all requirements of any environmental review of the Project performed pursuant to the statutes and guidelines of the California Environmental Quality Act, section 21000 et seq. of the Public Resources Code ("CEQA"), and all requirements of section 17210 et seq. of the Education Code, including requirements for a Phase I environmental assessment acceptable to the State of California Department of Education and Department of Toxic Substances Control.

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

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

Name of firm ("Firm"): _____

Mailing address: _____

Addresses of branch office used for this Project: _____

If subsidiary, name and address of parent company: _____

_____

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

Date: _____

Proper Name of Firm: _____

Signature: _____

Print Name: _____

Title: _____

END OF DOCUMENT

5. 00 61 13 - BOND FORMS**;**
CERTIFICATES OF INSURANCE AND ENDORSEMENT FORMS; ESCROW AGREEMENT; TAXPAYER IDENTIFICATION NUMBER

(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:

i. Take over and complete the Project in accordance with all terms and conditions in the Contract Documents; or

ii. 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.

iii. 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

(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

(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.

Escrow Account No. _____

(4) Escrow Agreement

ESCROW AGREEMENT FOR
SECURITY DEPOSITS IN LIEU OF RETENTION

This Escrow Agreement is made and entered into by and between Imperial Community College District, whose address is _____, hereinafter called "District," _____, whose address is_____, hereinafter called "Contractor," and _____, whose address is _____, hereinafter called "Escrow Agent."

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

i. Pursuant to Section 22300 of the Public Contract Code of the State of California, Contractor has the option to deposit securities with Escrow Agent as a substitute for retention earnings required to be withheld by District pursuant to the Construction Contract entered into between District and Contractor for _____ _____ in the amount of $_____ dated _____ (hereinafter referred to as the "Contract"). Alternatively, on written request of the Contractor, District shall make payments of the retention earnings directly to the Escrow Agent. When Contractor deposits the securities as a substitute for Contract earnings, the Escrow Agent shall notify District within 10 days of the deposit. The market value of the securities at the time of the substitution shall be at least equal to the cash amount then required to be withheld as retention under the terms of the Contract between District and Contractor. Securities shall be held in the name of _____ and shall designate the Contractor as the beneficial owner.

ii. District shall make progress payments to the Contractor for such funds which otherwise would be withheld from progress payments pursuant to the Contract provisions, provided that the Escrow Agent holds securities in the form and amount specified above.

iii. When District makes payment of retentions earned directly to the Escrow Agent, the Escrow Agent shall hold them for the benefit of the Contractor until such time as the escrow created under this Contract is terminated. The Contractor may direct the investment of the payments into securities. All terms and conditions

of this agreement and the rights and responsibilities of the parties shall be equally applicable and binding when District pays the Escrow Agent directly.

iv. Contractor shall be responsible for paying all fees for the expenses incurred by Escrow Agent in administering the Escrow Account and all expenses of District. These expenses and payment terms shall be determined by District, Contractor and Escrow Agent.

v. The interest earned on the securities or the money market accounts held in escrow and all interest earned on that interest shall be for the sole account of Contractor and shall be subject to withdrawal by Contractor at any time and from time to time without notice to District.

vi. Contractor shall have the right to withdraw all or any part of the principal in the Escrow Account only by written notice to Escrow Agent accompanied by written authorization from District to the Escrow Agent that District consents to the withdrawal of the amount sought to be withdrawn by Contractor.

vii. District shall have a right to draw upon the securities in the event of default by the Contractor. Upon seven days' written notice to the Escrow Agent from District of the default, the Escrow Agent shall immediately convert the securities to cash and shall distribute the cash as instructed by District.

viii. Upon receipt of written notification from District certifying that the Contract is final and complete, and that the Contractor has complied with all requirements and procedures applicable to the Contract, Escrow Agent shall release to Contractor all securities and interest on deposit less escrow fees and charges of the Escrow Account. The escrow shall be closed immediately upon the disbursement of all moneys and securities on deposit and payments of fees and charges.

ix. Escrow Agent shall rely on the written notifications from District and the Contractor pursuant to Sections (4) to (8), inclusive, of this agreement and District and Contractor shall hold Escrow Agent harmless from Escrow Agent's release and disbursement of the securities and interest as set forth above.

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

On behalf of District:		On behalf of Contractor:	
Title:	_____	Title:	_____
By:	_____	By:	_____
Name:	_____	Name:	_____
Address:	_____	Address:	_____

Escrow Account No. _____

_____ _____

_____ _____

On behalf of Escrow Holder:

Title: _____

By: _____

Name: _____

Address: _____

_____

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

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

IMPERIAL COMMUNITY COLLEGE DISTRICT

By: _____ By: _____

Name: _____ Name: _____

Title: _____ Title: _____

CONTRACTOR

By: _____

Name: _____

Title: _____

END OF ESCROW AGREEMENT

(5) Taxpayer Identification Number.

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

Form **W-9**
(Rev. August 2013)
Department of the Treasury
Internal Revenue Service

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:
☐ Individual/sole proprietor ☐ C Corporation ☐ S Corporation ☐ Partnership ☐ Trust/estate

☐ Limited liability company. Enter the tax classification (C=C corporation, S=S corporation, P=partnership) ▶ _____

☐ 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.

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

Social security number
			–		–				

Employer identification number
		–							

Part II Certification

Under penalties of perjury, I certify that:

1. 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
2. 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
3. I am a U.S. citizen or other U.S. person (defined below), and
4. 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 IRS.gov 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:

1. Certify that the TIN you are giving is correct (or you are waiting for a number to be issued),
2. Certify that you are not subject to backup withholding, or
3. 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

6. 00 72 13 – GENERAL CONDITIONS

a. Definitions and Terminology

(1) Defined Terms.

(i) 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.

i. Act of God -- Act of God is an earthquake of magnitude 3.5 or higher on the Richter scale or a tidal wave.

ii. Addenda -- Written or graphic instruments issued prior to the submission of Bids which clarify, correct, or change the Contract Documents.

iii. 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.

~~iv.~~ 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.

v. 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.

vi. 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.

vii. 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.

viii. Bidder -- The individual or entity who submits a Bid directly to District.

ix. Bidding Documents -- The Bidding Requirements and the proposed Contract Documents (including all Addenda).

x. 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.

xi. 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").

xii. 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.

xiii. 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.

xiv. 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.

xv. 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.

xvi. 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.

xvii. Contractor -- The individual or entity with which District has contracted for performance of the Work.

xviii. 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.

xix. District's Representative -- The individual or entity as identified in the Special Conditions to act as District's Representative.

xx. 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.

xxi. Day -- A calendar day of 24 hours measured from midnight to the next midnight.

xxii. 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.

xxiii. Demobilization -- The complete dismantling and removal by the Contractor of all of the Contractor's temporary facilities, equipment, and personnel at the Site.

xxiv. 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.

xxv. 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.

xxvi. 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.

xxvii. 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.

xxviii. Hazardous Environmental Condition -- The presence at the Site of Hazardous Waste.

xxix. 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.

xxx. 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.

xxxi. Interfacing Work -- Work which connects to, abuts, or meets with work of another contractor

xxxii. Liens -- Charges, security interests, or encumbrances upon Project funds~~,~~ or personal property, including without limitation Stop Payment Notices.

xxxiii. 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.

xxxiv. 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.

xxxv. 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.

xxxvi. 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.

xxxvii. Partial Utilization -- Use by District of a substantially completed part of the Work prior to Completion of all the Work.

xxxviii. Project -- The total construction of which the Work to be performed under the Contract Documents may be the whole, or a part.

xxxix. 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.

xl. 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.

xli. 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.

xlii. Request for Proposal ("RFP") -- A request made by District's Representative for a proposal from the Contractor for proposed changes in the Work.

xliii. 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.

xliv. Schedule of Pay Items -- The form set forth in Section 00 41 43, Article 1.2.

xlv. 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.

xlvi. 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.

xlvii. 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.

xlviii. 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.

xlix. Stop Payment Notice -- A written notice as defined in Civil Code section 8044.

l. 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.

li. Submittal -- Written and graphic information and physical samples prepared and supplied by the Contractor demonstrating various portions of the Work.

lii. Successful Bidder -- The Bidder submitting a responsive Bid to whom District makes an award.

liii. 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.

liv. 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.

lv. 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.

lvi. 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.

lvii. 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.

(2) Terminology.

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

(ii) Furnish, Install, Perform, Provide.

i. 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.

ii. 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.

iii. 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.

iv. Regardless of whether "furnish," "install," "perform," or "provide" is used in connection with services, materials, or equipment, an obligation of Contractor is implied.

(iii) 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.

b. Preliminary Matters

(1) Delivery of Contract Documents.

(i) 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) Bonds.

(i) 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.

(3) Evidence of Insurance.

(i) 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.

(4) Execution of Contract.

(i) Upon receipt of the required Contract Documents, District will execute the Contract, establishing the Effective Date of the Contract.

(5) Contractor's Failure to Perform.

(i) 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.

(6) Commencement of Contract Times; Notice to Proceed.

(i) 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.

(ii) No Work shall be done at the Site prior to the date stated in the Notice to Proceed.

(7) Copies of Documents.

(i) 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.

(8) Substitution Requests, Preliminary Schedules and Schedule of Submittals.

(i) Substitution Requests.

i. 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.

(ii) Preliminary Schedules and Schedule of Submittals.

i. 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:

1) 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

2) A preliminary Schedule of Submittals that conforms with the requirements of Section 00 72 13, Article 6.7.

(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.

(10) Initial Acceptance of Schedules.

(i) 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.

(ii) 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.

(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.

c. Contract Documents: Intent, Amending, Reuse

(1) Intent.

(i) The Contract Documents are complementary; what is required by one is as binding as if required by all.

(ii) 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.

(iii) Clarifications and interpretations of the Contract Documents shall be issued by District's Representative as provided in these General Conditions.

(iv) 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.

(v) 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.

(2) Reference Standards.

(i) Standards, Specifications, Codes, Laws, and Regulations.

i. 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.

ii. 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) Reporting and Resolving Discrepancies; Order of Precedence.

(i) Reporting Discrepancies.

i. 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.

ii. 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.

(ii) Resolving Discrepancies; Order of Precedence.

i. 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:

1) 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

2) 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).

ii. In resolving conflicts among any of the Contract Documents, the order of precedence shall be as follows:

1) Permits from other agencies as may be required by law;

2) Change Orders or Pending Change Orders, most recent first

3) Contract;

4) Addenda, most recent first;

5) Special Conditions;

6) Technical Conditions;

7) Drawings;

8) General Conditions;

9) Instructions to and Information for Bidders;

10) Invitation to Bid;

11) Contractor's Bid (Bid Forms);

12) Green Book (except Section 1 – 9, which are specifically excluded);

13) Referenced District Standard Specifications.

iii. With reference to the Drawings the order of precedence shall be as follows:

1) Figures govern over scaled dimensions;

2) Detail drawings govern over general drawings;

3) Addenda/Change Order drawings govern over Drawings;

4) Drawings govern over standard drawings.

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

(4) Amending and Supplementing Contract Documents.

(i) 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.

(ii) 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:

i. 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

ii. 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.

(5) Reuse of Documents.

(i) Contractor and any Subcontractor or Supplier shall not:

i. 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

ii. 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.

(ii) 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.

(6) Electronic Data.

(i) 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.

(ii) 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.

(iii) 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.

d. Availability and OWNERSHIP of Lands and materials; Subsurface and Physical Conditions; UNDERGROUND UTILITIES; TRENCHING; Hazardous Environmental Conditions; Reference Points

(1) Availability of Lands.

(i) 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.

(ii) 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.

(2) Ownership of Site Materials Found.

(i) 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.

(3) Subsurface and Physical Conditions.

(i) Reports and Drawings. The Special Conditions identify:

i. those reports known to District of explorations and tests of subsurface conditions at or contiguous to the Site; and

ii. those drawings known to District of physical conditions relating to existing surface or subsurface structures at the Site (except Underground Facilities).

(ii) 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:

i. 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

ii. other data, interpretations, opinions, conclusions and information contained in such reports or shown or indicated in such drawings; or

iii. any Contractor interpretation of or conclusion drawn from any "technical data" or any such other data, interpretations, opinions, or information.

(iii) 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.

(iv) 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) Differing Subsurface or Physical Conditions.

(i) Notice. If Contractor believes that any subsurface or physical condition that is uncovered or revealed either:

i. 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

ii. is of such a nature as to require a change in the Contract Documents; or

iii. differs materially from that shown or indicated in the Contract Documents; or

iv. 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.

(5) Underground Facilities.

(i) 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:

i. District and District's Representative shall not be responsible for the accuracy or completeness of any such information or data provided by others; and

ii. The cost of all of the following will be included in the Contract Price, and Contractor shall have full responsibility for:

1) reviewing and checking all such information and data;

2) 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;

3) coordination of the Work with the owners of such Underground Facilities, including District, during construction; and

4) the safety and protection of all such Underground Facilities and repairing any damage thereto resulting from the Work.

(ii) Not Shown or Indicated.

i. 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.

(iii) 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.

i. 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.

ii. 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."

iii. 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.

(iv) 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.

(v) 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.

(vi) 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.

(vii) Relocation of Utilities.

i. 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.

ii. 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.

iii. 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.

(viii) 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.

(6) Trenches or Other Excavations.

(i) If any portion of the Work involves digging trenches or other excavations that extend deeper than four feet below the surface:

i. Contractor shall promptly, and before the following conditions are disturbed, notify District's Representative, in writing, of any:

1) provide District's representative with a copy of any required permits;

2) material that Contractor believes may be material that is Hazardous Waste;

3) 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

4) 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.

ii. 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.

iii. 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.

(7) Hazardous Environmental Conditions at Site.

(i) 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.

(ii) 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:

i. 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

ii. other data, interpretations, opinions and information contained in such reports or shown or indicated in such drawings; or

iii. any Contractor interpretation of or conclusion drawn from any "technical data" or any such other data, interpretations, opinions or information.

(iii) 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.

(iv) 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.

(v) 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.

(vi) 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.

(vii) 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.

(8) Protection and Restoration of Existing Improvements and Reference Points.

(i) 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.

(ii) 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.

e. Bonds and Insurance

(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.

(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:

(i) 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.

(ii) 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:

Contract Price	**Amount of Liability Insurance** (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.

(iii) 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.

(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:

(i) 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.

(ii) 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.

(iii) 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.

(iv) All Coverages. Each insurance policy required by this Agreement shall be endorsed to include the following provisions:

i. 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.

ii. 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.

iii. standard separation of insureds provisions.

iv. 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.

v. 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.

(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.

Contract Price	All Risk Perils Maximum Deductible
$ 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) 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.

(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.

(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.

(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.

(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.

(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:

(i) The Retroactive Date must be shown and must be before the date of the contract or the beginning of contract work.

(ii) Insurance must be maintained and evidence of insurance must be provided for at least five (5) years after District's acceptance of the Work.

(iii) 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.

(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.

(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.

(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.

(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.

f. Contractor's Responsibilities

(1) Supervision and Superintendence.

(i) 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.

(ii) 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.

(2) Labor; Working Hours.

(i) 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.

(ii) 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.

(iii) The Contractor will provide all labor needed to complete the Work within the Contract Times.

(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.

(4) Cost-Loaded CPM Progress Schedule and Recovery Schedule.

(i) 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.

i. 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.

ii. 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.

iii. 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:

1) 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;

2) The CPM schedule shows the Contractor to be thirty (30) or more days behind the critical path at any time during construction;

3) 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.

4) 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.

5) Contractor shall submit the Recovery Schedule within seven (7) Days of District's request.

1) 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.

2) 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.

6) 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.

7) 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.

(ii) 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.

(5) Materials.

(i) 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.

(ii) 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.

(iii) 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.

(iv) 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.

(v) 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.

(vi) 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) Substitution of Equipment, Materials or Construction Methodology.

(i) 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.

(ii) 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.

(iii) 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:

i. in District's Representative's sole discretion:

1) it is at least equal in materials of construction, quality, durability, appearance, strength, and design characteristics;

2) 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

3) it has a proven record of performance and availability of responsive service; and

ii. Contractor certifies that, if approved and incorporated into the Work:

1) there will be no increase in cost to District or increase in Contract Times; and

2) it will conform substantially to the detailed requirements of the item named in the Contract Documents.

(iv) 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.

(v) 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.

(vi) Special Guarantee. District may require Contractor to furnish at Contractor's expense a special performance guarantee or other surety with respect to any substitute.

(vii) 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.

(viii) Contractor's Expense. Contractor shall provide all data in support of any proposed substitute or "or-equal" at Contractor's expense.

(7) Submittals.

(i) 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.

(ii) Submittal Procedures.

i. Contractor will follow the following procedures for each Submittal, Shop Drawing and Sample required by the Contract Documents:

1) Transmit three (3) copies of each with form _____ Submittal Transmittal.

2) Transmittals will be sequentially numbered. Contractor to mark revised submittals with original number and sequential alphabetic suffix.

3) Each submittal will identify the Project, Contractor, Subcontractor and supplier, pertinent Drawing and detail number, and Specification Section number appropriate to submittal.

4) 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.

5) Identify variations in Contract Documents and product or system limitations that may differ and/or be detrimental to successful performance of completed Work.

6) When Submittal is revised for resubmission, Contractor shall promptly address District comments and resubmit. Contractor shall identify changes made since previous submission.

7) 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.

8) Submittals not required by the Contract Documents or requested by District's Representative will not be acknowledged or processed.

9) Incomplete Submittals will not be reviewed by District's Representative. Delays resulting from incomplete submittals are not the responsibility of District's Representative.

10) Contractor shall not be entitled to any extension of the Contract Times as a result of the Submittal process.

ii. 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.

iii. 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.

(8) Shop Drawing and Sample Submittal Procedures.

(i) Before submitting each Shop Drawing or Sample, Contractor shall have:

i. 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;

ii. determined and verified all field measurements, quantities, dimensions, specified performance and design criteria, installation requirements, materials, catalog numbers, and similar information with respect thereto;

iii. 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

iv. 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.

(ii) 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.

(iii) Shop Drawings.

i. 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.

ii. 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.

iii. Contractor shall make revisions and provide additional information when required by authorities having jurisdiction.

(iv) Samples.

i. 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.

ii. Samples should be of appropriate size and detail to assess functional, aesthetic, color, texture, patterns and finish selection.

(v) District's Representative's Review.

i. 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.

ii. 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.

iii. 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.

(vi) Resubmittal Procedures.

i. 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.

(9) Concerning Subcontractors, Suppliers, and Others.

(i) Contractor shall self-perform at least thirty percent (30%) of the Work.

(ii) 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.

(iii) 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:

i. 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

ii. 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.

(iv) 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.

(v) 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.

(vi) 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.

(vii) 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.

(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.

(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.

(12) Patent Fees and Royalties.

(i) 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.

(ii) 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.

(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.

(i) 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.

(ii) 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.

(iii) Before acceptance of the Work, the Contractor shall submit all licenses, permits, certificates of inspection and required approvals to District.

(14) Applicable Laws.

(i) 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.

(ii) 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.

(15) Labor Laws and Contractor's Obligations.

(i) 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.

(ii) 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 allege failure to comply with the Prevailing Wage Laws.

i. 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.

ii. 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.

(iii) 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.

i. 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.

ii. 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.

iii. 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.

(iv) 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.

(v) 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.

(vi) 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."

(16) Taxes.

(i) 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.

(ii) 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.

(iii) 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.

(17) Use of Site and Other Areas.

(i) Limitation on Use of Site and Other Areas.

i. 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.

ii. 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.

(ii) 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.

(iii) 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.

(iv) 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.

(18) Utility Usage.

(i) 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.

(ii) 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.

(iii) All permanent meters installed shall be listed in the Contractor's name until the Work is accepted.

(iv) 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.

(19) Record Documents.

(i) 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.

(20) Safety and Protection.

(i) 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:

i. all persons on the Site or who may be affected by the Work;

ii. all the Work and materials and equipment to be incorporated therein, whether in storage on or off the Site; and

iii. 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.

(ii) 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.

(iii) 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.

(iv) 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.

(v) 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.

(vi) 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.

(21) Safety Representative.

(i) 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.

(22) Hazard Communication Programs.

(i) 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.

(23) Emergencies.

(i) 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.

(24) Continuing the Work.

(i) 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.

(25) Contractor's General Warranty and Guarantee.

(i) 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.

(ii) 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:

i. Observation or inspection by the District's Representative;

ii. approval of a payment application or payment by District of any progress or final payment;

iii. use or occupancy of the Work or any part thereof by District;

iv. any review and/or acceptance of a Submittal, Shop Drawing or Sample;

v. any inspection, test, or approval by others; or

vi. any correction of Defective Work by District.

(26) Indemnification.

(i) 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.

(ii) 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.

(27) Delegation of Professional Design Services.

(i) 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.

(ii) 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.

(iii) 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.

(iv) 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.

g. Other Work at the Site

(1) Related Work at Site.

(i) 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.

(ii) 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.

(iii) 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.

(iv) 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.

(v) 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.

(vi) 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.

(vii) 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.

(2) Coordination.

(i) If the District intends have work performed by Other Contractors at the Site~~,~~ the following will be set forth in the Special Conditions:

i. the individual or entity who will have authority and responsibility for coordination of the activities among the various contractors will be identified;

ii. the specific matters to be covered by such authority and responsibility will be itemized; and

iii. the extent of such authority and responsibilities will be provided.

(ii) Unless otherwise provided in the Special Conditions, the District shall have sole authority and responsibility for such coordination.

(iii) 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.

(3) For Delays by Others.

(i) 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.

(4) Contractor's Delay or Damage.

(i) 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.

h. Allowances; Unit Price Work

(1) Allowances.

(i) 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.

(ii) 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.

(iii) 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.

(2) Unit Price Work.

(i) 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.

(ii) 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.

(iii) 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.

(iv) 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.

(v) The District or the Contractor may make a Claim for an adjustment in the Unit Price in accordance with the Contract Documents if:

i. 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

ii. there is no corresponding adjustment with respect to any other item of Work; and

iii. 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.

i. Change of Contract Price; Change in Contract Times

(1) Contract Change Orders.

(i) 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.

(ii) 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 of 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.

(iii) 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.

(iv) No changes in the work covered by this Agreement shall exonerate any surety or any bond given in connection with this Agreement.

(2) Contract Price Change.

(i) <u>Process for Determining Adjustments in Contract Price.</u>

i. 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.

ii. 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.

iii. 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.

1) 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;

2) 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.

3) 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.

iv. 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.

(ii) Unit Price Change Orders.

i. 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.

ii. 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.

(iii) 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:

i. 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.

ii. 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.

iii. 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.

(iv) Time and Materials Change Orders.

i. 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.

ii. Timely and Final Documentation.

1) 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.

2) 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.

iii. 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.

1) 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.

2) 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.

iv. 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.

1) 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.

2) 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.

3) 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.

4) 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.

5) 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.

v. 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.

1) 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.

2) 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.

3) 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.

vi. Rental Equipment.

1) 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.

2) Rental Time Not Allowed. Rental time will not be allowed while equipment is inoperative due to breakdowns.

3) Computation Method. The following shall be used in computing the rental time of equipment on the Site.

1) 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.

2) When daily rates are listed, any part of a day less than 4 hours operation shall be considered to be ½-day of operation.

vii. 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.

viii. 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.

1) 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.

2) 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.

ix. 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.

1) 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;

2) Office Expenses. Expenses of the Contractor's principal and branch offices;

3) 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;

4) 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;

5) 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.

6) Small Tools. Cost of small tools valued at less than $1000 and that remain the property of Contractor;

7) Administrative Costs. Costs associated with the preparation of Change Orders (whether or not ultimately authorized), cost estimates, or the preparation or filing of Claims;

8) 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;

9) 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

10) 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.

x. Overhead and Profit for Lump Sum and Time and Materials Change Orders.

1) 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:

1) "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.

2) 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.

3) 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.

4) 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.

5) 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.

2) 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.

(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.

(4) Costs Relating to Weather Damage.

(i) 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.

(5) District Right to Direct Use of Competitive Bids.

(i) 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.

(6) Change of Contract Times.

(i) The Contract Times may only be changed by a Change Order.

(ii) 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.

(iii) 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.

(iv) 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.

(v) Use of Float and Critical Path.

i. 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.

ii. 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.

(vi) 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.

i. 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.

ii. 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.

iii. Utility-Related Delays.

1) 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.

2) 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.

(vii) 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:

i. 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.

ii. 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.

(viii) No Damages for Reasonable Delay.

i. 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.

ii. 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.

iii. 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.

(ix) 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.

j. Tests and Inspections; Correction, Removal or Acceptance of Defective Work; Notice of Defects

(1) Notice of Defective Work.

(i) 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.

(2) Access to Work.

(i) 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.

(3) Tests and Inspections.

(i) 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.

(ii) 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.

(iii) 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.

(iv) 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.

(4) Uncovering Work.

(i) 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.

(ii) 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.

(iii) 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.

i. 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.

ii. 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.

(5) District May Stop the Work.

(i) 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.

(6) Correction or Removal of Defective Work.

(i) 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).

(ii) 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.

(7) Acceptance of Defective Work.

(i) 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.

(ii) 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.

(iii) 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.

(iv) If the acceptance of defective occurs after release of the Project Retention, an appropriate amount will be paid by Contractor to District.

(8) District May Correct Defective Work.

(i) 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.

(ii) 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.

(iii) 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.

(iv) 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.

(v) 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.

(vi) If the Change Order is executed after release of the Project Retention, an appropriate amount will be paid by the Contractor to the District.

(vii) 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.

(9) Warranty Period.

(i) 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:

i. repair such defective land or areas;

ii. correct such defective or non-performing work;

iii. 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

iv. 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.

(ii) 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.

(iii) 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.

(iv) 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.

k. Payments to Contractor and Completion

(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.

(i) Applications for Payments.

i. 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.

ii. 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.

iii. The amount of retainage with respect to progress payments will be as set forth in the Special Conditions.

(ii) Review of Applications.

i. 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.

ii. By recommending any such payment the District's Representative will not thereby be deemed to have represented that:

1) 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

2) 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.

iii. 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:

1) to supervise, direct, or control the Work;

2) for the means, methods, techniques, sequences, or procedures of construction, or the safety precautions and programs incident thereto;

3) for the Contractor's failure to comply with Applicable Laws applicable to the Contractor's performance of the Work;

4) 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

5) to determine that title to any of the Work, materials, or equipment has passed to District free and clear of any Liens.

iv. 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.

(iii) Payment Becomes Due.

i. 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.

(iv) Retention and Securities in Lieu of Retention.

i. 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.

ii. 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.

1) 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.

iii. 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.

iv. The escrow agreement shall be in the form of the Escrow Agreement provided as part of the Contract Documents.

(v) District's Reduction in Recommended Payment.

i. 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:

1) Claims have been made against the District on account of the Contractor's performance or furnishing of the Work.

2) Stop Payment Notices or Liens have been filed in connection with the Work.

3) Defective Work not remedied.

4) Failure of the Contractor to make proper payments to its subcontractors or suppliers.

5) Completion of the Contract if there exists a reasonable doubt that the Work can be completed for the unpaid Contract balance.

6) Damage to another contractor or third party.

7) Amounts which may be due District for claims against the Contractor.

8) Failure of the Contractor to keep the record ('as-built") drawings up to date.

9) Failure to provide updates on the construction schedule.

10) Site cleanup.

11) Failure of the Contractor to comply with requirements of the Contract Documents.

12) 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.

(2) Contractor's Warranty of Title.

(i) 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.

(3) Partial Utilization.

(i) 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.

(4) Final Inspection.

(i) 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.

(5) Final Acceptance.

(i) 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.

(6) Final Payment.

(i) <u>Application for Payment.</u>

i. Upon execution of the Notice of Completion, the Contractor may make application for final payment following the procedure for progress payments.

ii. The final Application for Payment shall be accompanied (except as previously delivered) by:

1) all documentation called for in the Contract Documents, including but not limited to the evidence of insurance;

2) consent of the surety to final payment;

3) a fully completed Conditional Waiver and Release on Final Payment.

(ii) District's Representative's Review of Application and Acceptance.

i. 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.

(iii) Payment Becomes Due.

i. 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.

(7) Waiver of Claims.

(i) 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.

l. Suspension of Work and Termination

(1) District May Suspend Work.

(i) 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.

(ii) Upon receipt of any such notice, the Contractor shall, unless the notice requires otherwise:

i. Immediately discontinue Work on the date and to the extent specified in the notice;

ii. 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;

iii. 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

iv. Continue to protect and maintain the Work including those portions on which Work has been suspended.

(iii) 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.

(iv) 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.

(2) District May Terminate for Cause.

(i) 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.

(ii) 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.

(3) District May Terminate for Convenience.

(i) 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").

(ii) 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:

i. Stop Work as specified in the Notice.

ii. 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.

iii. 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.

iv. Terminate all subcontracts and purchase orders to the extent that they relate to the portions of the Work terminated.

v. 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."

vi. 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:

1) 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.

2) 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.

3) 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.

4) Reasonable costs to the Contractor of handling material returned to vendors, delivered to the District or otherwise disposed of as directed by the District.

5) A reasonable allowance for the Contractor's internal administrative costs in preparing termination claim.

6) Reasonable demobilization costs, and reasonable payments made to Subcontractors or suppliers on account of termination.

vii. 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.

viii. 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.

ix. 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:

1) 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,

2) 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

3) 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.

x. 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.

xi. 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.

m. CLAIMS, Dispute Avoidance and Resolution

(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.

(2) Intent.

(i) 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.

(4) Claims.

(i) 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.

(5) Supporting Documentation.

(i) The Contractor shall submit all claims in the following format:

i. Summary of claim merit and price, reference Contract Document provisions pursuant to which the claim is made.

ii. List of documents relating to claim:

1) Specifications

2) Drawings

3) Clarifications (Requests for Information)

4) Schedules

5) Other

iii. Chronology of events and correspondence

iv. Analysis of claim merit

v. Analysis of claim cost

vi. Time impact analysis in CPM format

(6) District's Response.

(i) 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.

i. 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.

ii. 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.

iii. 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.

(7) Meet and Confer Process.

(i) 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.

(8) Mediation.

(i) 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.

i. 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.

ii. 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.

iii. 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.

iv. 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..

(9) Procedures After Mediation.

(i) 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.

(ii) 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.

(10) Government Code Claims.

(i) 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.

(11) Non-Waiver.

(i) 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.

(12) Duty to Continue Performance.

(i) 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.

n. Miscellaneous

(1) Giving Notice.

(i) Whenever any provision of the Contract Documents requires the giving of written notice, it will be deemed to have been validly given if:

i. 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

ii. delivered at or sent by registered or certified mail, postage prepaid, to the last business address known to the giver of the notice.

(2) Limitations on District's Responsibilities.

(i) 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.

(3) Cumulative Remedies.

(i) 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.

(4) Survival of Obligations.

(i) 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.

(5) Controlling Law.

(i) 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.

(6) Jurisdiction; Venue.

(i) 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.

(7) Headings.

(i) Article and paragraph headings are inserted for convenience only and do not constitute parts of these General Conditions.

(8) Right to Audit.

(i) 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.

(ii) 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.

(iii) 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.

(iv) 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.

(v) The Contractor further agrees that the right to audit encompasses all subcontracts and is binding upon Subcontractors.

(vi) 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.

(vii) 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.

(9) Assignment.

(i) 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.

(ii) 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.

(10) All Legal Provisions Included.

(i) 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.

(ii) 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.

(iii) 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.

(iv) 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.

(v) 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.

(11) State License Board Notice.

(i) 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.

(12) Air Pollution Control.

(i) 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.

(ii) 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.

(13) Noise.

(i) 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.

(ii) 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) Change In Name And Nature Of Contractor's Legal Entity.

(i) 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.

(15) Notice Of Third Party Claims.

(i) 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

7. 00 73 13 – SPECIAL CONDITIONS

(1) Engineer of Record.

(i) For purposes of this Project, the Engineer of Record or Engineer shall be: Sanders, Inc. Architecture / Engineering.

(2) Location of the Project.

(i) The Project is located Imperial Valley College, 380 E. Aten Road, Imperial, CA 92251

(3) Description of the Project.

(i) Provide the District with required water and wastewater plant improvements, including but not limited to:

Water Plant

i. Remove and replace domestic water pumps

ii. Remove and replace exposed potable water piping

iii. Demolition of abandoned tanks

iv. Installation of GAC Treatment System Skid

v. Remove electrical substation and associated appurtenances

vi. Provide new feeder lines from E switchgear to new equipment and old equipment previously fed from substation power source

vii. Provide new fire water pump

Wastewater

1. Remove and replace diversion box to 50K plant
2. Provide new coating to 50K gallon plant
3. Remove and replace UV lighting system

(4) Status of the Project Area and Rights-of-Way.

(i) 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.

(ii) The District has acquired or is negotiating to acquire any rights-of-way, or both, necessary for the permanent Work.

(iii) 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.

(iv) 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.

(v) 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.

(5) Site Data.

(i) 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.

(ii) Other Site Data:

i. N/A

(iii) Copies of these reports, drawings and other materials may be examined at the District's office during regular business hours.

(6) Designation of District's Representative.

(i) Unless otherwise modified by the District, the District's Representative shall be Sanders, Inc. Architecture/Engineering.

(7) Modification of Hours of Work.

[NOT USED.]

(8) Project Retention

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

(9) Liquidated Damages Due to Contractor Delay.

(i) 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 **$1000.00** per Day as liquidated damages for each Day or part thereof that actual completion extends beyond the time specified.

(ii) 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.

(10) Utility Outages – Notices to Residents.

(i) 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.

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

(11) Schedule Constraints.

NOT USED.

(12) Noise Restrictions

NOT USED.

(13) Environmental Conditions

NOT USED.

(14) Safety Programs.

NOT USED.

(15) Coordination with Other Contractors.

NOT USED.

(16) 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.

(17) Fugitive Dust

(i) In addition to all other environmental and air quality requirements of the Contract Documents, Contractor must also comply with the most recent version of South Coast Air Quality Management District's Rule 403 – Fugitive Dust, to reduce the amount of particulate matter entrained in the ambient air as a result of the Project.

(ii) District has considered these other contractors when determining the Contract Times and no additional time or compensation will be added to the Contract due to these requirements.

END OF SPECIAL CONDITIONS

8. 01 00 00 – GENERAL REQUIREMENTS

PART 1 -- GENERAL

1.1 DESCRIPTION

A. Provide the District with required water and wastewater plant improvements.

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 Engineer 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 accommodates 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

ATTACHMENT A - REQUIRED CHANGE ORDER FORM

All change orders issued pursuant to this Agreement shall be the following form:

CHANGE ORDER FORM

Imperial Community College District
380 E. Aten Rd.
Imperial, CA 92251

CHANGE ORDER NO.:

CHANGE ORDER

Project: _____
Bid No.: _____

Date: _____
DSA File No.: _____
DSA Appl. No.:_____

The following parties agree to the terms of this Change Order:

Owner: Imperial Community College District
380 E. Aten Rd.
Imperial, CA 92251

Developer: _____
[Name / Address]
_____
_____

Architect: _____
[Name / Address]
_____
_____

Project Inspector: _____
[Name / Address]
_____
_____

Reference	**Description**	**Cost**	**Days Ext.**
PCO # Requested by: Performed by: Reason:	[Description of change] [Requester] [Performer] [Reason]	$	
PCO # Requested by: Performed by: Reason:	[Description of change] [Requester] [Performer] [Reason]	$	
PCO # Requested by: Performed by: Reason:	[Description of change] [Requester] [Performer] [Reason]	$	

Contract time will be adjusted as follows: Previous Completion Date: [Date] __[#] Calendar Days Extension (zero unless otherwise indicated) Current Completion Date: [Date]	Original Contract Amount:	$
	Amount of Previously Approved Change Order(s):	$
	Amount of this Change Order:	$
	Contract Amount:	$

The undersigned Developer approves the foregoing as to the changes, if any, to the Contract Price specified for each item, and as to the extension of time allowed, if any, for completion of the entire work as stated therein, and agrees to furnish all labor, materials and services

and perform all work necessary to complete any additional work specified for the consideration stated therein. Submission of sums which have no basis in fact or which Developer knows are false are at the sole risk of Developer and may be a violation of the False Claims Act set forth under Government Code section 12650 et seq.

This change order is subject to approval by the governing board of this District and must be signed by the District. Until such time as this change order is approved by the District's governing board and executed by a duly authorized District representative, this change order is not effective and not binding.

It is expressly understood that the compensation and time, if any, granted herein represent a full accord and satisfaction for any and all time and cost impacts of the items herein, and Developer waives any and all further compensation or time extension based on the items herein. The value of the extra work or changes expressly includes any and all of Developer's costs and expenses, and its subcontractors, both direct and indirect, resulting from additional time required on the project or resulting from delay to the project including without limitation, cumulative impacts. Any costs, expenses, damages or time extensions not included are deemed waived.

Signatures:

District:		Developer:	
[Name]	Date	[Name]	Date
Architect:		Project Inspector:	
[Name]	Date	[Name]	Date

END OF DOCUMENT

SECTION 01 11 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
Water and Wastewater Plant Improvements
Imperial, California
Imperial 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:

2025 CALIFORNIA ADMINISTRATIVE CODE, PART 1, TITLE 24, CCR
2022 CALIFORNIA BUILDING CODE (CBC), PART 2, TITLE 24, CCR
2022 CALIFORNIA ELECTRIC CODE (CEC), PART 3, TITLE 24, CCR
(2020 NATIONAL ELECTRIC CODE WITH CALIFORNIA 2022 AMENDMENTS)
2022 CALIFORNIA MECHANICAL CODE (CMC), PART 4, TITLE 24, CCR
(2021 UNIFORM MECHANICAL CODE WITH CALIFORNIA 2022 AMENDMENTS)
2022 CALIFORNIA PLUMBING CODE (CPC), PART 5, TITLE 24, CCR
(2021 UNIFORM PLUMBING CODE WTH CALIFORNIA 2022 AMENDMENTS)
2022 CALIFORNIA ENERGY CODE, PART 6 TITLE 24 CCR
2022 CALIFORNIA FIRE CODE (CFC), PART 9, TITLE 24, CCR
(2021 INTERNATIONAL FIRE CODE WITH CALIFORNIA 2022 AMENDMENTS)
2022 CALIFORNIA GREEN BUILDING STANDARDS CODE, PART 11, TITLE 24 CCR
2022 CALIFORNIA REFERENCED STANDARDS, PART 12, TITLE 24 CCR
TITLE 19 CCR, PUBLIC SAFETY, STATE FIRE MARSHALL REGULATIONS

B. Addenda and Change Orders:

1. In accordance with Part 1, Tilte 24, Section 4-338, California Code of Regulations, all addenda and change orders shall be approved by the Office of Regulation Services, Division of the State Architect (ORS / DSA).

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: Responsibility of the Contractor.

2. Section 4-342: Continuous Inspection of the Work.

3. Section 4-335: Tests.

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 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.

2. Construction operations generating excessive noise, such as use of pneumatic tools and power actuated fastener equipment, shall be scheduled with the Architect and approved by owner.

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 Prime 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. Contractor 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 11 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.

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 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 the 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, Architect will prepare Change Order.

C. Change Order Request (COR):

1. Contractor may submit a COR 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. 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: Architect 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".

1.06 PROGRESS PAYMENT COORDINATION

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 and Inspector of Record for review.

2. Architect 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 Architect 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 Architect 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 months 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 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 Architect.

2. RFI's sent by subcontractor directly to the 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. Architect shall prepare and maintain a log of RFI's, and at each weekly meeting, furnish copies of the log showing outstanding RFI's. Architect 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

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. BASE BID: Provide Lump-sum allowances for the following items:

1.	Additional Controls:	$ 380,000.00
2.	Additional hardscape requirements:	$ 170,000.00
3.	Additional electrical requirements:	$ 80,000.00
4.	Additional repair to unknown site utilities	$ 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 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. Architect will schedule a meeting after Notice of Award.

B. Attendance Required: 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. Architect 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. Architect will schedule and administer meetings throughout progress of the work as needed.

B. Architect will make arrangements for meetings, prepare agenda with copies for participants, and preside at meetings.

C. Attendance Required: 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. Architect 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 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, 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 Architect 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 ARCHITECT. The Conditions of the contract and the other sections of Division 01 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, the Contractor will be required to provide the following details to the Architect:

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. CONTRACTOR must coordinate all work with all other contractors on the project through the Architect in order to complete each activity of their work within the fixed durations assigned to same as shown on the “PROJECT CONSTRUCTION SCHEDULE”.

C. 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 ARCHITECT as the project progresses. Upon receipt of 48 hours advanced notice by the ARCHITECT 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.

D. 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.

E. 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 ARCHITECT have reason to believe at any time that CONTRACTOR is not providing an adequate workforce armed with the proper materials and/or equipment, ARCHITECT 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.

F. The time for total project completion shall be within the total time specified in the Contract documents. The ARCHITECT 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.

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 Architect at weekly 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.

    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 Architect.

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 Architect. 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 Architect 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 Architect 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 Architect and assist him as required or directed.
   b. If the Architect 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 Architect 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 REQUIRMENTS 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 (2006 IBC and 2007 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.

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 then 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 Architect, 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 Architect.

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. Architect 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, OWNER'S'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 Architect.

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 Architect'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.

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 Architect and maintain in a safe and sanitary condition at all times until completion of the Contract.

B. Contractor shall cooperate with Architect 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 Architect 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 Architects 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 Architect when on site, and sign in and out as directed by Architect. Notify Architect 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. Loud radio or other music judged disruptive, offensive or obscene by the Owner is not permitted. Immediately cease all such music.

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 VHS color video and any other means of documentation necessary to describe existing condition.
2. Prepare VHS 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 74 00 PROGRESS AND FINAL CLEANING

PART 1 – GENERAL

1.01 SUMMARY

A. Provisions of General Conditions, Supplementary Conditions, and Division 01 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.

PART 2 – PRODUCTS – Not Used

PART 3 – EXECUTION – Not Used

END OF SECTION 01 74 00

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 01 81 00 SUSTAINABLE DESIGN

PART 1 – GENERAL

1.01 SUMMARY

A. This Section includes general requirements and procedures for special environmental, sustainable, and "green" building practices related to energy conservation and efficiency, indoor air quality, and resource efficiency.
B. Scope of Work: The work under this section includes furnishing all labor, materials, and equipment, and performing all operations as indicated on the drawings, specified herein, or reasonably required to complete the work. The work includes, but is not limited to the following catagories:

1. Sustainable Sites
2. Water Efficiency
3. Energy and Atmosphere
4. Material and Resources
5. Indoor Enviromental Quality

1.02 OBJECTIVES

A. To obtain acceptable Indoor Air Quality (IAQ) for the completed project and minimize the environmental impacts of the construction and operation, the Contractor during the construction phase of this project shall implement the following procedures singly or in combination:

1. Select products that minimize consumption of non-renewable resources, consume reduced amounts of energy and minimize amounts of pollution to produce, and employ recycled and/or recyclable materials. To help government purchasers incorporate environmental considerations into purchasing decisions, it is the intent of this project to conform with EPA's Five Guiding Principles on environmentally preferable purchasing. The five principles are:

   a. Include environmental considerations as part of the normal purchasing process.
   b. Emphasize pollution prevention early in the purchasing process.
   c. Examine multiple environmental attributes throughout a product's or service's life cycle.
   d. Compare relevant environmental impacts when selecting products and services.
   e. Collect and base purchasing decisions on accurate and meaningful information about environmental performance.

2. Control sources for potential IAQ pollutants by controlled selection of materials and processes used in project construction in order to attain superior IAQ.
3. Products and processes that achieve the above objectives to the extent currently possible and practical have been selected and included in these Construction Documents. The Contractor is responsible to maintain and support these objectives in developing means and methods for performing the work of this Contract and in proposing product substitutions and/or changes to specified processes.

1.03 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General Conditions and other Division 1 Specification Sections, apply to this Section.
B. Related Sections include the following:

1. Divisions 2 through 48 Sections for Sustainable Design Requirements specific to the Work of each of those Sections.

2. 01 74 19 Construction Waste Management.

1.04 DEFINITIONS

A. Agrifiber Products: Composite panel products derived from agricultural fiber.
B. Biobased Product: As defined in the 2002 Farm Bill, a product determined by the Secretary to be a commercial or industrial product (other than food or feed) that is composed, in whole or in significant part, of biological products or renewable domestic agricultural materials (including plant, animal, and marine materials) or forestry materials.
C. Biobased Content: The weight of the biobased material divided by the total weight of the product and expressed as a percentage by weight.
D. Certificates of Chain-of-Custody: Certificates signed by manufacturers certifying that wood used to make products has been tracked through its extraction and fabrication to ensure that is was obtained from forests certified by a specified certification program.
E. Composite Wood: A product consisting of wood fiber or other plant particles bonded together by a resin or binder.
F. Construction and Demolition Waste: Includes solid wastes, such as building materials, packaging, rubbish, debris, and rubble resulting from construction, remodeling, repair and demolition operations. A construction waste management plan is to be provided by the Contractor as defined in Section 01 74 19.
G. LEED: The Leadership in Energy & Environmental Design green building rating systems developed and adopted by the U.S. Green Building Council (USGBC). The systems certify levels of environmental achievement based on a point and credit scoring system.
H. LEED NC: The Leadership in Energy & Environmental Design green building rating system developed and adopted by the USGBC for new construction and major renovations of buildings.
I. LEED EB: The Leadership in Energy & Environmental Design green building rating system developed and adopted by the USGBC for operating and maintaining existing buildings.
J. Light Pollution: Light that extends beyond its source such that the additional light is wasted in an unwanted area or in an area where it inhibits view of the night sky.
K. Recycled Content Materials: Products that contain pre-consumer or post-consumer materials as all or part of their feedstock.
L. Post-Consumer Recycled Content: The percentage by weight of constituent materials that have been recovered or otherwise diverted from the solid-waste stream after consumer use.
M. Pre-Consumer Recycled Content: Materials that have been recovered or otherwise diverted from the solid-waste stream during the manufacturing process. Pre-consumer content must be material that would not have otherwise entered the waste stream as per Section 5 of the FTC Act, Part 260 “Guidelines for the Use of Environmental Marketing Claims”: www.ftc.gov/bcp/grnrule/guides980427.
N. Regional Materials: Materials that are extracted, harvested, recovered, and manufactured within a radius of 250 miles (400 km) from the Project site.
O. Salvaged or Reused Materials: Materials extracted from existing buildings in order to be reused in other buildings without being manufactured.
P. Sealant: Any material that fills and seals gaps between other materials.
Q. Type 1 Finishes: Materials and finishes which have a potential for short-term levels of off gassing from chemicals inherent in their manufacturing process, or which are applied in a form requiring vehicles or carriers for spreading which release a high level of particulate matter in the process of installation and/or curing.
R. Type 2 Finishes: “Fuzzy” materials and finishes which are woven, fibrous, or porous in nature and tend to adsorb chemicals offgassed by Type 1 finishes or may be adversely affected by particulates. These materials become “sinks” for deleterious substances which may be released much later, or collectors of contaminants that may promote subsequent bacterial growth.
S. Volatile Organic Compounds (VOCs): Any compound of carbon, excluding carbon monoxide, carbon dioxide, carbonic acid, metallic carbides or carbonates, and ammonium carbonate, which participates in atmospheric photochemical reactions. Compounds that have negligible photochemical reactivity, listed in EPA 40 CFR 51.100(s), are also excluded from this regulatory definition.

1.05 SUBMITTALS

A. General: Additional Sustainable Design submittal requirements are included in other sections of the Specifications.
B. Sustainable Design Submittals:

1. Alternative Transportation: Provide manufacturer's cut sheets for all bike racks installed on site, including the total number of bicycle storage slots provided. Also, provide manufacturer's cut sheets for any alternative-fuel refueling stations installed on site, including fueling capacity information for an 8-hour period.
2. Heat Island Effect:

    a. Site Paving: Provide manufacturer's cut sheets for all impervious paving materials, indicating the Solar Reflectance Index (SRI) of the material. Also, provide cut sheets for all pervious paving materials including color addatives for concrete.
    b. Roofing Materials: Submittals for roofing materials must include manufacturer's cut sheets or product data indicating the Solar Reflectance Index (SRI) of the material.

3. Exterior Lighting Fixtures: Submittals must include cut sheets with manufacturer's data on initial fixture lumens above 90° from nadir for all exterior lighting fixtures, and, for parking lot lighting, verification that the fixtures are classified by the IESNA as "full cutoff" (FCO); OR provide documentation that exterior luminaires are IDA-Approved as Dark-Sky Friendly by the International Dark Sky Association (IDA) Fixture Seal of Approval Program.
4. Irrigation Systems: Provide manufacturer's cut sheets for all permanent landscape irrigation system components.
5. Water Conserving Fixtures: Submittals must include manufacturer's cut sheets for all water-consuming plumbing fixtures and fittings (toilets, urinals, faucets, showerheads, etc.) highlighting maximum flow rates and/or flush rates. Include cut sheets for any automatic faucet-control devices.
6. Process Water Use: Provide manufacturer's cut sheets for all water-consuming commercial equipment (clothes washers, dishwashers, ice machines, etc.), highlighting water consumption performance. Include manufacturer's cut sheets or product data for any cooling towers, highlighting water consumption estimates, water use reduction measures, and corrosion inhibitors.
7. Elimination of CFCs and HCFCs: Provide manufacturer's cut sheets for all cooling equipment with manufacturer's product data, highlighting refrigerants; provide manufacturer's cut sheets for all fire-suppression equipment, highlighting fire-suppression agents; provide manufacturer's cut-sheets for all polystyrene insulation (XPS) and closed-cell spray foam polyurethane insulation, highlighting the blowing agent(s).
8. Appliances and Equipment: Provide copies of manufacturer's product data for all Energy Star eligible equipment and appliances that are included in contract as provided by Contractor; including office equipment, computers and printers, electronics, and commercial food service equipment (excluding HVAC and lighting components), verifying compliance with EPA's Energy Star program.
9. On-Site Renewable Energy Systems: Provide cut sheets and manufacturer's product data for all on-site renewable energy generating components and equipment, including documentation of output capacity.
10. Measurement and Verification Systems: Provide cut sheets and manufacturer's product data for all controls systems, highlighting electrical metering and trending capability components.
11. Salvaged or Reused Materials: Provide documentation that lists each salvaged or reused material, the source or vendor of the material, the purchase price, and the replacement cost if greater than the purchase price.
12. Recycled Content: Submittals for all materials with recycled content (excluding MEP systems equipment and components) must include the following documentation.

a. Cost of each material or product, excluding cost of labor and equipment for installation.
b. Manufacturer's product data, product literature, or a letter from the manufacturer verifying the percentage of post-consumer and pre-consumer recycled content (by weight) of each material or product.
c. An electronic spreadsheet that tabulates the Project's total materials cost and combined recycled content value (defined as the sum of the post-consumer recycled content value plus one-half of the pre-consumer recycled content value) expressed as a percentage of total materials cost. This spreadsheet shall be submitted prior to Contractor's final Certificate and Application for Payment. It should indicate line items for each material; including cost, pre-consumer recycled content, post-consumer recycled content, and combined recycled content value.

13. Regional Materials: Submittals for all products or materials expected to contribute to the regional calculation (excluding MEP systems equipment and components) must include the following documentation:

    a. Cost of each material or product, excluding cost of labor and equipment for installation.
    b. Location of product manufacture and distance from point of manufacture to the Project Site.
    c. Location of point of extraction, harvest, or recovery for each raw material in each product and distance from the point of extraction, harvest, or recovery to the Project Site.
    d. Manufacturer's product data, product literature, or a letter from the manufacturer verifying the location and distance from the Project Site to the point of manufacture for each regional material.
    e. Manufacturer's product data, product literature, or a letter from the manufacturer verifying the location and distance from the Project Site to the point of extraction, harvest, or recovery for each regional material or product, including, at a minimum, gravel and fill, planting materials, concrete, masonry, and GWB.
    f. An electronic spreadsheet that tabulates the Project's total materials cost and regional materials value, expressed as a percentage of total materials cost. This spreadsheet shall be submitted prior to the Contractor's final Certificate and Application for Payment. It should indicate line items for each material; including cost, location of manufacture, distance from manufacturing plant to the Project Site, location of raw material extraction, and distance from extraction point to the Project Site.

14. Biobased Products:

    a. Rapidly Renewable Products: Submittals must include written documentation from the manufacturer declaring that rapidly renewable materials are made from plants harvested within a ten-year or shorter cycle and must indicate the percentage (by weight) of these rapidly renewable components contained in the candidate products, along with the costs of each of these materials, excluding labor and delivery costs.
    b. Certified Wood: Submittals for all wood-based materials must include a statement indicating the cost of each product containing FSC Certified wood, exclusive of labor and delivery costs certificates of chain-of-custody from manufacturers certifying that specified certified wood products were made from wood obtained from forests certified by an FSC-accredited certification body to comply with FSC 1.2 "Principles and Criteria."

15. Outdoor Air Delivery Monitoring: Provide manufacturer's cut sheets highlighting the installed carbon dioxide monitoring system components and sequence of controls shop drawing documentation, including CO2 differential set-points and alarm capabilities.
16. Interior Adhesives and Sealants: Submittals for all field-applied adhesives and sealants, which have a potential impact on indoor air, must include manufacturer's MSDSs or other Product Data indicating VOC content.

a. Provide manufacturers' documentation verifying all adhesives used to apply laminates, whether shop-applied or field-applied, contain no urea-formaldehyde.

17. Interior Paints and Coatings: Submittals for all field-applied paints and coatings, which have a potential impact on indoor air, must include manufacturer's MSDSs or other Product Data indicating VOC content.
18. Exterior Paints and Coatings: Submittals for all field-applied paints and coatings, which have a potential impact on ambient air quality, must include manufacturer's MSDSs or other manufacturer's Product Data indicating VOC content.
19. Floorcoverings:

    a. Carpet Systems: Submittals for all carpet must include manufacturer's product data verifying that all carpet systems meet or exceed the testing and product requirements of the Carpet and Rug Institute Green Label Plus program.
    b. Resilient Flooring: Submittals for all resilient floorcovering must include manufacturer's product data verifying certification under either the Greenguard for Children & Schools or FloorScore indoor emissions testing program.
    c. Engineered Wood Flooring and Bamboo Flooring: Submittals for all engineered wood flooring and bamboo flooring must include manufacturer's product data verifying certification under either the Greenguard or FloorScore indoor emissions testing program.

20. Composite Wood and Agrifiber Binders: Submittals for all composite wood and agrifiber products (including but not limited to particleboard, wheatboard, strawboard, agriboard products, engineered wood components, solid-core wood doors, OSB, MDF, and plywood products) must include manufacturer's product data verifying that these products contain no urea-formaldehyde resins.
21. Systems Furniture and Seating: Provide manufacturer's product data verifying that all systems furniture and seating products, that are included in contract as provided by Contractor, meet the requirements of one of the following:

    a. Greenguard certification.
    b. SCS Indoor Advantage certification.
    c. SCS Indoor Advantage Gold certification.
    d. BIFMA Standard X7.1-2005, as tested to BIFMA method M7.1¬2005 and as verified by an independent laboratory.
    e. Calculated indoor air concentration limits for furniture systems and seating determined by the U.S. EPA's Environmental Technology Verification Large Chamber Test Protocol for Measuring Emissions of VOCs and Aldehydes (September 1999) testing protocol as conducted in an independent air quality testing laboratory

22. Entryway Systems: Provide manufacturer's cut sheets for all walk-off systems installed to capture particulates, including permanently installed grates, grilles, slotted systems, direct glue-down walk-off mats, and non-permanent roll-out mats.
23. Air Filtration: Provide manufacturer's cut sheets and product data indicating the following:

    a. Minimum Efficiency Reporting Value (MERV) for filtration media in all air handling units (AHUs).
    b. Minimum Efficiency Reporting Value (MERV) for filtration media installed at return air grilles during construction if permanently installed AHUs are used during construction.

24. Mercury in Lighting: Provide manufacturer's cut sheets or product data for all fluorescent or HID lamps indicating mercury content.
25. Lighting Controls: Provide manufacturer's cut sheets and shop drawing documentation indicating all lighting controls systems components.

26. Thermal Comfort Controls: Provide manufacturer's cut sheets and shop drawing documentation indicating all thermal comfort-control systems components.
27. Blended Cement: It is the intent of this specification to reduce CO2 emissions and other environmentally detrimental effects resulting from the production of portland cement by requiring that all concrete mixes, in aggregate, utilize blended cement mixes to displace 40% of the portland cement typically included in conventional construction. Provide the following submittals:

    a. Copies of concrete design mixes for all installed concrete.
    b. Copies of typical regional baseline concrete design mixes for all compressive strengths used on the Project.
    c. Quantities in cubic yards of each installed concrete mix.

28. Gypsum Wall Board: Provide manufacturer's cut sheets or product data verifying that all gypsum wallboard products are moisture and mold-resistant.
29. Fiberglass Insulation: Provide manufacturer's cut sheets or product data verifying that fiberglass batt insulation contains no urea-formaldehyde.
30. Duct Acoustical Insulation: Provide manufacturer's cut sheets or product data verifying that mechanical sound insulation materials in air distribution ducts consists of an impervious, non-porous coatings that prevent dust from accumulating in the insulating materials.

C. Project Materials Cost Data: Provide a spreadsheet in an electronic file indicating the total cost for the Project and the total cost of building materials used for the Project, as follows:

1. Not more than 60 days after the Preconstruction Meeting, the Prime Contractor shall provide to the Architect a preliminary schedule of materials costs for all materials used for the Project organized by specification section. Exclude labor costs and all mechanical, electrical, and plumbing (MEP) systems materials and labor costs. Include the following:

    a. Identify each reused or salvaged material, its cost, and its replacement value.
    b. Identify each recycled-content material, its post-consumer and pre-consumer recycled content as a percentage the product's weight, its cost, its combined recycled content value (defined as the sum of the post-consumer recycled content value plus one-half of the pre-consumer recycled content value), and the total combined recycled content value for all materials as a percentage of total materials costs.
    c. Identify each regional material, its cost, its manufacturing location, the distance of this location from the Project site, the source location for each raw material component of the material, the distance of these extraction locations from the Project site, and the total value of regional materials as a percentage of total materials costs.
    d. Identify each biobased material, its source, its cost, and the total value of biobased materials as a percentage of total materials costs. Also provide the total value of rapidly renewable materials (materials made from plants that are harvested in less than a 10-year cycle) as a percentage of total materials costs.
    e. Identify each wood-based material, its cost, the total wood-based materials cost, each FSC Certified wood material, its cost, and the total value of FSC Certified wood as a percentage of total wood-based materials costs.

2. Provide final versions of the above spreadsheets to the Architect not more than 14 days after Substantial Completion.

D. Construction Waste Management: see Section 01 74 19 "Construction Waste Management" for submittal requirements and provide the following:

1. Submit weight tickets and logs prior to the Contractor's final Certificate and Application for Payment..

E. Construction Indoor Air Quality (IAQ) Management: see attached Construction IAQ Management Plan for submittal requirements and provide the following:

1. Not more than 14 days after Substantial Completion provide the following:

a. Manufacturer's cut sheets and product data indicating the Minimum Efficiency Reporting Value (MERV) for all filtration media to be installed, including at return air grilles, during construction if permanently installed AHUs are used during construction.
b. Documentation verifying required replacement of air filtration media and manufacturer's cut sheets and product data indicating MERV for filtration media in all air handling units (AHUs) after the completion of construction and prior to occupancy if permanently installed AHUs are used during construction.

F. Commissioning: by Owner under separate contract.

1.06 QUALITY ASSURANCE

A. General: Perform the work of this Section as a supplement and in accordance with applicable requirements of Division 1 "Contractor Quality Control Program."
B. Preconstruction Meeting: After award of Contract and prior to the commencement of the Work, schedule and conduct meeting with Owner, Architect, and all Subcontractors to discuss the Construction Waste Management Plan, Construction Indoor Air Quality (IAQ) Management Plan, and all other Sustainable Design Requirements. The purpose of this meeting is to develop a mutual understanding of the Project's Sustainable Design Requirements and coordination of the Contractor's management of these requirements with the Contracting Officer and the Construction Quality Manager.
C. Construction Job Conferences: The status of compliance with the Sustainable Design Requirements of these specifications will be an agenda item at all regular job meetings conducted during the course of work at the site.

PART 2 - PRODUCTS

2.01 PRODUCT ENVIRONMENTAL REQUIREMENTS

A. Site Clearing: Topsoil shall be provided by the Contractor from on-site material which has been stockpiled for reuse. Off-site borrow should only be used when on-site sources are exhausted. Chip and/or compost on site all vegetated material identified for removal.
B. Do not burn rubbish, organic matter, etc. or any material on the site. Dispose of legally in accordance with Specifications Sections 01 74 19.
C. Site Paving: Site impervious paving must be light colored, with a Solar Reflectance Index (SRI) of at least 29.

1. Hardscape with SRI lower then 29, located per drawings, to be 50% max of total hardscape area.

D. Roofing Materials: All roofing systems, other than vegetated roof systems, must comply with the following requirements:

1. Low-Sloped roofing less than or equal to 2:12 slope must have an SRI of at least 78.
2. Steep-Sloped roofing greater than 2:12 slope must have an SRI of at least 29.

E. Exterior Lighting Fixtures:

1. 98% of all exterior luminaires must emit 0% of the total initial designed fixture lumens at an angle above 90° from nadir and/or meet the requirements of the Dark Sky certification program.
2. Exterior lighting cannot exceed 80% of the lighting power densities defined by ASHRAE/IESNA Standard 90.1-2004, Exterior Lighting Section, without amendments.
3. No lighting of building facades or landscape features is permitted.

F. Herbicides and Pest Control: Herbicides shall not be permitted, and pest control measures shall utilize EPA-registered biopesticides only.

G. Irrigation Systems: Any permanent landscape irrigation systems must be supplied entirely by non-potable water and be comprised of below-grade drip emitters. Controler shall have moisture sensors.

H. Water-Conserving Fixtures: Plumbing fixtures and fittings shall use in aggregate at least 40% less water than the water use baseline calculated for the building after meeting the Energy Policy Act of 1992 fixture performance requirements. Flow and flush rates shall not exceed the following:

1. Toilets: no more than 1.3 gallons per flush, otherwise be dual flush 1.6/0.8 gallons per flush, and have documented bowl evacuation capability per MaP testing of at least 400 grams.
2. Urinals: no more than 0.125 gallons per flush or use.
3. Lavatory Faucets: 0.5 gpm with automatic faucet controls.
4. Kitchen Sink Lavatories: 2.2 gpm.
5. Showerheads: no more than 1.5 gpm.

I. Process Water Use: Employ strategies that in aggregate result in 20% less water use than the process water use baseline for the building after meeting the commercial equipment and HVAC performance requirements as listed in the Table below. For equipment not addressed by EPACT 2005 or the list below, additional equipment performance requirements may be proposed provided documentation supporting the proposed benchmark or industry standard is submitted

1. Clothes Washer: 7.5 gallons/cubic foot/cycle.
2. Dishwasher with Racks: 1.0 gallons/rack.
3. Ice Machine: 20 gallons/100 pounds ice for machines making over 175 pounds of ice per day; 30 gallons/100 pounds ice for machines making less than 175 ice per day. Avoid water-cooled machines.
4. Food Steamer: 2 gallons/hour. Use only boilerless steamers.
5. Pre-Rinse Spray Valves: 1.4 gallons/minute.
6. Kitchen Pot-Washing Sinks: 2.2 gallons/minute.
7. Cooling Towers: 2.3 gallons/ton-hr. water loss.

    a. Use atrazine-based corrosion inhibitors and reducing bleed-off by increasing cycles of concentration (at least 5, or with water quality problems limit to 4).
    b. Install meters on make-up water and discharge blow-down.
    c. Install conductivity controller for blow-down.
    d. Provide overflow alarm connected to central building controls.
    e. Install drift eliminators.
    f. Provide makeup water from sources other than potable water supply.

J. Elimination of CFCs AND HCFCs:

1. Ozone Protection: Base building cooling equipment shall contain no refrigerants other than the following: HCFC-123, HFC-134a, HFC¬245fa, HFC-407c, or HFC 410a.
2. Fire suppression systems may not contain ozone-depleting substances.
3. Extruded polystyrene insulation (XPS) and closed-cell spray foam polyurethane insulation shall not be manufactured with hydrochlorofluorocarbon (HCFC) blowing agents.

K. Appliances and Equipment: All Energy Star eligible equipment and appliances, including office equipment, computers and printers, electronics, and commercial food service equipment (excluding HVAC and lighting components), shall be qualified by EPA's Energy Star program.

L. HVAC Distribution Efficiency:

1. All duct systems shall be constructed of galvanized sheet metal, aluminum, or stainless steel as deemed appropriate based on the application requirements. No fiberglass duct board shall be permitted.
2. All medium- and high-pressure ductwork systems shall be pressure-tested in accordance with the current SMACNA standards.
3. All ductwork shall be externally insulated. No interior duct liner shall be permitted.
4. Where possible, all air terminal connections shall be hard-connected with sheet metal ductwork. If flexible ductwork is used, no flexible duct extension shall be more than six feet in length.
5. All HVAC equipment shall be isolated from the ductwork system with flexible duct connectors to minimize the transmittance of vibration.
6. All supply and return air branch ducts shall include the appropriate style of volume damper. Air terminal devices such as grilles, registers, and diffusers shall be balanced at duct branch dampers, not at terminal face.

M. Measurement and Verification: Install controls and monitoring devices as required by division 15 and 16 in order to comply with International Performance Measurement & Verification Protocol (IPMVP), Volume III: Concepts and Options for Determining Energy Savings in New Construction, April 2003, Option D.

N. Salvaged or Reused materials: There shall be no substitutions for specified salvaged and reused materials and products.

O. Recycled Content of Materials.

1. Provide building materials with recycled content such that post-consumer recycled content value plus half the pre-consumer recycled content value constitutes a minimum of 30% of the cost of materials used for the Project, exclusive of all MEP equipment, labor, and delivery costs. The Contractor shall make all attempts to maximize the procurement of materials with recycled content.

a. The post-consumer recycled content value of a material shall be determined by dividing the weight of post-consumer recycled content by the total weight of the material and multiplying by the cost of the material.
b. The pre-consumer recycled content value of a material shall be determined by dividing the weight of pre-consumer recycled content by the total weight of the material and multiplying by the cost of the material.
c. Do not include mechanical and electrical components in the calculations.
d. Do not include labor and delivery costs in the calculations.
e. Recycled content of materials shall be defined according to the Federal Trade Commission's "Guide for the Use of Environmental Marketing Claims," 16 CFR 260.7 (e).
f. Utilize all on-site existing paving materials that are scheduled for demolition as granulated fill, and include the cost of this material had it been purchased in the calculations for recycled content value.
g. At a minimum, where possible the following materials shall have the minimum recycled content indicated:

Category Minimum	Recycled Content
Compost/mulch	100% post-consumer
Asphaltic Concrete Paving	25% post-consumer
Cast-in-Place Concrete	6% pre-consumer
CMU: Gray Block	20% pre-consumer

Steel Reinforcing Bars	90% combined
Structural Steel Shapes	90% combined
Steel Joists	75% combined
Steel Deck	75% combined
Steel Fabrications	60% combined
Steel Studs	30% combined
Steel Roofing	30% post-consumer
Aluminum Fabrications	35% combined
Rigid Insulation	20% pre-consumer
Batt insulation	30% combined

P. Regional Materials: Provide a minimum of 20 percent of building materials (by cost) that are manufactured and extracted/harvested within a 500 mile radius of the project site, exclusive of labor and delivery costs. The Contractor shall make all attempts to maximize the procurement of materials within this specified 500 mile radius.

Q. Biobased Products:

1. Use only biobased concrete form-release products.
2. Solid Wood Products: All new solid-wood-based materials will be certified as “FSC 100%” by an independent third party in accordance with FSC Forest Stewardship Council “Principles and Criteria” and will have received Chain-of-Custody Certification as certified by an accredited certification group such as Smartwood or Scientific Certification Systems (SCS).
3. Other Wood Products: All other new wood-based materials will be certified by an independent third party in accordance with any of the following standards:

    a. FSC: Forest Stewardship Council “Principles and Criteria” and has received Chain-of-Custody Certification as certified by an accredited certification group such as Smartwood or Scientific Certification Systems (SCS).

4. Preservative-treated lumber with chromated copper arsenate (CCA) treatments is not permitted, and lumber with copper-based treatments (such as ACQ) is permitted only for ground-contact applications.
5. Wood-based materials include but are not limited to the following materials (when made from wood), engineered wood products, or wood-based panel products:

    a. Rough carpentry.
    b. Miscellaneous carpentry.
    c. Heavy timber construction.
    d. Wood decking.
    e. Particleboard.
    f. Plywood.
    g. Metal-plate-connected wood trusses.
    h. Structural glued-laminated timber.
    i. Finish carpentry.
    j. Architectural woodwork.
    k. Wood paneling.
    l. Wood veneer wall covering.
    m. Wood flooring.
    n. Wood lockers.
    o. Wood cabinets.
    p. Wood doors.
    q. Non-rented temporary construction, including bracing, concrete formwork, pedestrian barriers, and temporary protection.
    r.

R. Brominated Flame Retardants: For new furniture do not utilize cushioned seating with brominated flame retardants.

S. Outdoor Air Delivery Monitoring:

1. All spaces with an occupant density greater than 1 person per 40 square feet must include at least one CO2 monitor located between 3 feet and 6 feet above the finished floor.
2. All spaces with occupant density less than 1 person per 40 square feet must include a direct outdoor airflow monitor, capable of measuring the minimum outdoor airflow rate within 15% accuracy.
3. Monitoring equipment must be configured to generate a building automation system alarm and a visual or audible alert when CO2 concentrations vary by 10% or more from set point.

T. Adhesives and Sealants:

1. All adhesives and sealants used inside the building's thermal envelope must be third-party certified under one of the following programs:

   a. Indoor Advantage Plus from Scientific Certification Systems, Inc.
   b. Greenguard Children and Schools from Greenguard Environmental Institute.
   c. Collaborative for High Performance Schools.

2. All adhesives and sealants must comply with the following limits for VOC content when calculated according to 40 CFR 59, Subpart D (EPA method 24):

   a. Concrete Curing Compound: 60 g/L.
   b. Concrete Sealer: 10 g/L.
   c. Concrete Form Release Agents: 0g/L.
   d. Garage Deck Sealer: 50g/L.
   e. Wood Glues: 20 g/L.
   f. Millwork and Casework Adhesives: 20g/L.
   g. Metal to Metal Adhesives: 30 g/L.
   h. Adhesives for Porous Materials (Except Wood): 50 g/L.
   i. Subfloor Adhesives: 50 g/L.
   j. Plastic Foam Adhesives: 50 g/L.
   k. Carpet Adhesives: 50 g/L.
   l. Carpet Pad Adhesives: 50 g/L.
   m. Carpet Seam Sealer: 50g/L.
   n. VCT and Sheet Vinyl Adhesives: 50 g/L.
   o. Cove Base Adhesives: 50 g/L.
   p. Rubber Floor Adhesives: 60 g/L.
   q. Wood Flooring Adhesives: 100 g/L.
   r. Ceramic Tile Adhesives: 65 g/L.
   s. Gypsum Board and Panel Adhesives: 50 g/L.
   t. Gypsum Drywall Joint Compound: 20 g/L.
   u. Portland Cement Plaster: 20 g/L.
   v. Multipurpose Construction Adhesives: 70 g/L.
   w. Cast Resin Countertop Silicone Sealant: 20g/L.
   x. Plastic Laminate Adhesives: 20 g/L.
   y. General Contact Adhesive: 80 g/L.
   z. Structural Glazing Adhesives and Compounds: 100 g/L.
   aa. Silicone Sealant: 50 g/L.
   bb. Pipe Thread Sealant: 50 g/L.
   cc. Duct Sealant: 10 g/L.
   dd. Plastic Cement Welding Compounds: 250 g/L.
   ee. ABS Welding Compounds: 400 g/L.

ff. CPVC Welding Compounds: 270 g/L.
gg. PVC Welding Compounds: 150 g/L.
hh. Adhesive Primer for Plastic: 250 g/L.
ii. Architectural Sealants: 250 g/L.
jj. Single-Ply Roofing Membrane Adhesives: 250 g/L.

3. Interior sealants shall not contain: mercury, butyl rubber, neoprene, SBR (styrene butadiene rubber), or nitrile.
4. Sealants and glazing compounds formulated with aromatic solvents (organic solvent with a benzene ring in its molecular structure) fibrous talc or asbestos, formaldehyde, halogenated solvents, mercury, lead, cadmium, hexavalent chromium, or their components shall not be used.
5. Adhesives used to apply laminates, whether shop-applied or field-applied, shall contain no urea-formaldehyde.

U. Paints and Coatings:

1. Interior Paints and Coatings: For interior field-applied applications, use paints and coatings that comply with the following limits for VOC content when calculated according to 40 CFR 59, Subpart D (EPA method 24) and the chemical restrictions (Restricted Components listed below) of Green Seal Standard GS-11, Paints, First Edition, May 20, 1993; Green Seal Standard GC-03, Anti-Corrosive Paints, Second Edition, January 7, 1997; and South Coast Air Quality Management District Rule 1113, Architectural Coatings, rules in effect on January 1, 2004, as follows:

a. Flat Paints and Coatings: Not more than 10 grams of VOC per liter of coating less water and exempt compounds, including pigments.
b. Non-Flat Paints and Coatings Except High Gloss: Not more than 50 grams of VOC per liter of coating less water and exempt compounds, including pigments.
c. High Gloss Paints and Coatings: Not more than 150 grams of VOC per liter of coating less water and exempt compounds, including pigments. High Gloss Coatings are coatings that register a gloss of 70 or above on a 60-degree meter according to ASTM Test Method D 523 as specified in paragraph (e)(6).
d. Water-Based Polychromatic Finish Coatings: Not more than 150 g/L (150 g/L for primer and flat polychromatic paint).
e. Anti-Corrosive Coatings: Not more than 100 grams of VOC per liter of coating less water and exempt compounds.
f. Sanding Sealers: Not more than 50 grams of VOC per liter of coating less water and exempt compounds.
g. Waterproofing Sealers: Not more than 100 grams of VOC per liter of coating less water and exempt compounds.
h. Concrete Slab Sealers: Not more than 10 grams of VOC per liter of coating less water and exempt compounds.
i. Polyurethanes: Not more than 100 grams of VOC per liter of coating less water and exempt compounds.
j. Stains: Not more than 250 grams of VOC per liter of coating less water and exempt compounds.

2. Interior field applied varnishes and lacquers are not permitted.
3. Interior paints shall not contain antimicrobial additives (such as fungicides and biocides).
4. Exterior Paints and Coatings: For exterior applications, use paints and coatings that comply with the following limits for VOC content when calculated according to 40 CFR 59, Subpart D (EPA method 24) and the chemical restrictions (Restricted Components listed below) of Green Seal's Standard GS-11:

a. Flat Paints and Coatings: Not more than 50 grams of VOC per liter of coating less water and exempt compounds, including pigments.
b. Non-Flat Paints and Coatings: Not more than 150 grams of VOC per liter of coating less water and exempt compounds, including pigments.
c. High Gloss Paints and Coatings: Not more than 150 grams of VOC per liter of coating less water and exempt compounds, including pigments. High Gloss Coatings are coatings that register a gloss of 70 or above on a 60-degree meter according to ASTM Test Method D 523 as specified in paragraph (e)(6).
d. Anti-Corrosive Coatings: Not more than 100 grams of VOC per liter of coating less water and exempt compounds.
e. Varnishes and Sanding Sealers: Not more than 275 grams of VOC per liter of coating less water and exempt compounds.
f. Stains: Not more than 250 grams of VOC per liter of coating less water and exempt compounds.

5. Aromatic Compounds: Paints and coatings shall not contain more than 1% (by weight) total aromatic compounds (hydrocarbon compounds containing one or more benzene rings).
6. Restricted Components: Paints and coatings shall not contain any of the following:

a. Acrolein.
b. Acrylonitrile.
c. Analine dyes.
d. Antimony.
e. Benzene.
f. Butyl benzyl phthalate.
g. Cadmium.
h. Di (2-ethylhexyl) phthalate.
i. Di-n-butyl phthalate.
j. Di-n-octyl phthalate.
k. 1,2-dichlorobenzene.
l. Diethyl phthalate.
m. Dimethyl phthalate.
n. Ethylbenzene.
o. Formaldehyde.
p. Hexavalent chromium.
q. Isophorone.
r. Lead.
s. Mercury.
t. Methyl ethyl ketone.
u. Methyl isobutyl ketone.
v. Methylene chloride.
w. Naphthalene.
x. Toluene (methylbenzene).
y. 1,1,1-trichloroethane.
z. Vinyl chloride
aa. Xylene.

7. Coordinate with paint manufacturers for implementing a “take-back program” for all unused paint. Set aside scrap and unused paint to be returned to the manufacturer for recycling into new product. Close and seal all partially used containers of paint to maintain quality as necessary for reuse.

V. Floorcoverings:

1. Carpet shall achieve an Environmental Performance Score of 0.0200 as determined through an assessment in the Building for Environmental and Economic Sustainability (BEES) software model, either Version 3.0 or 4.0. The parameters of the model must be set in the following way for this assessment:

    a. "Environmental vs. Economics Performance Weights" shall be set at 100% Environmental Performance.
    b. "Environmental Impact Category Weights" shall be set using the EPA Scientific Advisory Board weights.
    c. "Transportation from "Manufacture to Use" shall be set at the lowest distance possible.
    d. In the "Nylon Carpet Parameters" dialogue box, set "Carpet Type" as "Carpet Tile" and "Installation Glue" as "Low VOC Glue."

2. All carpet systems, including adhesives, must meet or exceed the Carpet and Rug Institute Green Label Plus Indoor Air Quality Test Program.
3. Carpet cushion shall not contain brominated flame retardants.
4. Carpet tile applications shall be self-adhering.
5. All resilient floorcovering must be certified under the Greenguard or FloorScore indoor emissions testing programs.
6. Engineered wood flooring and bamboo flooring must be certified under the Greenguard or FloorScore indoor emissions testing programs.

W. Composite Wood and Agrifiber Binders: All composite wood, agrifiber products, and wood doors shall contain no added urea-formaldehyde resins.

X. Systems Furniture and Seating:

1. All systems furniture and seating, when included in contract, shall meet the requirements of one of the following:

    a. Greenguard certification.
    b. SCS Indoor Advantage certification.
    c. SCS Indoor Advantage Gold certification.
    d. BIFMA Standard X7.1-2005, as tested to BIFMA method M7.1−2005 and as verified by an independent laboratory.
    e. Calculated indoor air concentration limits for furniture systems and seating determined by the U.S. EPA's Environmental Technology Verification Large Chamber Test Protocol for Measuring Emissions of VOCs and Aldehydes (September 1999) testing protocol as conducted in an independent air quality testing laboratory.

2. Systems furniture and seating made with coatings or sealants that contain any of the following solvents are not permitted: naptha, benzene, toluene, xylene, hexavalent chromium.

Y. Entryway Systems: Walk-off systems to capture particulates shall be installed at least 10 feet long in the direction of entry travel at all entryways directly connected to the outdoors that are used as regular entry points by building users. Acceptable entryway systems include:

1. Permanently installed grates, grilles, or slotted systems that allow for cleaning beneath them.
2. Permanently installed direct glue-down walk-off mats.
3. Non-permanent roll-out mats, but only if a service organization is contracted for maintenance on a weekly basis.

Z. Air Filtration: Install air filtration media that provides a Minimum Efficiency Reporting Value (MERV) of 13 or better in all air handling units for processing both return and outside air that is delivered to the air supply system. Replace all filtration media after the completion of construction and prior to occupancy.

AA. Mercury in Lighting:

1. Provide only low-mercury fluorescent or HID lamps with mercury content limited to the following:

    a. T-5 and T-8 fluorescent lamps: 80 picograms per lumen hour.

2. Measurement Standards: Lumens to be measured according to IES LM9 for linear fluorescent lamps, IES LM66 for compact fluorescent lamps, and LM51 for HID lamps; mercury content to be measured according to U.S. EPA "Total Mercury by Cold Vapor Absorption Method" 7471A.

BB. Lighting Controls: Install and calibrate controls as specified by Division 26 - Electrical in order to comply with LEED IAQ lighting controllability requirements.

CC. Thermal Comfort: Install and calibrate controls as specified in Division 23 - Heating, Ventilation, and Air-Conditioning.

DD. Blended Cement Concrete:

1. Cementitious Materials: Provide composite mix of portland cement and ground granulated blast-furnace slag or fly ash or blended hydraulic cement and limit percentage (by weight) of portland cement (ASTM C150) in aggregate (total weighted average of cementitious material weight for all mixes and pours) to 40% less than standard regional concrete mix designs.
2. Limit percentage (by weight) of standard portland cement (C-150), to the following maximum percentages of the cementitious portion of the mix while maintaining the above-40% required reduction in portland cement across the Project's total quantity of concrete:

    a. Footings: 50%.
    b. Slab on Grade: 60%, except for cold-weather pours.
    c. Insulated Concrete Form Concrete: 40%.
    d. Elevated Slabs: 60%, except for cold-weather pours.
    e. Exterior Concrete: 75%.

EE. Gypsum Wallboard: Standard paper-faced gypsum wallboard can be used only in dry climates, where wetting during or after construction is not anticipated. In humid climates, where dampness and condensation are a concern, use only non-paper-faced gypsum wallboard. In wet locations a cementitious wallboard, made of portland or magnesium oxide cement, must be used.

FF. Fiberglass Insulation: Fiberglass batt insulation shall contain no formaldehyde-based binders or shall be third-party certified for conformance with Greenguard Children & Schools or Indoor Advantage Gold.

GG. Duct Acoustical Insulation: Mechanical sound insulation materials within the duct shall consist of an impervious, non-porous coating that prevents dust from accumulating in the insulating materials.

HH. Green Housekeeping:

1. Utilize cleaning products that meet the requirements of the Green Seal GS-37 standard or comply with the requirements and maximum VOC limits of Title 17, California Code of Regulations, Division 3, Chapter 1, Subchapter 8.5, Article 2, Regulation for Reducing VOC Emissions from Consumer Products (September 2001).
2. Utilize janitorial paper products and trash bags that meet the minimum percentages of post-consumer recycled content and recovered content requirements of EPA's Comprehensive Procurement Guidelines.

PART 3 - EXECUTION

3.01 CONSTRUCTION WASTE MANAGEMENT

A. Construction Waste Management Plan (CWMP): as defined in Section 01 74 19 “Construction Waste Management,” quantifying material diversion by weight in order to recycle, reuse, and/or salvage at least 75% (by weight) of construction, demolition, and land-clearing waste.
B. Clean materials which are contaminated prior to placing in collection containers. Deliver materials free of dirt, adhesives, solvents, petroleum contamination, and other substances deleterious to the recycling process.
C. Utilize any on-site existing paving materials that are scheduled for demolition as granulated fill or subbase material, and include the weight of this material in the calculations for material diverted from landfill disposal.
D. Arrange for materials collection by or materials delivery to the appropriate recycling or reuse facility.
E. Tax credits and other savings obtained or revenue generated for recycled or reused materials accrue to the Contractor. Discuss CWMP procedures and measures as an agenda item at all regular job meetings conducted during the course of work at the site, and record progress in meeting minutes.
F. Discuss CWMP procedures and measures as an agenda item at all regular job meetings conducted during the course of work at the site, and record progress in meeting minutes.
G. Submit progress reports with Applications for Payment in accordance with Section 01 74 19, documenting the status of the CWMP and current diversion percentage rates.

3.02 CONSTRUCTION INDOOR AIR QUALITY MANAGEMENT

A. Construction IAQ Management Plan (CIAQMP): to prevent indoor air quality problems resulting from construction activities, see attached CIAQMP and at a minimum including the following:

1. Construction activities must meet or exceed the minimum requirements of the SMACNA IAQ Guideline for Occupied Buildings under Construction, 1995.
2. During construction, protect all absorptive materials stored on-site or installed from moisture damage as described in the Construction IAQ Management Plan (CIAQMP) defined above. Specifically:

    a. Exercise special care at all times in the storage of materials to prevent exposure to moisture.
    b. Avoid installation of gypsum wallboard and other porous materials until the building is weather-tight.
    c. All standing water which accumulates on interior floors shall be removed on the day that it is observed.
    d. Any drywall that has retained more than 20% moisture after 48 hours following exposure to moisture, or that has evidence of mold, must be disposed of in accordance with Specification Section 01 74 19 “Construction Waste Management.”
    e. The contractor shall identify and remove all porous building materials that become wet or damaged by moisture within 7 calendar days of such exposure.

3. During construction and HVAC system installation, provide the Architect with photographs of IAQ management measures (such as protection of ducts and on-site or installed absorptive materials), including photographs on different occasions depicting implemented SMACNA approaches.
4. Sequence installation of finishes to minimize cross-contamination. Special construction scheduling involves defined and controlled sequencing of finishes applications to ensure dissipation of emissions from finishes that off-gas significant quantities of deleterious material during curing (“Type 1 Finishes”), to separate these effects from the installation of adsorptive materials (“Type 2 Finishes”) that may act as a "sink" for storage and subsequent release of these unwanted substances into building spaces and mechanical systems after project occupancy.

    a. Identify finish materials by type. Type 1 materials include, but are not limited to the following:

i. Composite wood products, specifically including particleboard from which millwork, wood paneling, doors or furniture may be fabricated.
ii. Adhesives, sealants, and glazing compounds, specifically those with petrochemical vehicles or carriers.
iii. Wood preservatives, finishes, and paint.
iv. Control and/or expansion joint fillers.
v. All hard finishes requiring adhesive installation.
vi. Gypsum board and associated finish processes.

b. Type 2 finishes include, but are not limited to the following:

i. Carpet and padding.
ii. Fabric wallcovering.
iii. Insulation exposed to the airstream.
iv. Acoustic ceiling materials.
v. Fabric covered acoustic wall panels.
vi. Upholstered furnishings.

c. Materials that can be categorized as both Type 1 and Type 2 materials shall be considered to be Type 1 materials.
d. Provide a schedule of construction showing compliance with requirements of this section. Show sequence of finishes applications and allowances for curing times. Within each air zone (defined as a part of any floor area served by a single air handling unit) identify finishes, indicating their type classifications.
e. As part of the Preconstruction Meeting, discuss the sequence of installations required under this section. The purpose of this agenda item is to assure understanding of the importance of sequencing of finishes to the overall Indoor Air Quality of the facility and to secure preliminary approval of the Contracting Officer for scheduling and installation requirements for on-site work.

B. Air Filtration:

1. Install air filtration media that provides a Minimum Efficiency Reporting Value (MERV) of 13 or better in all air handling units for processing both return and outside air that is delivered to the air supply system; replace all filtration media after the completion of construction and prior to occupancy.
2. Install air filtration media that provides a Minimum Efficiency Reporting Value (MERV) of 8 or better for filtration media installed at return air grilles during construction if permanently installed AHUs are used during construction. Inspect weekly and replace as required.

C. Discuss CIAQMP procedures and measures as an agenda item at all regular job meetings conducted during the course of work at the site, and record progress in meeting minutes.

3.03 COMMISSIONING

A. Commissioning: All building energy-related systems and building envelope components to be commissioned by Owner under separate contract in order to verify and ensure that fundamental building elements and systems are installed, constructed, calibrated to operate, and perform according to the Owner’s Project Requirements, Basis of Design, and Construction Documents.

3.04 INDOOR AIR QUALITY MANAGEMENT – BEFORE OCCUPANCY

A. Flush-Out:

1. Full Flush Prior to Occupancy: after construction ends, prior to occupancy and with all interior finishes installed, install new filtration media and, perform a building flush-out by supplying a total air volume of 14,000 cubic feet of outdoor air per square foot of floor area while maintaining an internal temperature of at least 60° F and relative humidity no higher than 60%.
2. Occupancy Before Full Flush: If occupancy is desired prior to completion of the flush-out, the space may be occupied following delivery of a minimum of 3,500 cubic feet of outdoor air per square foot of floor area. Once the space is occupied, it must be ventilated at a minimum rate of 0.30 cubic feet per minute (cfm) per square foot of outside air or the design minimum outside air rate determined in IEQ Prerequisite 1: Minimum Indoor Air Quality Performance, whichever is greater. During each day of the flush-out period, ventilation must begin a minimum of 3 hours prior to occupancy and continue during occupancy. These conditions must be maintained until a total of 14,000 cubic feet per square foot of outside air has been delivered to the space

END OF SECTION 01 81 00

INDOOR AIR QUALITY
CONSTRUCTION MANAGEMENT PLAN

Project:	Imperial Valley College Water and Wastewater Plant Improvements
Owner:	Imperial Community College District
Architect:	Sanders, Inc. Architecture/Egineering

1.01 INTENT

A. This plan describes the measures to be taken to provide good indoor air quality (IAQ) during construction and after construction is complete and the occupants have moved into the building. This plan is based on the SMACNA standard "IAQ Guidelines for Occupied Buildings under Construction" and the requirements of the LEED v2009 for New Construction and Major Renovations rating system.

It is not the intent of this document to replace or supersede OSHA regulations as to safe construction workplace practices. It remains the responsibility of the Construction Manager and the individual sub-contractors to maintain safe building and site operations. Additional precautions may be necessary when hazardous materials are present.

The plan will address construction IAQ by recommending procedures in five areas of concern:

1. HVAC system protection
2. Contaminant source control
3. Pathway interruption
4. Housekeeping
5. Scheduling

2.02 MEASURES TO BE PERFORMED

A. HVAC System Protection

1. During construction, provide MERV 8 filters for supply air intake when in use. Provide MERV 8 filters at the return air system openings when in use. Perform frequent maintenance when the HVAC system is being utilized and replace filters with MERV 8 as they become loaded, prior to building flush out, and prior to occupancy.
2. When performing construction activities that produce dust, such as drywall sanding, concrete cutting, masonry work, wood sawing or adding insulation, seal off the supply diffusers and return air system openings completely for the duration of the task.
3. Shut down and seal off the supply diffusers and return air ducts during any demolition operations.
4. Whenever the HVAC system is not used during construction, seal off the supply diffusers and return air system openings to prevent the accumulation of dust and debris in the duct system.
5. Do not use the mechanical rooms to store construction or waste materials. Keep rooms clean and neat.
6. Provide periodic duct inspections during construction; if the ducts become contaminated due to inadequate protection, clean the ducts professionally in accordance with NADCA (National Air Duct Cleaning Association) standards.
7. Photographs shall be taken showing measures in place.

B. Contaminant Source Control

1. Use low VOC products as indicated by the specifications to reduce potential problems.
2. Restrict traffic volume and prohibit idling of motor vehicles where emissions could be drawn into the building.
3. Utilize electric or natural gas alternatives for gasoline and diesel equipment where possible and practical. Use low-sulfur diesel in lieu of regular diesel.
4. Cycle equipment off when not being used or needed.
5. Exhaust pollution sources to the outside with portable fan systems. Prevent exhaust from re-circulating back into the building.
6. Keep containers of wet products closed as much as possible. Cover or seal containers of waste materials that can release odor or dust.
7. Protect stored on-site or installed absorptive building materials from weather and moisture; wrap with plastic and seal tight to prevent moisture absorption.
8. Photographs shall be taken showing measures in place.

C. Pathway Interruption

1. Provide dust curtains or temporary enclosures to prevent dust from migrating to other areas when applicable
2. Locate pollutant sources as far away as possible from supply ducts and area occupied by workers when feasible. Supply and exhaust systems may have to be shut down or isolated during such activity
3. During construction, isolate areas of work to prevent contamination of clean or occupied areas. Pressure differentials may be utilized to prevent contaminated air from entering clean areas
4. Depending on weather, ventilation using 100% outside air will be used to exhaust contaminated air directly to the outside during installation of VOC emitting materials
5. Photographs shall be taken showing measures in place.

D. Housekeeping

1. Provide regular cleaning concentrating on HVAC equipment and building spaces to remove contaminants from the building prior to occupancy
2. All coils, air filters, fans and ductwork shall remain clean during installation and, if required, will be cleaned prior to performing the testing, adjusting and balancing of the systems
3. Suppress and minimize dust with wetting agents or sweeping compounds. Utilize efficient and effective dust collecting methods such as a damp cloth, wet mop, or vacuum with particulate filters or wet scrubber
4. Remove accumulations of water inside the building. Protect porous materials such as insulation and ceiling tile from exposure to moisture
5. Thoroughly clean all interior surfaces prior to replacing filters and running HVAC system for system balancing, commissioning and building flush out
6. Provide photographs of the above activities during construction to document compliance.

E. Scheduling and Construction Activity Sequence

1. Schedule high pollution activities that utilize high VOC level products (including paints, sealers, insulation, adhesives, caulking and cleaners) to take place prior to installing highly absorbent materials (such as ceiling tiles, gypsum wall board, fabric furnishings, carpet and insulation). These materials will act as ‘sinks’ for VOCs, odors and other contaminants, and release them later after occupancy.
2. Provide photographs of the above activities during construction to document compliance.

3.01 PLANNING AND INSPECTION

A. Inspection checklists and photographs of the above activities will be completed monthly to confirm that the IAQ Management Plan is being followed. A report of the monthly inspection and the photographs will be provided to support the documentation for the LEED submission to the USGBC.

END OF DOCUMENT

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.

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 site concrete and misc. site improvements.
2. Remove existing tanks

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 318-19 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 then 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 Almeda 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: Mult-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 03 31 16 LIGHTWEIGHT 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 Lightweight 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. Lightweight structural concrete at floor.
2. Lightweight structural concrete at stair treads.

C. Related Sections

1. Section 05 31 00: Steel Deck
2. Section 05 51 13: Metal Pan Stairs

1.02 REFERENCES

A. References

1.	ASTM C33	Concrete Aggregates
2.	ASTM C94	Ready-Mixed Concrete
3.	ASTM C150	Portland Cement
4.	ACI 318-95	Specifications for Structural Concrete for Buildings
5.	Chapter 19A	California Building Code
6.	C330	Specifications for Lightweight Aggregates for Structural Concrete
7.	C57	Test Method for Density of Structural Lightweight Concrete
8.	ACI 211.2	Standard Practice for Selecting Proportions for Structural Lightweight Concrete
9.	ACI 304.2	Placing Concrete by Pumping Method

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. Indicate amounts of mixing water to be withheld for later addition at project site.

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.

PART 2 - PRODUCTS

2.01 CONCRETE MATERIALS

A. Cement: Shall meet ASTM C 150, C 595, or C 845.

B. Aggregates: Expanded Shale, Clay, or Slate (ESCS) lightweight aggregate produced by the rotary kiln method shall meet ASTM C 330. Normalweight aggregate shall meet ASTM C33.

C. Water: Shall meet ACI 318.

D. Air-Entraining Admixtures: Shall meet ASTM C 260.

E. Chemical Admixtures: Set-controlling and water reducing admixtures shall meet ASTM C 494 and the manufacturer's recommendations.

F. Fly Ash: Shall meet ASTM C 618.

G. Ground Granulated Blast-Furnace Slag: Shall meet ASTM C989.

H. Silica Fume: Shall meet ASTM C 1240

2.02 CONCRETE MIX

A. Mix and deliver concrete in accordance with Section 1905A, California Building Code and 1905A.3, California Building Code and UBC Standards 19-3 and 19-4.

1. Design Mix: Provide design by an approved Testing Laboratory, certified by a registered professional engineer licensed in California.

B. Select proportions for concrete in accordance with the approved design mix.

1. Required strength: As scheduled.

C. Provide concrete to the following criteria:

Element	Min 28 day Strength PSI	Max Aggregate	Density
Floor Deck	3,000	3/4 inch	110 lbs/ft³
Stair Treads	3,000	1/2 inch	110 lbs/ft³

D. Admixtures may be added to the concrete to control the set, effect water reduction and increase in wokability at the contractor's option, or at the request of the Engineer, but in either case at the expense of the contractor.

1. Admixtures shall be subject to the approval of DSA.

PART 3 - EXECUTION

3.01 PLACING CONCRETE

A. Control: The control of the concrete shall be under the supervision of the Architect/Engineer. Field testing shall be performed by an ACI Certified Field Technician.

B. Pumping: If the concrete is to be pumped, follow the recommendations of ESCSI information sheet.

C. 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.

3.02 CONCRETE FINISHING

A. Provide smooth trowel finish.

3.03 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 in accordance with Section 1905A, California Building Code.

D. Quality Control: Proper curing of concrete surfaces shall be the responsibility of the contractor under this section.

3.04 FIELD QUALITY CONTROL

A. Field inspection and testing will be performed under provisions of Sections 01455 Testing Laboratory Services.

B. Provide free access to work and cooperate with Testing Laboratory.

3.05 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.

END OF SECTION 03 31 16

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 Fire Protection Association
2. Underwriters' Laboratories, Inc. (UL)

3. Certified Ballast Manufacturers' Association (CBM)
4. National Electrical Manufacturers' Association (NEMA)
5. Institute of Electrical & Electronics Engineers (IEEE)
6. American Society for Testing & Materials (ASTM)
7. National Board of Fire Underwriters (NBFU)
8. National Board of Standards (NBS)
9. American National Standards Institute (ANSI)
10. Insulated Power Cable Engineers Association (IPECS)
11. Electrical Testing Laboratories (ETL)
12. National Electrical Safety Code (NESC)
13. California Electrical Code Title 24, Part 3
14. California Building Code
15. Americans with Disability Act (ADA)
16. California Fire Code

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 16 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 Zone 4, of applicable Codes including the Title 24 and California Code of Regulations (CCR) California 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 Owner's representative 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 quipment 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, panleboards, 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:

	480-Volt System	208-Volt System
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-feet 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 thee 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 CEC 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 hall occupy the same space in a panel as a conventional breaker of the same rating and shall have a push-to-test button the front. A ground current of 5 milliamps (±) 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 California 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 contractors 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 CEC 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 CEC 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 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
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
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 of 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 16 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 12 16 - ASPHALT PAVING

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Hot-mix asphalt paving.
2. Hot-mix asphalt overlay.
3. Cold milling of existing asphalt pavement.
4. Hot-mix asphalt patching.
5. Asphalt surface treatments.

B. Related Requirements:

1. Section 02 41 13 "Selective Site Demolition" for removal of existing asphalt pavement.
2. Section 31 22 13 “Rough Grading” for subgrade preparation.
3. Section 31 22 19 “Finish Grading” for subgrade fill material.
4. Section 32 13 13 "Concrete Paving" for concrete pavement and for separate concrete curbs, gutters, and driveway aprons.

1.2 SUBMITTALS

A. Product Data: Include technical data and tested physical and performance properties.

1. Herbicide.
2. Joint sealant.

B. Hot-Mix Asphalt Designs:

1. Certification, by authorities having jurisdiction, of approval of each hot-mix asphalt design proposed for the Work.

C. Qualification Data: For paving-mix manufacturer.

D. Material Certificates: Include statement that mixes containing recycled materials will perform equal to mixes produced from all new materials.

1. Aggregates.
2. Asphalt binder.
3. Asphalt cement.
4. Cutback prime coat.
5. Emulsified asphalt prime coat.
6. Tack coat.
7. Fog seal.
8. Undersealing asphalt.

1.3 QUALITY ASSURANCE

A. Regulatory Requirements: Comply with materials, workmanship, and other applicable requirements of Caltrans for asphalt paving work.

1. Measurement and payment provisions and safety program submittals included in standard specifications do not apply to this Section.

1.4 FIELD CONDITIONS

A. Environmental Limitations: Do not apply asphalt materials if subgrade is wet or excessively damp, if rain is imminent or expected before time required for adequate cure, or if the following conditions are not met:

1. Prime Coat: Minimum surface temperature of 60 deg F (15.6 deg C).
2. Tack Coat: Minimum surface temperature of 60 deg F (15.6 deg C).
3. Slurry Coat: Comply with weather limitations in ASTM D3910.
4. Asphalt Base Course and Binder Course: Minimum surface temperature of 40 deg F (4.4 deg C) and rising at time of placement.
5. Asphalt Surface Course: Minimum surface temperature of 60 deg F (15.6 deg C) at time of placement.

PART 2 - PRODUCTS

2.1 AGGREGATES

A. General: Use materials and gradations that have performed satisfactorily in previous installations.

B. Coarse Aggregate: ASTM D692/D692M, sound; angular crushed stone, or crushed gravel.

1. Caltrans, Type A, 1/2” maximum, medium grading, sound; angular crushed stone; crushed gravel.

C. Fine Aggregate: ASTM D1073, sharp-edged natural sand or sand prepared from stone, gravel, or combinations thereof.

1. For hot-mix asphalt, limit natural sand to a maximum of 20 percent by weight of the total aggregate mass.

2.2 ASPHALT MATERIALS

A. Asphalt Binder: ASTM D6373 binder designation PG 70-22 Paving Grade.

B. Asphalt Cement: ASTM D3381/D3381M for viscosity-graded material.

C. Tack Coat: ASTM D977 emulsified asphalt, or ASTM D2397/D2397M cationic emulsified asphalt, slow setting, diluted in water, of suitable grade and consistency for application.

D. Water: Potable.

2.3 AUXILIARY MATERIALS

A. Recycled Materials for Hot-Mix Asphalt Mixes: Reclaimed asphalt pavement; reclaimed, unbound-aggregate base material; from sources and gradations that have performed satisfactorily in previous installations, equal to performance of required hot-mix asphalt paving produced from all new materials.

B. Herbicide: Commercial chemical for weed control, registered by the EPA, and not classified as "restricted use" for locations and conditions of application. Provide in granular, liquid, or wettable powder form.

1. Trflan or Spike 80W by Dow AgroSciences.
2. Trific 60DF by Terra Industries Inc.
3. Equivalent.

C. Joint Sealant: ASTM D6690, Type I, hot-applied, single-component, polymer-modified bituminous sealant.

2.4 MIXES

A. Hot-Mix Asphalt: Dense-graded, hot-laid, hot-mix asphalt plant mixes approved by Caltrans; and complying with the following requirements:

1. Provide mixes with a history of satisfactory performance in geographical area where Project is located.
2. Caltrans 3/4” HMA Type A with 15% RAP.
3. Asphalt Binder PG 70-22.

B. Emulsified-Asphalt Slurry: ASTM D3910, Type 2.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Verify that subgrade is dry and in suitable condition to begin paving.

B. Proceed with paving only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

A. Protection: Provide protective materials, procedures, and worker training to prevent asphalt materials from spilling, coating, or building up on curbs, driveway aprons, manholes, and other surfaces adjacent to the Work.

B. Proof-roll subgrade below pavements with heavy pneumatic-tired equipment to identify soft pockets and areas of excess yielding. Do not proof-roll wet or saturated subgrades.

1. Completely proof-roll subgrade in one direction. Limit vehicle speed to 3 mph (5 km/h).
2. Proof-roll with a loaded 10-wheel, tandem-axle dump truck weighing not less than 15 tons (13.6 tonnes).
3. Excavate soft spots, unsatisfactory soils, and areas of excessive pumping or rutting, as determined by Architect, and replace with compacted backfill or fill as directed.

3.3 COLD MILLING

A. Clean existing pavement surface of loose and deleterious material immediately before cold milling. Remove existing asphalt pavement by cold milling to grades and cross sections indicated.

1. Mill to a depth of 2 inches (50 mm).
2. Mill to a uniform finished surface free of excessive gouges, grooves, and ridges.
3. Control rate of milling to prevent tearing of existing asphalt course.
4. Repair or replace curbs, driveway aprons, manholes, and other construction damaged during cold milling.
5. Excavate and trim unbound-aggregate base course, if encountered, and keep material separate from milled hot-mix asphalt.
6. Patch surface depressions deeper than 1 inch (25 mm) after milling, before wearing course is laid.
7. Handle milled asphalt material in accordance with approved waste management plan required in Section 017419 "Construction Waste Management and Disposal."
8. Keep milled pavement surface free of loose material and dust.
9. Do not allow milled materials to accumulate on-site.

3.4 PATCHING

A. Asphalt Pavement: Saw cut perimeter of patch and excavate existing pavement section to sound base. Excavate rectangular or trapezoidal patches, extending 12 inches (300 mm) into perimeter of adjacent sound pavement, unless otherwise indicated. Cut excavation faces vertically. Remove excavated material. Recompact existing unbound-aggregate base course to form new subgrade.

B. Tack Coat: Before placing patch material, apply tack coat uniformly to vertical asphalt surfaces abutting the patch. Apply at a rate of 0.05 to 0.15 gal./sq. yd. (0.2 to 0.7 L/sq. m).

1. Allow tack coat to cure undisturbed before applying hot-mix asphalt paving.
2. Avoid smearing or staining adjoining surfaces, appurtenances, and surroundings. Remove spillages and clean affected surfaces.

C. Placing Single-Course Patch Material: Fill excavated pavement areas with hot-mix asphalt base mix for full thickness of patch and, while still hot, compact flush with adjacent surface.

D. Placing Two-Course Patch Material: Partially fill excavated pavements with hot-mix asphalt base course mix and, while still hot, compact. Cover asphalt base course with compacted layer of hot-mix asphalt surface course, finished flush with adjacent surfaces.

3.5 REPAIRS

A. Leveling Course: Install and compact leveling course consisting of hot-mix asphalt surface course to level sags and fill depressions deeper than 1 inch (25 mm) in existing pavements.

B. Crack and Joint Filling: Remove existing joint filler material from cracks or joints to a depth of 1/4 inch (6 mm).

1. Clean cracks and joints in existing hot-mix asphalt pavement.
2. Use emulsified-asphalt slurry to seal cracks and joints less than 1/4 inch (6 mm) wide. Fill flush with surface of existing pavement and remove excess.
3. Use hot-applied joint sealant to seal cracks and joints more than 1/4 inch (6 mm) wide. Fill flush with surface of existing pavement and remove excess.

3.6 SURFACE PREPARATION

A. Ensure that prepared subgrade has been proof-rolled and is ready to receive paving. Immediately before placing asphalt materials, remove loose and deleterious material from substrate surfaces.

B. Herbicide Treatment: Apply herbicide in accordance with manufacturer's recommended rates and written application instructions. Apply to dry, prepared subgrade or surface of compacted-aggregate base before applying paving materials.

C. Tack Coat: Apply uniformly to surfaces of existing pavement at a rate of 0.05 to 0.15 gal./sq. yd. (0.2 to 0.7 L/sq. m).

1. Allow tack coat to cure undisturbed before applying hot-mix asphalt paving.
2. Avoid smearing or staining adjoining surfaces, appurtenances, and surroundings. Remove spillages and clean affected surfaces.

3.7 HOT-MIX ASPHALT PLACEMENT

A. Machine place hot-mix asphalt on prepared surface, spread uniformly, and strike off. Place asphalt mix by hand in areas inaccessible to equipment in a manner that prevents segregation of mix. Place each course to required grade, cross section, and thickness when compacted.

1. Place hot-mix asphalt base course in number of lifts and thicknesses indicated.
2. Place hot-mix asphalt surface course in single lift.
3. Spread mix at a minimum temperature of 250 deg F (121 deg C).
4. Begin applying mix along centerline of crown for crowned sections and on high side of one-way slopes unless otherwise indicated.
5. Regulate paver machine speed to obtain smooth, continuous surface free of pulls and tears in asphalt-paving mat.

B. Place paving in consecutive strips not less than 10 feet (3 m) wide unless infill edge strips of a lesser width are required.

1. After first strip has been placed and rolled, place succeeding strips and extend rolling to overlap previous strips. Overlap mix placement about 1 to 1-1/2 inches (25 to 38 mm) from strip to strip to ensure proper compaction of mix along longitudinal joints.
2. Complete a section of asphalt base course before placing asphalt surface course.

C. Promptly correct surface irregularities in paving course behind paver. Use suitable hand tools to remove excess material forming high spots. Fill depressions with hot-mix asphalt to prevent segregation of mix; use suitable hand tools to smooth surface.

3.8 JOINTS

A. Construct joints to ensure a continuous bond between adjoining paving sections. Construct joints free of depressions, with same texture and smoothness as other sections of hot-mix asphalt course.

1. Clean contact surfaces and apply tack coat to joints.
2. Offset longitudinal joints, in successive courses, a minimum of 6 inches (150 mm).
3. Offset transverse joints, in successive courses, a minimum of 24 inches (600 mm).
4. Construct transverse joints at each point where paver ends a day's work and resumes work at a subsequent time. Construct these joints using either "bulkhead" or "papered" method in accordance with AI MS-22, for both "Ending a Lane" and "Resumption of Paving Operations."

5. Compact joints as soon as hot-mix asphalt will bear roller weight without excessive displacement.
6. Compact asphalt at joints to a density within 2 percent of specified course density.

3.9 COMPACTION

A. General: Begin compaction as soon as placed hot-mix paving will bear roller weight without excessive displacement. Compact hot-mix paving with hot hand tampers or with vibratory-plate compactors in areas inaccessible to rollers.

1. Complete compaction before mix temperature cools to 185 deg F (85 deg C).

B. Breakdown Rolling: Complete breakdown or initial rolling immediately after rolling joints and outside edge. Examine surface immediately after breakdown rolling for indicated crown, grade, and smoothness. Correct laydown and rolling operations to comply with requirements.

C. Intermediate Rolling: Begin intermediate rolling immediately after breakdown rolling while hot-mix asphalt is still hot enough to achieve specified density. Continue rolling until hot-mix asphalt course has been uniformly compacted to the following density:

1. Average Density, Marshall Test Method: 96 percent of reference laboratory density in accordance with ASTM D6927, but not less than 94 percent or greater than 100 percent.
2. Average Density, Rice Test Method: 92 percent of reference maximum theoretical density in accordance with ASTM D2041/D2041M, but not less than 90 percent or greater than 96 percent.

D. Finish Rolling: Finish roll paved surfaces to remove roller marks while hot-mix asphalt is still warm.

E. Edge Shaping: While surface is being compacted and finished, trim edges of pavement to proper alignment. Bevel edges while asphalt is still hot; compact thoroughly.

F. Repairs: Remove paved areas that are defective or contaminated with foreign materials and replace with fresh, hot-mix asphalt. Compact by rolling to specified density and surface smoothness.

G. Protection: After final rolling, do not permit vehicular traffic on pavement until it has cooled and hardened.

H. Erect barricades to protect paving from traffic until mixture has cooled enough not to become marked.

3.10 INSTALLATION TOLERANCES

A. Pavement Thickness: Compact each course to produce thickness indicated within the following tolerances:

1. Base Course: Plus or minus 1/2 inch (13 mm).
2. Surface Course: Plus 1/4 inch (6 mm), no minus.

B. Pavement Surface Smoothness: Compact each course to produce surface smoothness within the following tolerances as determined by using a 10-foot (3-m) straightedge applied transversely or longitudinally to paved areas:

1. Base Course: 1/4 inch (6 mm).
2. Surface Course: 1/8 inch (3 mm).
3. Crowned Surfaces: Test with crowned template centered and at right angle to crown. Maximum allowable variance from template is 1/4 inch (6 mm).

3.11 SURFACE TREATMENTS

A. Slurry Seals: Apply slurry coat in a uniform thickness in accordance with ASTM D3910 and allow to cure.

1. Roll slurry seal to remove ridges and provide a uniform, smooth surface.

3.12 FIELD QUALITY CONTROL

A. Testing Agency: Owner will engage a qualified testing agency to perform tests and inspections.

B. Thickness: In-place compacted thickness of hot-mix asphalt courses will be determined in accordance with ASTM D3549/D3549M.

C. Surface Smoothness: Finished surface of each hot-mix asphalt course will be tested for compliance with smoothness tolerances.

D. In-Place Density: Testing agency will take samples of uncompacted paving mixtures and compacted pavement in accordance with ASTM D979/D979M.

1. Reference maximum theoretical density will be determined by averaging results from four samples of hot-mix asphalt-paving mixture delivered daily to site, prepared in accordance with ASTM D2041/D2041M, and compacted in accordance with job-mix specifications.
2. In-place density of compacted pavement will be determined by testing core samples in accordance with ASTM D1188 or ASTM D2726/D2726M.

    a. One core sample will be taken for every 1000 sq. yd. (836 sq. m) or less of installed pavement, with no fewer than three cores taken.
    b. Field density of in-place compacted pavement may also be determined by nuclear method in accordance with ASTM D2950/D2950M and coordinated with ASTM D1188 or ASTM D2726/D2726M.

E. Replace and compact hot-mix asphalt where core tests were taken.

F. Remove and replace or install additional hot-mix asphalt where test results or measurements indicate that it does not comply with specified requirements.

3.13 WASTE HANDLING

A. General: Handle asphalt-paving waste in accordance with approved waste management plan required in Section 017419 "Construction Waste Management and Disposal."

END OF SECTION 321216

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. Provide concrete equipment pads.

C. Related Sections:

1. Section 31 23 00 Excavation and Fill
2. 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 1905A.13, California Building Code, when concreting during hot weather.

E. Conform to Section 1905A.12, California Building Code, 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 1905A.2 – 1905A.6, 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. 10 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.
2. FIBERMESH 650: ASTM C 1116/C 1116M, Type III Fiber Reinforced Concrete. Manufactured by PROPOX CONCRETE SYSTEMS. Alloy polymer macro-synthetic fiber featuring e3 patented technology manufactured to an optimum gradation and highly oriented to allow greater surface area contact within the concrete resulting in increased interfacial bonding and flexural toughness efficiency. Provide a minimum of 3.0 lbs. per cubic yard

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 EQUIPMENT PADS

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 ½ inch depth at top for sealant application.

1. Provide ½ 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 ¼ inch radius. Edge expansion joints to ¼ 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 11B-403 and 11B-302.1, 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.

END OF SECTION 09 68 16

IMPERIAL COMMUNITY COLLEGE DISTRICT

IMPERIAL VALLEY COLLEGE

WATER AND WASTEWATER PLANT IMPROVEMENTS

380 EAST ATEN RD
IMPERIAL, CA 92251
(760) 352-8320

BOARD OF SCHOOL TRUSTEES:

HORTENCIA ARMENDARIZ
ISABEL SOLIS
KARLA SIGMOND
BETSY LINDBERGH
ERIK ORTEGA
PETER MARTINEZ
ROMUALDO MEDINA

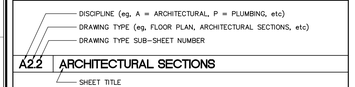
APPROVALS

CONSULTANTS

ENVIRONMENTAL
VALENTINE
TERESA A. VALENTINE
15845 SOUTH 46TH STREET
PHOENIX, ARIZONA 85048
(480) 283-8991

MECHANICAL
FULLER MECHANICAL DESIGN
MATTHEW FULLER
SAN DIEGO, CALIFORNIA
(619) 403-3216

SHEET INDEX KEY / KEY PLAN



STATEMENT OF GENERAL CONFORMANCE

APPLICATION NO. _____
FILE NO. _____

THE DRAWINGS IDENTIFIED AS FOLLOWS:

☒ ALL DRAWING SHEETS INCLUDED IN THIS SET NOT BEARING MY STAMP AND SIGNATURE.

☐ DRAWING SHEETS DENOTED IN THE SHEET INDEX AS FOLLOWS: _____

☐ DRAWING SHEETS INCLUDED UNDER THE FOLLOWING PC APPROVAL(S): _____

HAVE BEEN PREPARED BY OTHER DESIGN PROFESSIONALS OR CONSULTANTS WHO ARE LICENSED AND / OR AUTHORIZED TO PREPARE SUCH DRAWLINGS (PLANS) IN THIS STATE. THEY HAVE BEEN EXAMINED BY ME FOR:

1) DESIGN INTENT, AND APPEAR TO MEET THE APPROPRIATE REQUIREMENTS OF TITLE 24, CALIFORNIA CODE OF REGULATIONS AND THE PROJECT SPECIFICATIONS PREPARED BY ME, AND

2) COORDINATION WITH MY DRAWINGS (PLANS) AND SPECIFICATIONS ARE ACCEPTABLE FOR INCORPORATION INTO THE CONSTRUCTION OF THIS PROJECT.

PER TITLE 24, PART 1, SECTION 4-316(B): THIS STATEMENT OF GENERAL CONFORMANCE SHALL NOT BE CONSTRUED AS RELIEVING ME OF MY RIGHTS, DUTIES, AND RESPONSIBILITIES UNDER SECTIONS 17302 AND 81138 OF THE EDUCATION CODE AND SECTIONS 4-336, 4-341 AND 4-344 OF TITLE 24, PART 1.

DATE: 10/01/2025

JIMMIE SANDERS LICENSE NO. C-7644 EXP: 07/31/2027

VICINITY MAP

GENERAL NOTES

1. EXAMINATION OF SITE AND CONTRACT DOCUMENTS:

EACH BIDDER SHALL VISIT THE SITE OF THE PROPOSED WORK AND FULLY ACQUAINT HIMSELF WITH THE CONDITIONS RELATING TO THE CONSTRUCTION AND LABOR SO THAT HE MAY FULLY UNDERSTAND THE FACILITIES, DIFFICULTIES AND RESTRICTIONS ATTENDING THE EXECUTION OF THE WORK UNDER THE CONTRACT. BIDDERS SHALL THOROUGHLY EXAMINE AND BE FAMILIAR WITH THE DRAWINGS AND PROJECT MANUAL. THE FAILURE OR OMISSION OF ANY BIDDER TO RECEIVE OR EXAMINE ANY CONTRACT, FORM, INSTRUMENT, ADDENDUM, OR OTHER DOCUMENT OR TO VISIT THE SITE AND ACQUAINT HIMSELF WITH CONDITIONS THERE EXISTING SHALL IN NO-WISE RELIEVE ANY BIDDER FROM OBLIGATIONS WITH RESPECT TO HIS BID OR TO THE CONTRACT. THE SUBMISSION OF A BID SHALL BE TAKEN AS PRIMA FACIE EVIDENCE OF COMPLIANCE WITH THIS SECTION. THE ARCHITECT SHALL BE NOTIFIED, PRIOR TO BID, OF ANY UNUSUAL CONDITIONS OR DISCREPANCIES IN THE CONTRACT DOCUMENTS OR INTENT OF WORK TO BE ACCOMPLISHED, WHEREIN; A CLARIFICATION OR ADDENDUM MAY BE ISSUED.

2. PROJECT SCOPE:

THE IMPROVEMENTS TO THE WATER AND WASTEWATER PLANT SHALL INCLUDE ALL WORK SHOWN ON CONTRACT DOCUMENTS INCLUDING BUT NOT LIMITED TO THE FOLLOWING:

1. REMOVE EXISTING WATER & WASTEWATER PIPING AS DESCRIBED IN THE DRAWINGS
2. REMOVE EXISTING ABANDONED TANKS
3. REMOVE EXISTING ABANDONED CONCRETE EQUIPMENT PADS AND MISC SITE CONCRETE
4. REMOVE EXISTING ABANDONED ELECTRICAL SYSTEMS
5. PROVIDE NEW CONCRETE EQUIPMENT PADS
6. PROVIDE NEW WATER PIPING AS DESCRIBED IN DRAWINGS
7. PROVIDE NEW WASTEWATER PIPING AS DESCRIBED IN DRAWINGS
8. PROVIDE NEW FIRE WATER PIPING AS DESCRIBED IN DRAWINGS
9. PROVIDE NEW POTABLE WATER PUMPS AND ASSOCIATED APPURTENANCES
10. PROVIDE NEW FIRE PUMP AND ASSOCIATED APPURTENANCES
11. PROVIDE NEW UV LIGHT SYSTEM
12. PROVIDE ALL NEW PIPING AND ELECTRICAL FOR OWNER FURNISHED GAC FILTER
13. PROVIDE NEW ELECTRICAL SYSTEMS, TRANSFORMER, PANELS AND SERVICE TO NEW AND EXISTING EQUIPMENT
14. PROVIDE NEW WASTEWATER DISTRIBUTION BOX
15. REMOVE EXISTING COATING ON WASTEWATER TREATMENT TANKS AND PROVIDE NEW COATING AS DESCRIBED IN DRAWINGS

3. CODES AND STANDARDS:

APPLICABLE CODES:

ALL WORK SHALL CONFORM TO TITLE 24, CALIFORNIA CODE OF REGULATIONS (CCR).

2022 CALIFORNIA ADMINISTRATIVE CODE (CAC), PART 1, TITLE 24, CCR
2022 CALIFORNIA BUILDING CODE (CBC), PART 2, TITLE 24 CCR
2022 CALIFORNIA ELECTRICAL CODE (CEC), PART 3, TITLE 24 CCR
2022 CALIFORNIA MECHANICAL CODE (CMC), PART 4, TITLE 24 CCR
2022 CALIFORNIA PLUMBING CODE (CPC), PART 5, TITLE 24 CCR
2022 CALIFORNIA ENERGY CODE (CEC), PART 6, TITLE 24 CCR
2022 CALIFORNIA FIRE CODE (CFC), PART 9, TITLE 24 CCR
2022 CALIFORNIA EXISTING BUILDING CODE (CEBC), PART 10, TITLE 24 CCR
2022 CALIFORNIA GREEN BUILDING STANDARDS CODE (CALGREEN), PART 11, TITLE 24 CCR
2022 CALIFORNIA REFERENCED STANDARDS CODE, PART 12, TITLE 24 CCR
TITLE 19 CCR, PUBLIC SAFETY, STATE FIRE MARSHAL REGULATIONS

PARTIAL LIST OF APPLICABLE STANDARDS:

NFPA 13	STANDARD FOR THE INSTALLATION OF SPRINKLER SYSTEMS (CA AMENDED)	2022 EDITION
NFPA 14	STANDARD FOR THE INSTALLATION OF STANDPIPE AND HOSE SYSTEMS (CA AMENDED)	2019 EDITION
NFPA 17	STANDARD FOR DRY CHEMICAL EXTINGUISHING SYSTEMS	2021 EDITION
NFPA 17A	STANDARD FOR WET CHEMICAL EXTINGUISHING SYSTEMS	2021 EDITION
NFPA 20	STANDARD FOR THE INSTALLATION OF STATIONARY PUMPS FOR FIRE PROTECTION	2019 EDITION
NFPA 22	STANDARD FOR WATER TANKS FOR PRIVATE FIRE PROTECTION	2023 EDITION
NFPA 24	STANDARD FOR THE INSTALLATION OF PRIVATE FIRE SERVICE MAINS AND THEIR APPURTENANCES (CA AMENDED)	2019 EDITION
NFPA 72	NATIONAL FIRE ALARM AND SIGNALING CODE (CA AMENDED)	2022 EDITION
NFPA 80	STANDARD FOR FIRE DOORS AND OTHER OPENING PROTECTIVES	2019 EDITION
NFPA 2001	STANDARD ON CLEAN AGENT FIRE EXTINGUISHING SYSTEMS (CA AMENDED)	2018 EDITION
UL 300	STANDARD FOR FIRE TESTING OF FIRE EXTINGUISHING SYSTEMS FOR PROTECTION OF COMMERCIAL COOKING EQUIPMENT	2005 EDITION (R2010)
UL 464	AUDIBLE SIGNALING DEVICES FOR FIRE ALARM AND SIGNALING SYSTEMS, INCLUDING ACCESSORIES	2003 EDITION
UL 521	STANDARD FOR HEAT DETECTORS FOR FIRE PROTECTIVE SIGNALING SYSTEMS	1999 EDITION
UL 1971	STANDARD FOR SIGNALING DEVICES FOR THE HEARING IMPAIRED	2018 EDITION (R2010)
ICC 300	STANDARD FOR BLEACHERS, FOLDING AND TELESCOPIC SEATING, AND GRANDSTANDS	2017 EDITION

FOR A COMPLETE LIST OF APPLICABLE NFPA STANDARDS REFER TO 2022 CBC (SFM) CHAPTER 35 AND CALIFORNIA FIRE CODE CHAPTER 80.

SEE CALIFORNIA BUILDING CODE CHAPTER 35 FOR STATE OF CALIFORNIA AMENDMENTS TO THE NFPA STANDARDS.

4. PROJECT REQUIREMENTS

1. THE EXISTING DIESEL FIRE PUMP SHALL REMAIN OPERATIONAL DURING THE ENTIRE PROJECT.
2. THE EXISTING FIRE WATER LOOP SHALL REMAIN PRESSURIZED DURING THE ENTIRE PROJECT. CONTRACTOR SHALL INSTALL TEMPORARY ISOLATION IN FIRE WATER LOOP AS REQUIRED TO ALLOW THE WATER PLANT TO BE RENOVATED AND KEEP THE FIRE WATER LOOP PRESSURIZED.
3. ALL WORK ON THE POTABLE WATER SYSTEM THAT NEEDS TO BE ACCOMPLISHED WHEN THE COLLEGE IS OPEN AND SHALL CAUSE LOSS OF PRESSURE TO THE POTABLE WATER LOOP SHALL BE DONE FROM THE HOURS OF 10:00 PM – 5:00 AM. ANY WORK CAUSING LOSS OF PRESSURE TO THE POTABLE WATER LOOP SHALL BE COORDINATED AND SCHEDULED 5 DAYS IN ADVANCE.

5. TESTING AND INSPECTION:

A DSA ACCEPTED TESTING LABORATORY DIRECTLY EMPLOYED BY THE DISTRICT (OWNER) SHALL CONDUCT ALL THE REQUIRED TESTS AND INSPECTIONS FOR THE PROJECT.

A DSA CERTIFIED PROJECT INSPECTOR EMPLOYED BY THE DISTRICT (OWNER) AND APPROVED BY DSA SHALL PROVIDE CONTINUOUS INSPECTION OF THE WORK. THE DUTIES OF THE INSPECTOR ARE DEFINED IN SECTION 4-342, PART 1, TITLE 24, CCR. THIS PROJECT SHALL REQUIRE ALL ITEMS PER DSA-103 LIST OF REQUIRED STRUCTURAL TESTS & SPECIAL INSPECTIONS.

PROJECT REQUIRES INSPECTOR OF RECORD, CLASS 1

WORK EXEMPT FROM SPECIAL INSPECTION AND STRUCTURAL TESTING: THE PROJECT INSPECTOR SHALL VERIFY ALL CONSTRUCTION COMPLIES WITH THE APPROVED CONSTRUCTION DOCUMENTS (SEE APPENDIX OF DSA 103 FORM, TESTING AND INSPECTION EXEMPTION KEY THIS SHEET AND CORRESPONDING LIST BELOW):

6. CHANGES TO APPROVED DRAWINGS:

CHANGES TO THE APPROVED DRAWINGS AND SPECIFICATIONS SHALL BE MADE BY AN ADDENDA OR CONSTRUCTION CHANGE DOCUMENT APPROVED BY THE DIVISION OF THE STATE ARCHITECT, AS REQUIRED BY SECTION 4-338, PART 1, TITLE 24, CCR.

7. CONSTRUCTION FIRE SAFETY:

CONTRACTOR IS RESPONSIBLE FOR FIRE SAFETY DURING DEMOLITION AND CONSTRUCTION AND SHALL COMPLY WITH CFC 2022 CHAPTER 33 AND CBC CHAPTER 33.A WRITTEN SITE SAFETY PLAN IN COMPLIANCE WITH CFC 3303.1.1 MUST BE PREPARED AND AVAILABLE ON SITE PRIOR TO COMMENCEMENT OF ANY MOBILIZATION, DEMOLITION AND/OR CONSTRUCTION.

GENERAL NOTES

8. LOCAL ORDINANCES:

GRADING PLANS, DRAINAGE IMPROVEMENTS, ROAD AND SITE ACCESS REQUIREMENTS AND ENVIRONMENTAL HEALTH CONSIDERATIONS SHALL COMPLY WITH ALL LOCAL ORDINANCES.

PROJECT BIDDING

BASE BID

BASE BID 1 SHALL INCLUDE ALL WORK SHOWN ON CONTRACT DOCUMENTS FOR THE RENOVATION OF THE EXISTING WATER AND WASTEWATER PLANT, INCLUDING BUT NOT LIMITED TO THE FOLLOWING:

1. REMOVE EXISTING WATER & WASTEWATER PIPING AS DESCRIBED IN THE DRAWINGS
2. REMOVE EXISTING ABANDONED TANKS
3. REMOVE EXISTING ABANDONED CONCRETE EQUIPMENT PADS AND MISC SITE CONCRETE
4. REMOVE EXISTING ABANDONED ELECTRICAL SYSTEMS
5. PROVIDE NEW CONCRETE EQUIPMENT PADS
6. PROVIDE NEW WATER PIPING AS DESCRIBED IN DRAWINGS
7. PROVIDE NEW WASTEWATER PIPING AS DESCRIBED IN DRAWINGS
8. PROVIDE NEW FIRE WATER PIPING AS DESCRIBED IN DRAWINGS
9. PROVIDE NEW POTABLE WATER PUMPS AND ASSOCIATED APPURTENANCES
10. PROVIDE NEW FIRE PUMP AND ASSOCIATED APPURTENANCES
11. PROVIDE NEW UV LIGHT SYSTEM
12. PROVIDE ALL NEW PIPING AND ELECTRICAL FOR OWNER FURNISHED GAC FILTER
13. PROVIDE NEW ELECTRICAL SYSTEMS, TRANSFORMER, PANELS AND SERVICE TO NEW AND EXISTING EQUIPMENT
14. PROVIDE NEW WASTEWATER DISTRIBUTION BOX
15. REMOVE EXISTING COATING ON WASTEWATER TREATMENT TANKS AND PROVIDE NEW COATING AS DESCRIBED IN DRAWINGS

THE FOLLOWING ITEMS ARE FURNISHED BY OWNER AND SHALL BE EXCLUDED FROM THE BASE BID:

1. GAC FILTER

PROJECT SCHEDULE AND PHASING

PHASE I

DECEMBER 12 – JANUARY 5
THE COLLEGE WILL BE CLOSED DURING PHASE I ALLOWING WORK TO BE ACCOMPLISHED WITHOUT THE NEED FOR POTABLE WATER AT THE COLLEGE. PHASE I WORK INCLUDES BUT IS NOT LIMITED TO THE FOLLOWING:

1. DEMOLITION OF EXISTING ABANDONED TANKS AND ASSOCIATED CONCRETE PADS
2. DEMOLITION OF EXISTING WATER PIPING
3. DEMOLITION OF EXISTING WASTEWATER PIPING
4. PROVIDE NEW POTABLE WATER PIPING TO NEW DOMESTIC WATER PUMPS. EXISTING PUMPS TO BE CONNECTED TEMPORARILY
5. PROVIDE NEW FIRE WATER PIPING TO NEW FIRE PUMP LOCATION
6. PROVIDE NEW WASTEWATER PIPING
7. PREPARE FOR GAC FILTER
8. PROVIDE UNDERGROUND ELECTRICAL AND PREPARE FOR NEW PANELS AND FEEDS TO EQUIPMENT
9. PREPARE FOR NEW PUMPS
10. PROVIDE NEW EQUIPMENT CONCRETE PAD
11. REMOVE EXISTING COATING TO 50 K WASTEWATER TANK
12. PROVIDE EPOXY COATING TO 50K WASTEWATER TANK

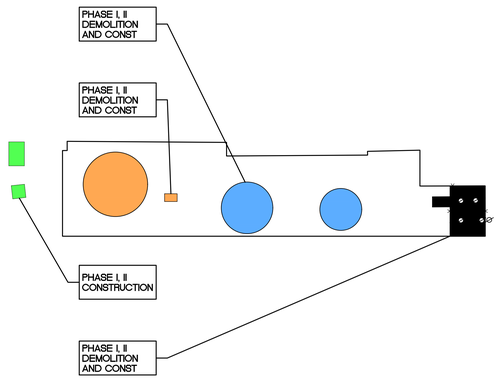
PHASE II

JANUARY 6 – MAY 1
THE COLLEGE WILL BE OPEN DURING PHASE II REQUIRING ALL WORK TO BE ACCOMPLISHED WHILE MAINTAINING PRESSURE TO THE POTABLE WATER LOOP. PHASE II WORK INCLUDES BUT IS NOT LIMITED TO THE FOLLOWING:

1. ALL WORK NOT COMPLETED IN PHASE I

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T	TITLE SHEET - GENERAL NOTES, SHEET INDEX
ARCHITECTURAL SITE	
AS1	SITE PLAN
AS3	SITE SURVEY AND DEMOLITION PLAN
AS5	HARDSCAPE AND FINISH GRADING
ASX2	TYPICAL SITE DETAILS
ASX5	ENLARGED SITE PLAN
PLUMBING	
P001	PLUMBING NOTES
P002	PLUMBING SCHEDULES AND CALCULATIONS
P100	PLUMBING SITE PLAN
P201	PLUMBING FLOOR PLANS
P202	PLUMBING FLOOR PLANS
P301	PLUMBING DOMESTIC WATER PIPING
	DIAGRAMS
P302	PLUMBING FIRE WATER PIPING DIAGRAMS
P401	PLUMBING DETAILS
P501	PLUMBING SPECIFICATIONS
GAC TREATMENT SYSTEM	
GENERAL	
G0.0	SYSTEM COVER SHEET, VICINITY MAP AND SHEET INDEX
G1.0	GENERAL CONSTRUCTION NOTES
G2.0	ABBREVIATIONS, SYMBOLS, NOTES
G3.0	EXISTING PROCESS FLOW DIAGRAM
G4.0	GAC SYSTEM PROCESS FLOW DIAGRAM
PROCESS MECHANICAL	
M1.0	EXISTING OVERALL SITE PLAN
M2.0	EXISTING ENLARGED SITE PLAN
M3.0	OVERALL GAC SYSTEM SITE PLAN
M4.0	ENLARGED GAC SYSTEM UPPER PLAN
M4.1	ENLARGED GAC SYSTEM LOWER PLAN
M4.2	GAC TREATMENT SYSTEM SECTION I
M4.3	GAC TREATMENT SYSTEM SECTION II
M4.4	GAC TREATMENT SYSTEM SECTION III
M5.0	DETAILS I



PHASING SCOPE:

PHASE 1:

PHASE 1 DEMOLITION / CONSTRUCTION INCLUDED
- DEMOLITION OF EXISTING DOMESTIC COLD WATER PIPING
- DEMOLITION OF 50K GALLON WASTEWATER TREATMENT PLANT DIVERSION BOX
- DEMOLITION OF ABANDONED TANKS (5 TOTAL)
- INSTALLATION OF PROPOSED DOMESTIC COLD WATER PIPING
- INSTALLATION OF 50K GALLON WASTEWATER TREATMENT PLANT DIVERSION BOX
- PROVIDE COATING TO 100K GALLON WASTEWATER TREATMENT PLANT
- INSTALLATION OF CONDUIT AND FEEDERS FOR FUTURE POWER SOURCE SWITCHOVER
- INSTALLATION OF UTILITIES FOR GAC TANK

PHASE 2:

PHASE 2 CONSTRUCTION INCLUDES
- INSTALLATION OF NEW DOMESTIC WATER PUMPS
- INSTALLATION OF NEW FIRE WATER PUMP
- PROVIDE COATING TO 100K GALLON WASTEWATER TREATMENT PLANT
- INSTALLATION OF UV LIGHT / DISINFECTION SYSTEM
- DEMOLITION OF EXISTING CAMPUS SUBSTATION

IID GRID
WATER TREATMENT PLANT
WASTEWATER TREATMENT PLANT
OWNER SUBSTATION

ABBREVIATIONS

&	AND	HT	HEIGHT
@	AT	HVAC	HEATING, VENTILATION, & AIR CONDITIONING
℄	CENTER LINE		
℗	PLATE, PROPERTY LINE	HW	HOT WATER
AB	ANCHOR BOLT	IN	INCH
ACC	ACCESSIBLE	INSP	INSPECTION / INSPECTOR
ACST	ACOUSTIC	INSTL	INSTALL / INSTALLED
ADD	ADDENDUM	INT	INTERIOR
ADJ	ADJACENT	JST	JOIST
AFF	ABOVE FINISH FLOOR	JT	JOINT
AL/ALUM	ALUMINUM	LB	POUND
ALT	ALTERNATE	LF	LINEAR FOOT
AP	ACCESS PANEL	LG	LONG
APX	APPROXIMATE	LS	LAG SCREW
ARCH	ARCHITECTURAL	LT	LIGHT
AVG	AVERAGE	MAS	MASONRY
BD	BOARD	MAX	MAXIMUM
BLDG	BUILDING	MB	MACHINE BOLT
BLK	BLOCK	MECH	MECHANICAL
BLKG	BLOCKING	MFR	MANUFACTURER
BLW	BELOW	MISC	MISCELLANEOUS
BM	BEAM	MH	MANHOLE
BN	BOUNDARY NAIL	MANUF	MANUFACTURER
BO ____	BOTTOM OF ____	MTL	METAL
BRDG	BRIDGING	NIC	NOT IN CONTRACT
BTWN	BETWEEN	NOM	NOMINAL
CD	CONDENSATE DRAIN	NTS	NOT TO SCALE
CF	CUBIC FOOT	OC	ON CENTER
CHAM	CHAMFER	OD	OVERFLOW DRAIN
CJ	CONTROL JOINT	OH	OPPOSITE HAND
CLG	CEILING	OPNG	OPENING
CLK	CAULK	OPP	OPPOSITE
CLKG	CAULKING	PERP	PERPENDICULAR
CLR	CLEAR	PLYWD	PLYWOOD
CMU	CONCRETE MASONRY UNIT	PNL	PANEL
CNTR	CENTER	PREFAB	PREFABRICATED
CO	CLEAN OUT	PSF	POUNDS PER SQUARE FOOT
COL	COLUMN	PSI	POUNDS PER SQUARE INCHES
CONC	CONCRETE	PT	PRESSURE TREATED
CONN	CONNECTION	PVC	POLYVINYL CHLORIDE
CONT	CONTINUOUS	RAD	RADIUS
CW	COLD WATER	RD	ROOF DRAIN
DBL	DOUBLE	REF	REFERENCE
DEG	DEGREE	REINF	REINFORCED / REINFORCING
DEMO	DEMOLITION	REQD	REQUIRED
DEP	DEPRESSION	REV	REVISION
DET	DETAIL	RF	ROOF
DF	DRINKING FOUNTAIN	RFTR	RAFTER
DIA	DIAMETER	RH	ROOF HATCH
DIAG	DIAGONAL	RM	ROOM
DIM	DIMENSION	RO	ROUGH OPENING
DN	DOWN	SCHED	SCHEDULE
DIV	DIVISION	SECT	SECTION
DR	DOOR	SF	SQUARE FOOT
DWG	DRAWING	SHT	SHEET
EMB	DOWEL	SHTG	SHEATHING
EA	EACH	SIM	SIMILAR
EJ	EXPANSION JOINT	SMS	SHEET METAL SCREW
EL	ELEVATION	SPEC	SPECIFICATION
ELEC	ELECTRICAL	SQ	SQUARE
EN	EDGE NAIL	SS	STAINLESS STEEL
EQ	EQUAL	STAGG	STAGGERED
EQUIP	EQUIPMENT	STD	STANDARD
(E)	EXISTING	STIFF	STIFFENER
EXT	EXTERIOR	STL	STEEL
FACP	FIRE ALARM CONTROL PANEL	STRUCT	STRUCTURAL
FD	FLOOR DRAIN	STS	SELF TAPPING SCREW
FDN	FOUNDATION	SUSP	SUSPENDED
FF	FINISH FLOOR	SYM	SYMMETRICAL
FE	FIRE EXTINGUISHER	SYS	SYSTEM
FIN	FINISH	T & B	TOP AND BOTTOM
FLR	FLOOR	T & G	TONGUE AND GROOVE
FN	FIELD NAIL	TEMP	TEMPORARY
FO ____	FACE OF ____	THK	THICK
FRM	FRAMING	THKND	THICKENED
FRT	FIRE RETARDANT TREATED	THRU	THROUGH
FT	FEET / FOOT	TO ____	TOP OF ____
FTG	FOOTING	TYP	TYPICAL
G	GAS	UNO	UNLESS NOTED OTHERWISE
GA	GAUGE	VCT	VINYL COMPOSITION TILE
GALV	GALVANIZED	VERT	VERTICAL
GI	GALVANIZED IRON	VTR	VENT THROUGH ROOF
GLB	GLU-LAMINATED BEAM	W/	WITH
GND	GRADE	W/O	WITHOUT
GYP BD	GYPSUM BOARD	WD	WOOD
HB	HOSE BIBB	WN	WINDOW
HD	HOLDOWN	WPJ	WEAKENED PLANE JOINT
HDR	HEADER	WT	WEIGHT
HGR	HANGER	WWF	WELDED WIRE FABRIC
HORIZ	HORIZONTAL		

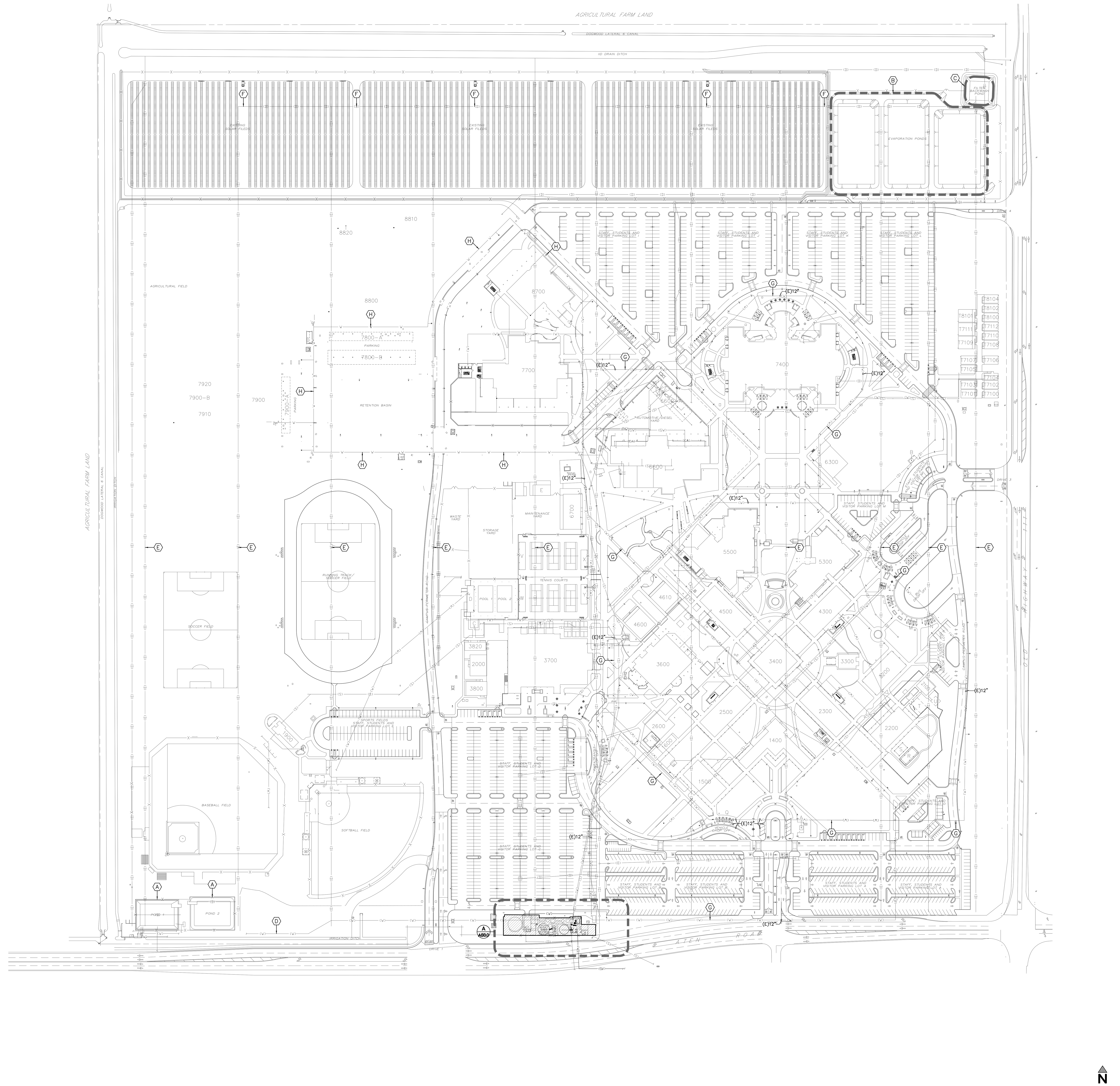
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Project Title
IMPERIAL VALLEY COLLEGE
WATER & WASTEWATER PLANT IMPROVEMENTS

Sheet Title
TITLE SHEET - GENERAL NOTES

LICENSED ARCHITECT JIMMIE SANDERS 7644 STATE OF CALIFORNIA

Document Date	Project Number
2025-10-17	25-281V
Date Last Revised	Sheet Number
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SITE PLAN

KEYNOTES:

- (A) EXISTING RAW WATER RESERVOIRS / SEDIMENTATION POINDS
- (B) EXISTING INFILTRATION / EVAPORATION PONDS
- (C) EXISTING DRYING BEDS
- (D) EXISTING 4" RAW WATER LINE
- (E) EXISTING 4" DRAIN TILE LINE
- (F) EXISTING 6" DRAIN TILE LINE
- (G) EXISTING 12" CAMPUS MAIN WATER LINE
- (H) FUTURE 12" CAMPUS MAIN WATER LINE EXTENSION – NOT IN CONTRACT

APPROVALS

BUILDING IDENTIFICATION:

NUMBER	DESCRIPTION	CONST TYPE	OCCUPANCY GROUP	FIRE SPRINKLERS	DSA APPL NO	CLOSED DSA COMPLIANT
1400	ADMINISTRATION	III–B	B	N	A–21614	Y
1500	MEYER BUSINESS BUILDING	V–B	B	N	A–33912, 52343	Y, Y
1600	STUDENT AFFAIRS OFFICE	V–B	B	N	A–33912	Y
1900	RESTROOM / CONCESSION	II–B	B	N	04–121070	OPEN
2100	INFANT TODDLER CENTER	V–B	E	N	04–100748	Y
2200	PRESCHOOL	III–B	E	N	A–54425	Y
2300	SOCIAL SCIENCES / ENGLISH	III–B	A–3, B	N	A–21614, 04–118720	Y, OPEN
2500	BUSINESS	III–B	A–3, B	N	A–21614, 29289, 04–118720	Y, Y, OPEN
2600	BOOKSTORE	V–B	B	N	UNKNOWN	
3200	READING / WRITING / LANGUAGE LABORATORY	V–B	B	N	04–103704	Y
3300	ART GALLERY	V–B	A–3	N	04–110775	Y
3400	COUNSELING / FINANCIAL AID	III–B	B	N	A–21614, 38564	Y, Y
3600	COLLEGE CENTER	III–B	A–2, B	N	A–21614, 29289, 38800, 04–119487	Y, Y, Y, Y
3700	GYMNASIUM	III–B	A–2, B	Y	A–21614, 26153, 27239, 28378, 04–119344, 118941	Y, Y, Y, Y, Y, Y
3800	MATH LAB CENTER	V–B	B	N	UNKNOWN	
3820	HUMAN RESOURCES	V–B	B	N	NONE	
4160	TECHNOLOGY CENTER	V–B	B	N	A–38576	Y
4300	FINE ARTS	III–B	A–3, B	N	A–21614, 04–118720	Y, OPEN
4500	ASSESSMENT CENTER/ CLASSROOMS	III–B	B	N	A–21614	Y
4600	WORKFORCE DEVELOPMENT CENTER	V–B	B	N	UNKNOWN	
5300	HEALTH SCIENCES / DISABLED STUDENT	V–B	A–3, B	N	A–47276, 04–120034	Y, Y
5500	LIBRARY MEDIA CENTER	V–A	A–3, B	Y	A–36944, 04–100260, 110557, 119862	Y, Y, Y, Y
6300	DSPS	V–B	B	N	04–119394	Y
6600	NEW BUILDING	II–B	S–1, B	Y	04–122887	
6700	MAINTENANCE / WAREHOUSE	V–B	B	N	A–21614, 30409	Y, Y
7400	SCIENCE	II–A	A–3, B	Y	04–108533	Y
7700	CAREER TECHNICAL	II–B	B, H–3	Y	04–112064	Y
8700	CAREER TECHNICAL	II–B	B	Y	04–112064	Y
T7100–T7105	RELOCATABLE CLASSROOMS	V–B	B	N	04–110973	Y
T7106	RELOCATABLE CLASSROOMS	V–B	B	N	04–116872	Y
T7107	RELOCATABLE CLASSROOMS	V–B	B	N	04–115279	Y
A	INFORMATION BOOTH "A"	V	B	N	N/A	
B	INFORMATION BOOTH "B"	V	B	N	N/A	
C	SHOWERS / TOILETS	V–B	B	N	UNKNOWN	
D	POOLS AND GRANDSTANDS	V–B	A–5	N	A–36933	Y
E	CARPENTER SHOP	V–B	B	N	UNKNOWN	
F	NOT USED	–	–	–	N/A	
G	SHADE STRUCTURE	II–B	B	N	04–110557	Y
H	SHADE STRUCTURE	II–B	B	N	04–110557	Y
J	SHADE STRUCTURE	II–B	B	N	04–110557	Y
K	NOT USED	–	–	–	N/A	
L	SHADE STRUCTURE	II–B	B	N	04–110557	Y
M	SHADE STRUCTURE	II–B	B	N	04–110557	Y
N	SHADE STRUCTURE	II–B	B	N	04–110557	Y
P	SHADE STRUCTURE	II–B	A–3	N	04–111893	Y
Q	SHADE STRUCTURE	II–B	A–3	N	04–111893	Y
R	SHADE STRUCTURE	II–B	A–3	N	A–54425	Y
S	SHADE STRUCTURE	II–B	A–3	N	04–101106	Y
T	SHADE STRUCTURE	V–B	A–3	N	UNKNOWN	
U	SHADE STRUCTURE	V–B	A–3	N	04–119347	Y
V	(N) SHADE STRUCTURE	II–B	A–3	N	04–121071	OPEN
W	(N) SHADE STRUCTURE	II–B	A–3	N	04–121071	OPEN
X	(N) SHADE STRUCTURE	II–B	A–3	N	04–121071	OPEN
Y	(N) SHADE STRUCTURE	II–B	A–3	N	04–121071	OPEN
6600–A	NEW SOLAR SHADE STRUCTURE	II–B	U	N	04–122887	
6600–B	NEW SOLAR SHADE STRUCTURE	II–B	U	N	04–122887	
6600–C	NEW SHADE STRUCTURE	II–B	U	N	04–122887	

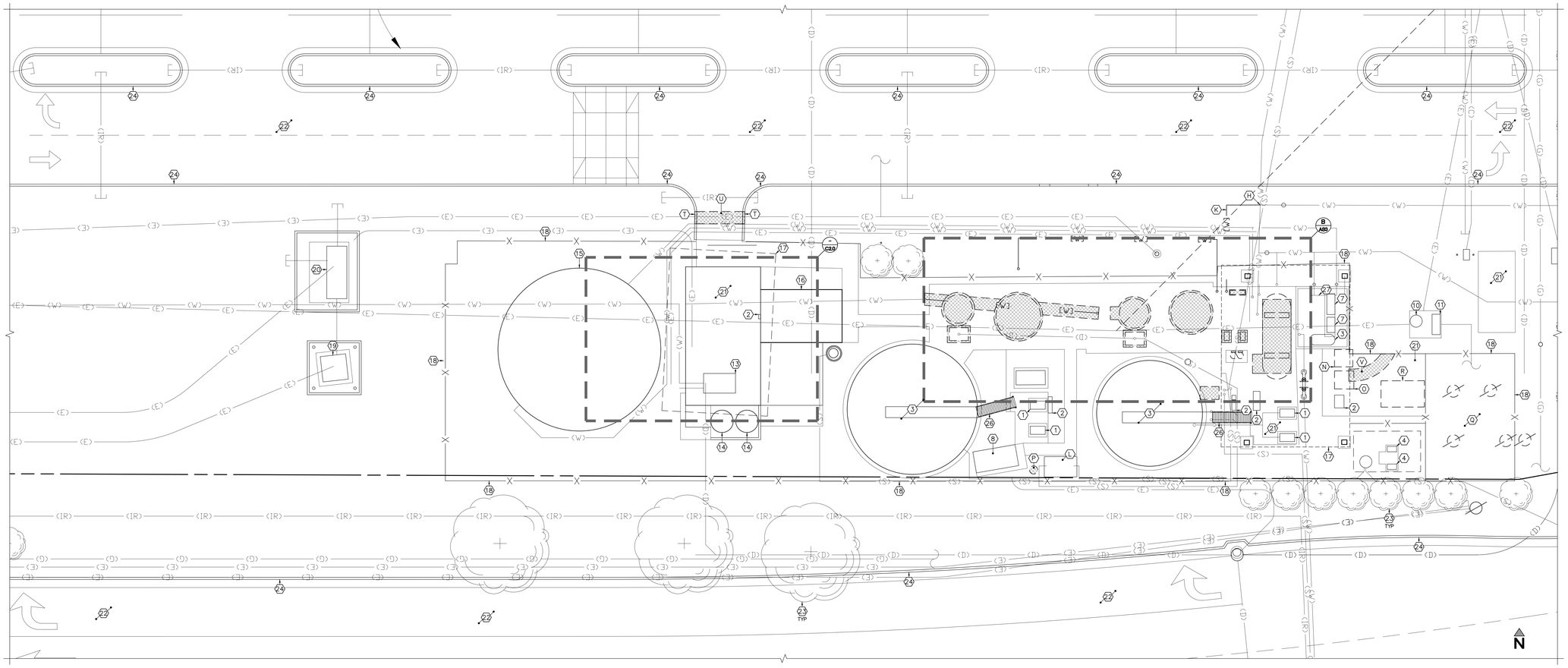
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Project Title
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WATER & WASTEWATER PLANT IMPROVEMENTS

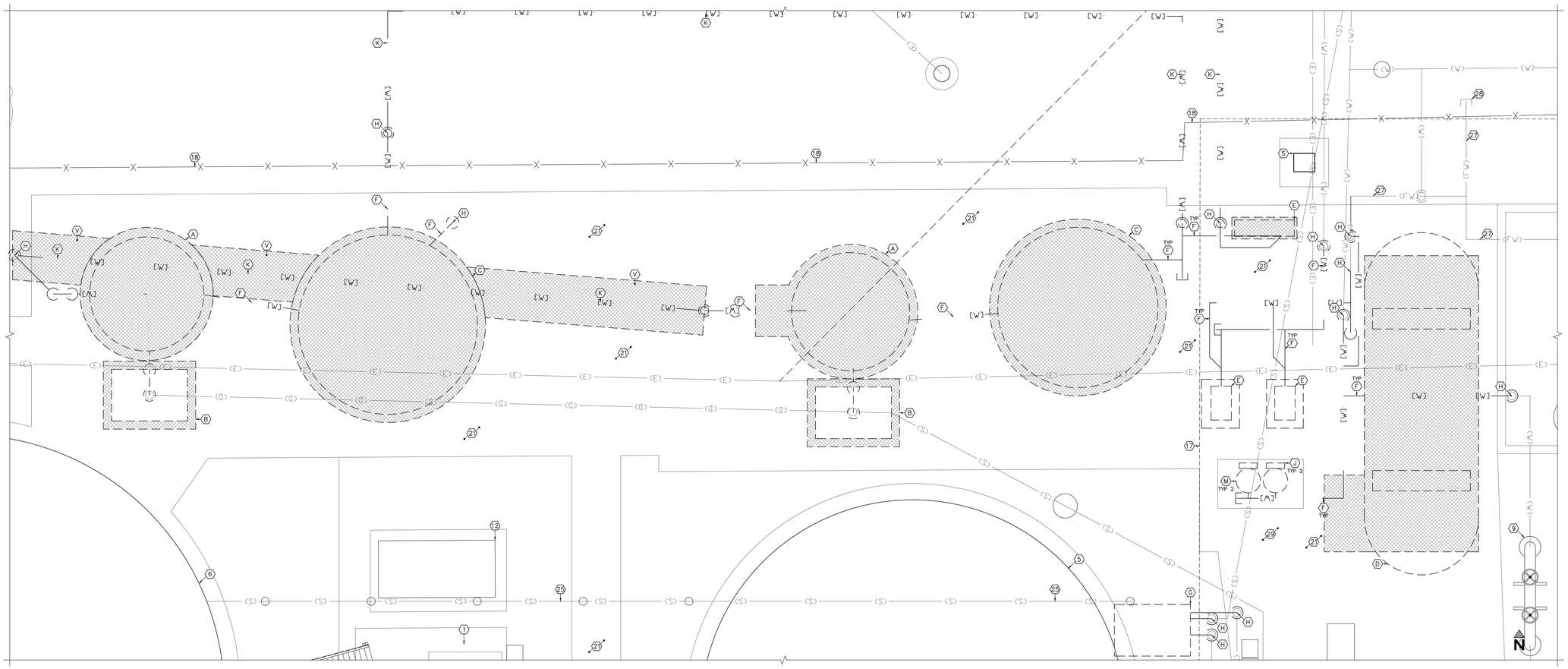
Sheet Title
SITE PLAN

LICENSED ARCHITECT – JIMMIE SANDERS – C-17644 – RENEWAL DATE 7-31-27 – STATE OF CALIFORNIA

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SITE SURVEY AND DEMOLITION PLAN — SCALE: 1" = 10'-0" — A



ENLARGED SITE SURVEY AND DEMOLITION UTILITY PLAN — SCALE: 1" = 5'-6" — B

APPROVALS

KEYNOTES:

1. EXISTING SEWER PLANT BLOWER TO REMAIN – PROTECT
2. EXISTING ELECTRICAL DISTRIBUTION PANEL TO REMAIN – PROTECT
3. EXISTING FIRE PUMP OIL TANK TO REMAIN – PROTECT
4. EXISTING EFFLUENT WATER PUMP TO REMAIN – PROTECT
5. EXISTING 50K GALLON PACKAGE SEWER PLANT TANK TO REMAIN – PROTECT
6. EXISTING 100K GALLON PACKAGE SEWER PLANT TANK TO REMAIN – PROTECT
7. EXISTING FIRE PUMP AND FIRE PUMP CONTROL PANEL TO REMAIN – PROTECT
8. EXISTING STORAGE CONTAINER TO REMAIN – PROTECT
9. EXISTING BACKFLOW PREVENTER SERVING MUSEUM TO REMAIN – PROTECT
10. EXISTING ELECTRICAL UTILITY VAULT – PROTECT
11. EXISTING SECTOR BOX TO REMAIN – PROTECT
12. EXISTING BACK-UP GENERATOR TO REMAIN – PROTECT
13. EXISTING PACKAGE WATER TREATMENT PLANT TO REMAIN – PROTECT
14. EXISTING FILTERED WATER STORAGE TANK TO REMAIN – PROTECT
15. EXISTING 220K GALLON TREATED WATER STORAGE TANK TO REMAIN – PROTECT
16. EXISTING WATER TREATMENT BUILDING TO REMAIN – PROTECT
17. EXISTING METAL SHADE STRUCTURE TO REMAIN – PROTECT
18. EXISTING CHAIN-LINK FENCE TO REMAIN – PROTECT
19. EXISTING IID TRANSFORMER TO REMAIN – PROTECT
20. EXISTING SWITCHBOARD TO REMAIN – PROTECT
21. EXISTING SITE CONCRETE TO REMAIN – PROTECT
22. EXISTING AC PAVING TO REMAIN – PROTECT
23. EXISTING TREE / SHRUB TO REMAIN – PROTECT
24. EXISTING CURB / CURB & GUTTER TO REMAIN – PROTECT
25. EXISTING OVERHEAD SEWER PIPING AND SUPPORTS TO REMAIN – PROTECT
26. EXISTING METAL STAIRS AND CATWALK TO REMAIN – PROTECT
27. EXISTING FIRE WATER EXPOSED PIPING INCLUDING VALVES AND FITTINGS TO REMAIN – PROTECT
28. EXISTING FIRE DEPARTMENT CONNECTION TO REMAIN – PROTECT
29. EXISTING UNISTRUT SUPPORTS FOR ELECTRICAL CONDUIT TO REMAIN – PROTECT

DEMOLITION KEYNOTES:

- (A) REMOVE EXISTING ABANDONED GRAVITY FILTER TANK. REMOVE CONCRETE PAD INCLUDING ALL ASSOCIATED EXPOSED PIPING. CAP AND SEAL PIPING FLUSH TO GRADE
- (B) REMOVE EXISTING WASH WATER SUMP. REMOVE CONCRETE WALLS. DRAIN TO REMAIN
- (C) REMOVE EXISTING ABANDONED DOMESTIC WATER GRAVITY STORAGE TANK. REMOVE CONCRETE PAD INCLUDING ALL ASSOCIATED EXPOSED PIPING. CAP AND SEAL PIPING FLUSH TO GRADE.
- (D) REMOVE EXISTING ABANDONED HYDRO-PNEUMATIC TANK. REMOVE CONCRETE FOOTING INCLUDING ALL ASSOCIATED EXPOSED PIPING. CAP AND SEAL PIPING FLUSH TO GRADE
- (E) REMOVE EXISTING DOMESTIC WATER PUMP INCLUDING CONCRETE PAD.
- (F) REMOVE EXISTING EXPOSED DOMESTIC WATER PIPING INCLUDING ALL ASSOCIATED APPURTENANCES (I.E. VALVES, FITTINGS, SWITCHES). CAP AND SEAL PIPING AT FLUSH GRADE
- (G) REMOVE EXISTING 50K GALLON SEWER PACKAGED PLANT DIVERSION BOX. REMOVE PIPING RISERS. CAP AND SEAL PIPING FLUSH TO GRADE FOR FUTURE POC
- (H) POINT OF DISCONNECT. CAP LINE FOR FUTURE POINT OF CONNECTION
- (J) REMOVE EXISTING DOMESTIC WATER PUMP VFD
- (K) REMOVE EXISTING UNDERGROUND PIPING
- (L) REMOVE EXISTING DISINFECTANT UV LIGHT SYSTEM. ENCLOSURE TO REMAIN.
- (M) REMOVE EXISTING DOMESTIC WATER EXPANSION TANK
- (N) REMOVE EXISTING ELECTRICAL OIL FUSED SWITCHBOARD. CONTRACTOR IS RESPONSIBLE FOR ABATEMENT / HAZARDOUS MATERIAL REMOVAL
- (O) REMOVE EXISTING PRIVATE ELECTRICAL TRANSFORMER
- (P) REMOVE EXISTING CHLORINE FILTER TANK
- (Q) REMOVE EXISTING ELECTRICAL SUB-STATION. COORDINATE W/ IID
- (R) REMOVE EXISTING ELECTRICAL MAIN DISTRIBUTION PANEL
- (S) REMOVE COATING FROM WASTEWATER PLANT INTERIOR AND EXTERIOR SURFACE AND ASSOCIATED COMPONENTS PER SSPC-SP10 NACE 2 STANDARD
- (T) REMOVE PORTION OF EXISTING CONCRETE CURB
- (U) REMOVE PORTION OF EXISTING ASPHALT. FIELD VERIFY EXACT LOCATION
- (V) REMOVE PORTION OF EXISTING SITE CONCRETE

LEGEND:

- CONCRETE / ASPHALT TO BE REMOVED
- 10.90 BENCH MARK: TOP OF NORTHEAST CORNER OF TRANSFORMER PAD LOCATED NORTH OF THE MAINTENANCE BUILDING
- 1234.56 EXISTING ELEVATION (SITE CONCRETE UNO)
- FIRE HYDRANT
- IRRIGATION HYDRANT
- POWER POLE
- NS NATURAL SOIL
- TC TOP OF CURB
- FL FLOW LINE
- (S) (E) SEWER LINE
- (W) (E) WATER LINE
- (FW) (E) FIREWATER LINE
- (G) (E) GAS LINE
- (E) (E)ELECTRICAL LINE
- (C) (E) COMMUNICATIONS LINE
- (IR) (E) IRRIGATION LINE
- (D) (E) STORM DRAIN LINE
- (TD) (E) TILE DRAIN LINE

NOTES:

1. DEMOLITION KEYNOTES ARE NOT INTENDED TO SHOW ALL DEMOLITION REQUIRED FOR PROPOSED IMPROVEMENTS. CONTRACTOR IS RESPONSIBLE TO REMOVE ALL EXISTING IMPROVEMENTS/CONDITIONS REQUIRED TO COMPLETE WORK FOR PROPOSED IMPROVEMENTS.
2. CONTRACTOR SHALL ENCOUNTER EXISTING IRRIGATION LINES DURING DEMOLITION CONTRACTOR SHALL CAP LINE, AWAY FROM PROPOSED IMPROVEMENTS, AND NOTIFY ARCHITECT/SCHOOL DISTRICT.
3. CONTRACT SHALL REMOVE UTILITY PIPING AS INDICATED ON PLANS. ALL UNDERGROUND PIPING SHALL REMAIN IN PLACE. DISCONNECT AND CAP PIPING TO BE CONNECTED FOR FUTURE POINT OF CONNECTION.
4. CONTRACTOR SHALL REPAIR OR REPLACE ANY LINE BROKEN OR DAMAGED DURING COURSE OF PLACEMENT OF NEW LINES, CONSTRUCTION OF TRENCHING, OR HEAVY EQUIPMENT ON SITE AT NO COST TO OWNER.
5. PRIOR TO ANY EXCAVATION THE SITE SHALL BE VISITED BY A "DIG ALERT" COMPANY FOR THE PURPOSE OF LOCATING ALL UNDERGROUND UTILITY LINES.
6. CAP ALL STUBBED OUT CONDUIT FOR FUTURE.
7. PROVIDE PULL STRING FOR ALL CONDUIT.
8. ALL UTILITY LINES ARE EXISTING UNLESS NOTED OTHERWISE – PROTECT.
9. SAW CUT EXISTING SITE CONCRETE TO NEAREST CONTROL JOINT FOR PROPOSED UTILITIES. REPLACEMENT CONCRETE TO BE FLUSH.
10. THE EXISTENCE AND LOCATION OF EXISTING UNDERGROUND FACILITIES SHOWN ON THESE PLANS WERE OBTAINED BY A SEARCH OF THE AVAILABLE RECORDS. TO THE BEST OF OUR KNOWLEDGE, THERE ARE NO OTHER EXISTING FACILITIES EXCEPT AS SHOWN ON THESE PLANS, HOWEVER, THE CONTRACTOR IS REQUIRED TO TAKE PRECAUTIONARY MEASURES TO PROTECT ANY EXISTING FACILITY SHOWN HEREON AND ANY OTHER WHICH IS NOT OF RECORD OR NOT SHOWN ON THESE PLANS.
11. CONTRACTOR IS REQUIRED TO TAKE PRECAUTIONARY MEASURES TO PROTECT THE UTILITY LINES SHOWN HEREON, AND ANY OTHER EXISTING LINES NOT OF RECORD OR NOT SHOWN ON THESE PLANS.
12. CONTRACTOR IS REQUIRED TO HIRE SITE UTILITY IDENTIFIER CONTRACTOR PRIOR TO ANY EXCAVATION.

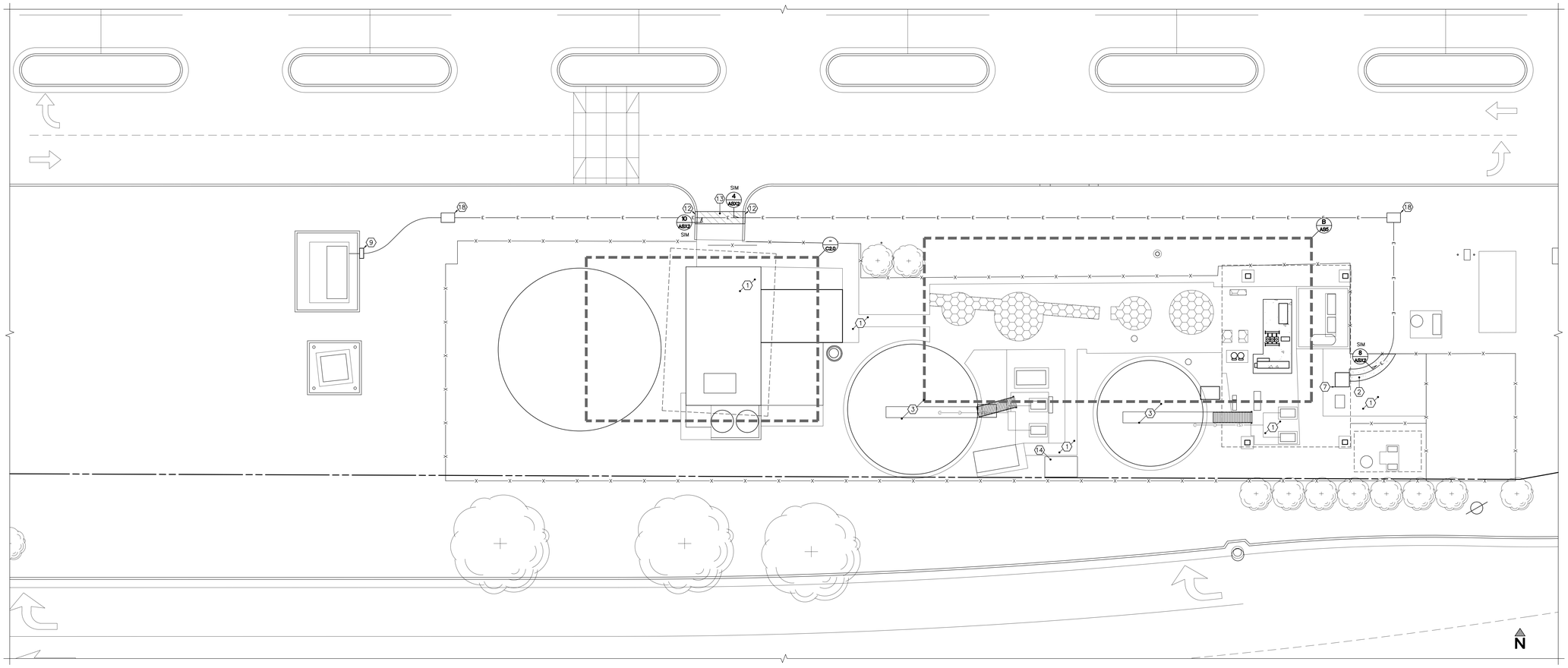
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Sheet Title
SITE SURVEY AND DEMOLITION PLAN
DEMOLITION UTILITY PLAN

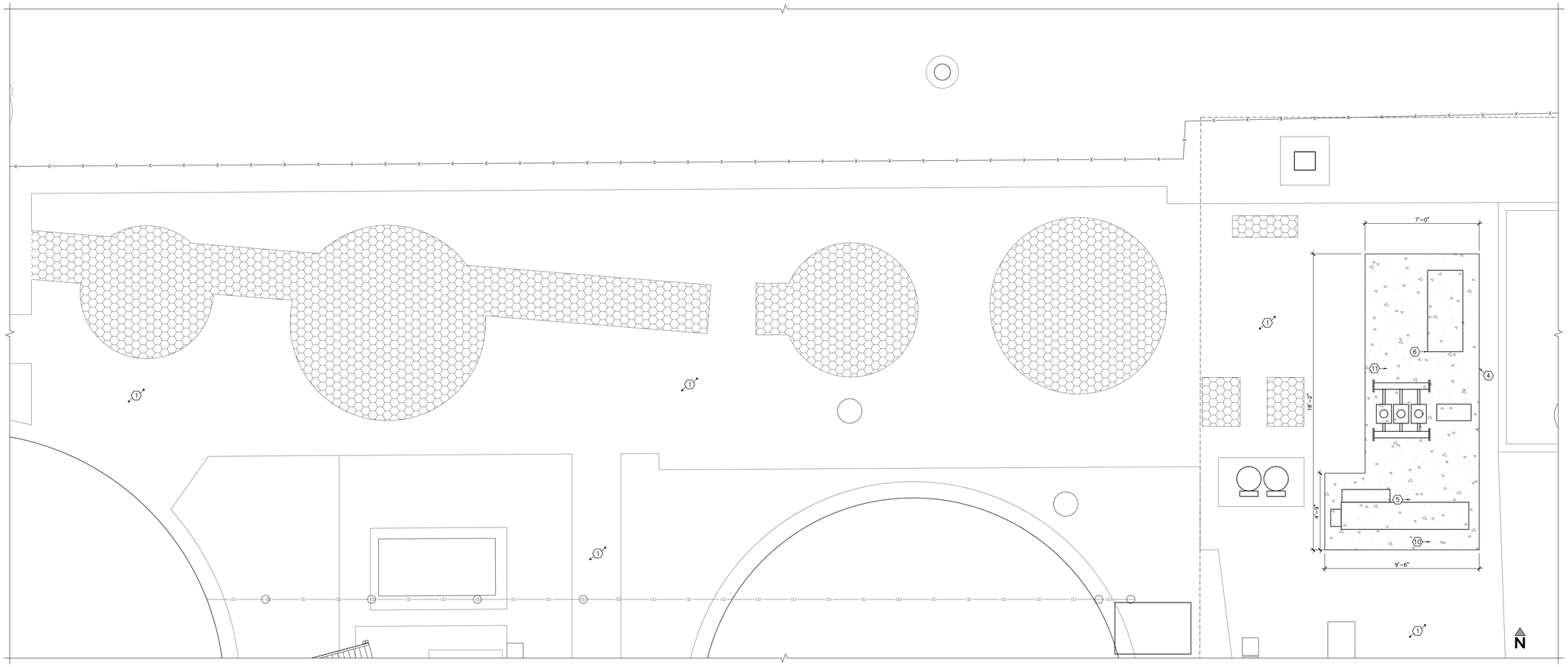
LICENSED ARCHITECT — JAMES M. SANDERS — 7644 — RENEWAL DATE 08-31-2027 — STATE OF CALIFORNIA

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	AS3



HARDSCAPE

SCALE: 1" = 10'-0" | A



ENLARGEMENT

SCALE: 1" = 10'-0" | B

APPROVALS

KEYNOTES:

1. EXISTING CONCRETE WALK – PROTECT
2. 6" THICK CONCRETE WALK (1 / ABX2)
3. PROVIDE SHERWIN WILLIAMS DURA-PLATE 6100 HIGH PERFORMANCE EPOXY W/ HIGH BUILD HARDENER B62VH8475, APPLY DRY FILM THICKNESS OF 275 MILS PER MANUF REQUIREMENTS TO 50K AND 100K GALLON PACKAGED WASTEWATER PLANT FOR INTERIOR AND EXTERIOR SURFACE AND ASSOCIATED COMPONENTS
4. PROVIDE NEW CONCRETE PAD PER (19 / ABX2)
5. NEW DOMESTIC WATER PUMPS. REFER TO PLUMBING DRAWINGS
6. NEW FIRE WATER PUMP. REFER TO PLUMBING DRAWINGS
7. NEW PRIVATE ELECTRICAL TRANSFORMER. REFER TO ELECTRICAL DRAWINGS
8. PROVIDE CONCRETE UTILITY VAULT PER (18 / ABX2)
9. NEW FIRE PUMP DISCONNECT
10. NEW DOMESTIC WATER PUMP CONTROLLER. REFER TO PLUMBING DRAWINGS
11. NEW FIRE WATER PUMP CONTROLLER. REFER TO PLUMBING DRAWINGS
12. PROVIDE NEW CONCRETE CURB PER (10 / ABX2)
13. PROVIDE NEW ASPHALT PAVING PER (3 / ABX2)
14. NEW DISINFECTANT UV LIGHT SYSTEM. REFER TO PLUMBING DRAWINGS

LEGEND:

- NEW SITE CONCRETE PER (1 / ABX2)
- NEW CONCRETE PAD PER (1 / ABX2)
- NEW CONCRETE CURB PER (19 / ABX2)
- NEW AC PAVING PER (3 / ABX2)
- NEW CLASS II BASE PER (20 / ABX2)
- 10.90 — BENCH MARK: TOP OF NORTHEAST CORNER OF TRANSFORMER PAD LOCATED NORTH OF THE MAINTENANCE BUILDING
- 13.4 × EXISTING ELEVATION FROM AERIAL SURVEY
- 13.4 EXISTING ELEVATION (SITE CONCRETE U.N.O.)
- 38.80 PROPOSED ELEVATION (SITE CONCRETE U.N.O.)
- .02 DIRECTION OF SLOPE w/ SLOPE NOTED
- (8) RADIUS – NOTED IN DECIMAL FEET
- -GB- GRADE BREAK
- SD STORM DRAIN
- FIRE HYDRANT
- IRRIGATION HYDRANT
- UTILITY CLEAN OUT
- POWER POLE
- LIGHT STANDARDS – SEE ELECTRICAL DRAWINGS
- MANHOLE
- STORM DRAIN CATCH BASIN
- X EXISTING CHAIN LINK FENCE

NS	NATURAL SOIL
TC	TOP OF CURB
FL	FLOW LINE
TB	TOP OF BENCH
TP	TOP OF PLANTER
PB	POLE BASE
D	DRAIN

- S NEW SEWER LINE – SEE PLUMBING DRAWINGS
- V NEW WATER LINE – SEE PLUMBING DRAWINGS
- G NEW GAS LINE – SEE PLUMBING DRAWINGS
- E NEW ELECTRICAL LINE – SEE ELECTRICAL DRAWINGS
- C NEW COMMUNICATIONS LINE – SEE COMMUNICATION DRAWINGS
- D NEW STORM DRAIN LINE – SEE HARDSCAPE
- CA NEW COMPRESS AIR LINE – SEE PLUMBING DRAWINGS
- GW NEW GREASE WASTE LINE – SEE PLUMBING DRAWINGS
- FW NEW FIRE WATER LINE – SEE FIRE PROTECTION DRAWINGS

NOTES:

1. ALL DIMENSIONS ARE TO FACE OF CURB AND FACE OF STUD/CMU (U.N.O.).
2. CONTRACTOR SHALL BE RESPONSIBLE TO VERIFY DRAINAGE OF SITE. CONTRACTOR SHALL NOTIFY ARCHITECT, PRIOR TO CONSTRUCTION, ANY SITE CONCRETE WHICH WILL NOT PROPERLY DRAIN.
3. ALL CONTROL JOINTS TO BE SAW CUT.
4. ALL NATIVE SOIL REMOVED FOR CONSTRUCTION HARDSCAPE SHALL REMAIN ON SITE. CONTRACTOR SHALL USE NATIVE SOIL FOR FINISH GRADING.
5. MAXIMUM CROSS SLOPE AT ALL ACCESSIBLE PATHS OF TRAVEL IS 2%
6. PROVIDE 1'-0" MIN. TOP SOIL AT ALL PLANTING AREAS.
7. PROVIDE TOP SOIL SLOPED AWAY FROM SITE CONCRETE AT 4:1 MAX. SLOPE, TYP. FOR ENTIRE PROJECT.
8. THE EXISTENCE AND LOCATION OF EXISTING UNDERGROUND FACILITIES SHOWN ON THESE PLANS WERE OBTAINED BY A SEARCH OF THE AVAILABLE RECORDS. TO THE BEST OF OUR KNOWLEDGE, THERE ARE NO OTHER EXISTING FACILITIES EXCEPT AS SHOWN ON THESE PLANS. HOWEVER, THE CONTRACTOR IS REQUIRED TO TAKE PRECAUTIONARY MEASURES TO PROTECT ANY EXISTING FACILITY SHOWN HEREON AND ANY OTHER WHICH IS NOT OF RECORD OR NOT SHOWN ON THESE PLANS.
10. BEFORE EXCAVATING FOR THIS CONTRACT, VERIFY LOCATION OF UNDERGROUND UTILITIES. THE EXISTENCE AND LOCATION OF ANY UNDERGROUND UTILITY PIPES OR STRUCTURES SHOWN ON THESE PLANS HAS BEEN OBTAINED FROM AVAILABLE RECORDS ONLY AND MAY NOT REFLECT ALL EXISTING UTILITIES. LOCATION OF ALL EXISTING UTILITIES SHALL BE CONFIRMED BY FIELD MEASUREMENTS BY CONTRACTOR PRIOR TO CONSTRUCTION OF WORK.
11. CONTRACTOR IS REQUIRED TO TAKE PRECAUTIONARY MEASURES TO PROTECT THE UTILITY LINES SHOWN HEREON AND ANY OTHER EXISTING LINES NOT OF RECORD OR NOT SHOWN ON THESE PLANS.
12. ACCURATE VERIFICATIONS AS TO SIZE LOCATION AND DEPTH OF EXISTING UNDERGROUND SERVICES SHALL BE THE CONTRACTORS RESPONSIBILITY. THE CONTRACTOR SHALL NOTIFY THE SOUTHER CALIFORNIA GAS COMPANY, AT&T, IMPERIAL IRRIGATION DISTRICT, GOLDEN STATE WATER COMPANY, AND ANY OTHER AFFECTED UTILITY AGENCIES PRIOR TO STARTING WORK NEAR SUCH UTILITY FACILITIES. THEY SHALL COORDINATE WORK WITH UTILITY REPRESENTATIVES. FOR LOCATION OF UNDERGROUND UTILITIES AND APPURTENANCES, CONTACT "UNDERGROUND SERVICE ALERT" AT 811.
13. CONTRACTOR IS REQUIRED TO HIRE SITE UTILITY IDENTIFIER CONTRACTOR PRIOR TO ANY EXCAVATION.

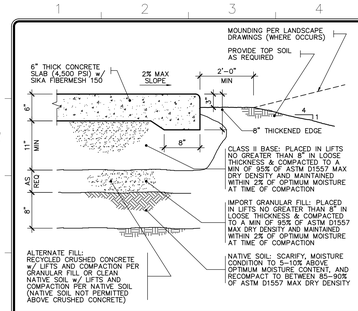
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IMPERIAL VALLEY COLLEGE
WATER & WASTEWATER PLANT IMPROVEMENTS

Sheet Title
HARDSCAPE

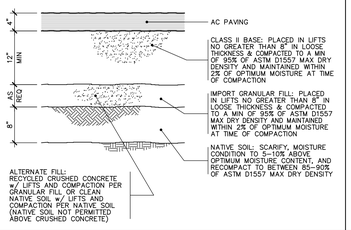
LICENSED ARCHITECT — JIMMIE L. SANDERS — No. C-27644 — REGISTERED — STATE OF CALIFORNIA

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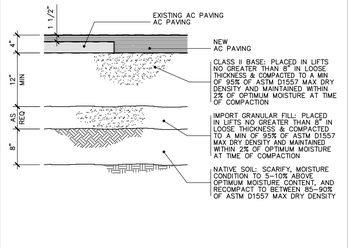


SITE CONCRETE SECTION | SCALE: 1" = 1'-0" | 1

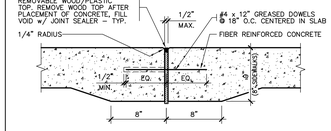
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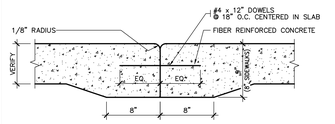
4" AC PAVING SECTION | SCALE: 1" = 1'-0" | 3



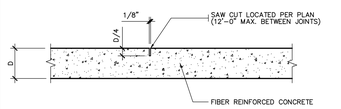
NEW TO EXISTING AC PAVING | SCALE: 1" = 1'-0" | 4



EXPANSION JOINT | SCALE: 1 1/2" = 1'-0" | 5



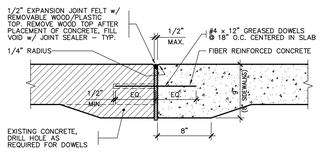
CONSTRUCTION JOINT | SCALE: 1 1/2" = 1'-0" | 6



NOTE:

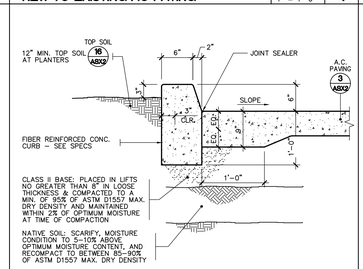
SLAB MUST BE CUT WITHIN 8 HOURS OF PLACEMENT OF CONCRETE OR CONCRETE WILL BE REJECTED

CONTROL JOINT, SAW CUT | SCALE: 1 1/2" = 1'-0" | 7



NEW TO EXISTING CONCRETE | SCALE: 1 1/2" = 1'-0" | 8

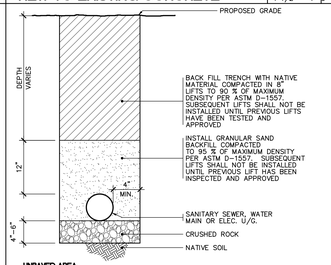
NOT USED | 9



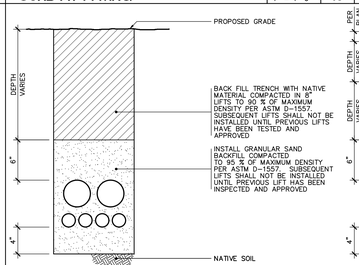
CURB AT PAVING | SCALE: 1" = 1'-0" | 10

NOT USED | 11

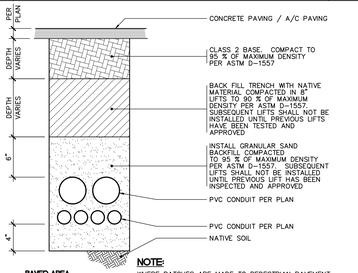
NOT USED | 12



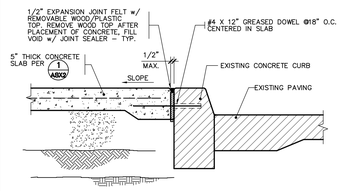
TYPICAL TRENCH DETAIL | SCALE: N.T.S. | 14



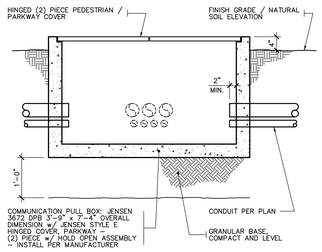
TYPICAL TRENCH DETAIL | SCALE: N.T.S. | 15



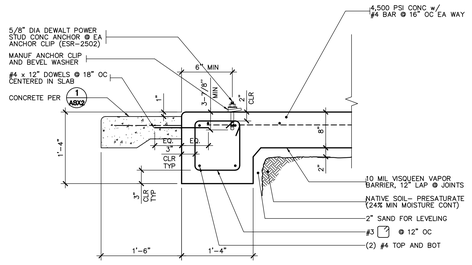
TOP SOIL AT CURBS | SCALE: 1" = 1'-0" | 16



NEW TO EXISTING CURB | SCALE: 1" = 1'-0" | 17



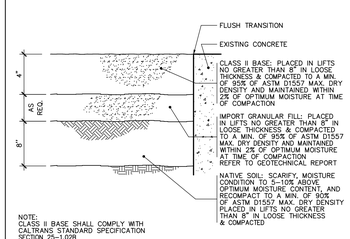
VAULT DETAIL | SCALE: 1" = 1'-0" | 18



NOTE:

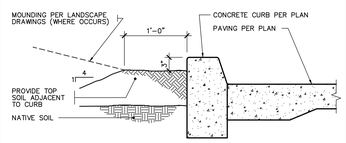
COORDINATE w/ ELECTRICAL CONTRACTOR FOR CONDUIT PLACEMENT PRIOR TO CONCRETE POUR

FIRE PUMP AND DOM. WATER PUMPS CONCRETE PAD | SCALE: 1" = 1'-0" | 19



NOTE:
CLASS II BASE SHALL COMPLY WITH CALTRANS STANDARD SPECIFICATION SECTION 25-1.02B

CLASS II BASE | SCALE: 1" = 1'-0" | 20



APPROVALS

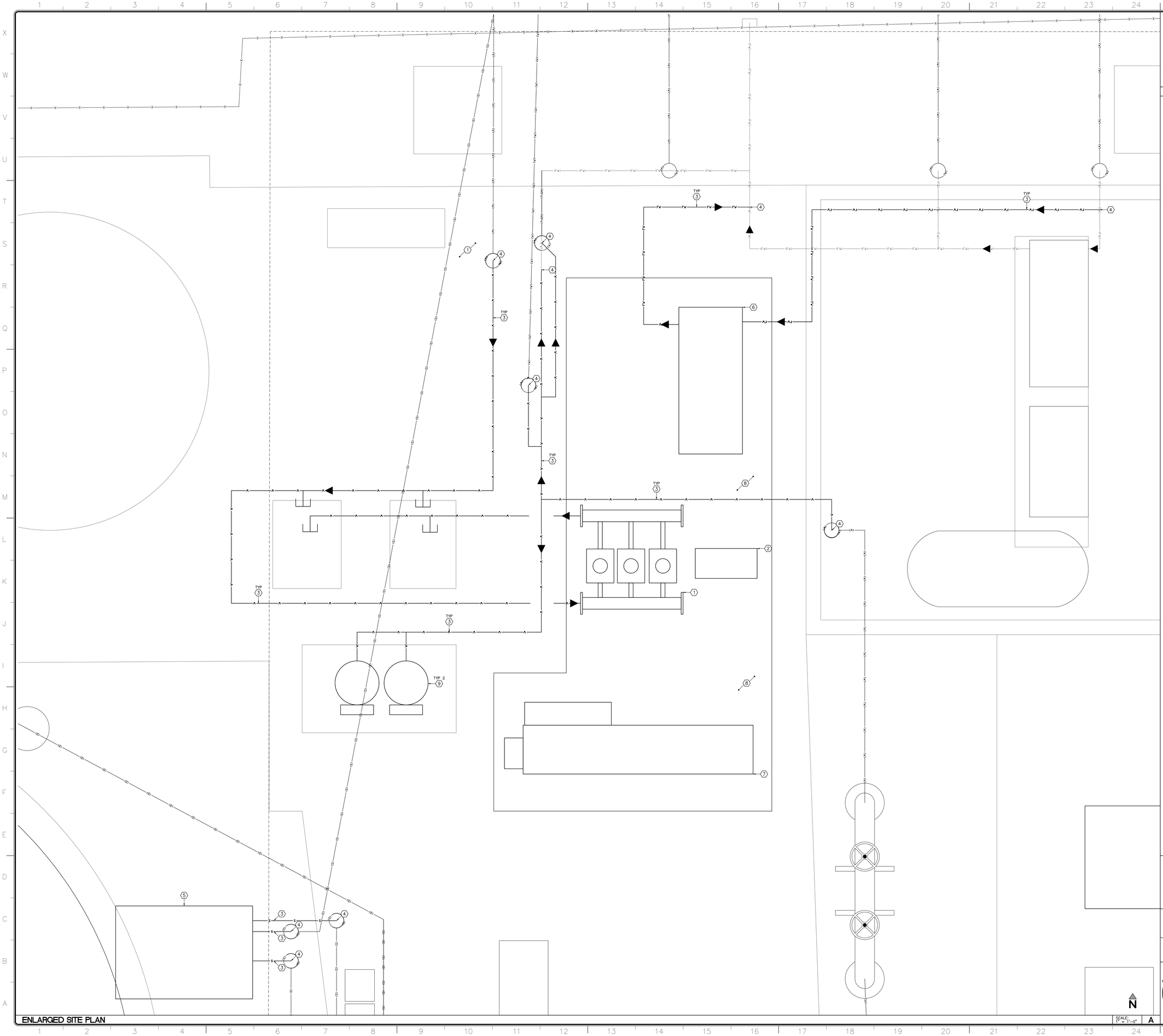
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WATER & WASTEWATER PLANT IMPROVEMENTS

Sheet Title
TYPICAL SITE DETAILS

LICENSED ARCHITECT JIMMIE W. SANDERS 17644 REGISTERED STATE OF CALIFORNIA

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APPROVALS

KEYNOTES:

1. NEW DOMESTIC WATER PUMP, REFER TO PLUMBING DRAWINGS
2. NEW DOMESTIC WATER PUMP CONTROLLER, REFER TO ELECTRICAL DRAWINGS
3. NEW PIPING, REFER TO PLUMBING DRAWINGS
4. POINT OF CONNECTION
5. NEW DIVERSION BOX, REFER TO PLUMBING DRAWINGS
6. NEW FIRE PUMP, REFER TO PLUMBING DRAWINGS
7. NEW FIRE PUMP CONTROLLER, REFER TO ELECTRICAL DRAWINGS
8. PUMP CONCRETE PAD
9. NEW EXPANSION TANK, REFER TO PLUMBING DRAWINGS

LEGEND:

S	NEW SEWER LINE – SEE PLUMBING DRAWINGS
W	NEW WATER LINE – SEE PLUMBING DRAWINGS
G	NEW GAS LINE – SEE PLUMBING DRAWINGS
E	NEW ELECTRICAL LINE – SEE ELECTRICAL DRAWINGS
C	NEW COMMUNICATIONS LINE
D	NEW STORM DRAIN LINE – SEE PLUMBING DRAWINGS
CA	NEW COMPRESS AIR LINE – SEE PLUMBING DRAWINGS
GW	NEW GREASE WASTE LINE – SEE PLUMBING DRAWINGS
FW	NEW FIRE WATER LINE – SEE PLUMBING DRAWINGS
(S)	(E) SEWER LINE – SEE PLUMBING DRAWINGS
(W)	(E) WATER LINE – SEE PLUMBING DRAWINGS
(FW)	(E) FIREWATER LINE – SEE PLUMBING DRAWINGS
(G)	(E) GAS LINE – SEE PLUMBING DRAWINGS
(E)	(E) ELECTRICAL LINE – SEE ELECTRICAL DRAWINGS
(C)	(E) COMMUNICATIONS LINE
(IR)	(E) IRRIGATION LINE – SEE PLUMBING DRAWINGS
(D)	(E) STORM DRAIN LINE – SEE PLUMBING DRAWINGS
(TD)	(E) TILE DRAIN LINE – SEE PLUMBING DRAWINGS

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Project Title
IMPERIAL VALLEY COLLEGE
WATER & WASTEWATER PLANT IMPROVEMENTS

Sheet Title
ENLARGED SITE PLAN

LICENSED ARCHITECT
JIMMIE L. SANDERS
No. 17644
RENEWAL 08/31/2027
STATE OF CALIFORNIA

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ENLARGED SITE PLAN

SCALE: 1" = 1'-0" | A

PLUMBING LEGEND AND ABBREVIATIONS

SYMBOL	ABBR.	DESCRIPTION
(X)		KEY NOTE SYMBOL
	POC	POINT OF CONNECTION
— (E) —	(E)	EXISTING PIPING - SEE PLANS FOR TYPE
		REMOVE EXIST. EQUIP. OR PIPES SHOWN HATCHED
— — —	S OR W	SEWER OR WASTE BELOW FLOOR OR GRADE
———	S OR W	SEWER OR WASTE ABOVE FLOOR OR GRADE
— — —	GW	GREASE WASTE
- - - -	GV	GREASE VENT
— — —	V	SANITARY VENT
— · —	CW	COLD WATER (DOMESTIC)
— · —	HW	HOT WATER (DOMESTIC)
— · —	HWR	HOT WATER RETURN
— CO2 —	CO2	CARBON DIOXIDE
— CA —	CA	COMPRESSED AIR
— CD —	CD	CONDENSATE DRAIN
— V —	VAC	VACUUM
— N2 —	N2	LIQUID NITROGEN
— DI —	DI	DIONIZED WATER
— G —	G	NATURAL GAS
— MPG —	MPG	MEDIUM PRESSURE NATURAL GAS (5 PSI)
— HPG —	HG	HIGH PRESSURE NATURAL GAS (30 -60 PSI)
	BP	BACKFLOW PREVENTER (REDUCED PRESS. TYPE)
	GV	GATE VALVE
	PIV	POST INDICATOR VALVE
	BV	BALL VALVE
	CV	CHECK VALVE
	GC	GAS COCK
	PRV	PRESSURE REDUCING VALVE
	T& PV	TEMPERATURE & PRESSURE RELIEF VALVE
	STR.	STRAINER
	GCO	CLEAN-OUT TO GRADE
	FCO	FLOOR CLEAN OUT
	WCO	WALL CLEAN-OUT OR CLEAN-OUT BELOW FLOOR
		CAPPED LINE
		DOWN OR DROP
		UP OR RISE
	FC	FLEXIBLE CONNECTION (PIPE)
	HB	HOSE BIBB
	PG	PRESSURE GAUGE WITH GAUGE COCK
		VALVE ON RISE OR DROP
TP	TP	TRAP PRIMER
	TH	THERMOMETER
	U	UNION
	WHA	WATER HAMMER ARRESTOR (P.D.I. SIZE)
		DIRECTION OF FLOW
		REDUCER
	FDC	FIRE DEPARTMENT CONNECTION
	FS	FLOOR SINK
	FD	FLOOR DRAIN
	SD/OSD	STORM DRAIN / OVERFLOW STORM DRAIN
	AD/DD	AREA DRAIN / DECK DRAIN
		AUTOMATIC AIR RELEASE VALVE
		PRESSURE GAUGE
		VENTURI FLOW METER
		BUTTERFLY VALVE

SYMBOL	ABBR.	DESCRIPTION
	A/C	ABOVE CEILING
	AT/C	AT CEILING OR STRUCTURE
	AB	ANCHOR BOLT
	AD	AREA DRAIN
	AFF	ABOVE FINISHED FLOOR
	AFG	ABOVE FINISHED GRADE
	AP	ACCESS PANEL
	ABV	ABOVE
	ARCH	ARCHITECT OR ARCHITECTURAL
	B/G	BELOW GRADE
	B/F	BELOW FLOOR
	B/S	BELOW SLAB
	BEL	BELOW
	CI	CAST-IRON
	C.L.G	CEILING
	CLR	CLEAR
	CONC	CONCRETE
	CD	CONDENSATE
	CONN	CONNECT OR CONNECTION
	CONT	CONTINUATION
	CONTR	CONTRACTOR
Ø	DIA	DIAMETER
	DN	DOWN
	DWGS	DRAWINGS
	ELECT	ELECTRICAL
	ELEV	ELEVATION
	EXIST	EXISTING
	°F	DEGREES FAHRENHEIT
	FFE	FINISH FLOOR ELEVATION
	FPM	FEET PER MINUTE
	FIN	FINISH OR FINISHED
	FLR	FLOOR
	FT	FEET OR FOOT
	GPM	GALLONS PER MINUTE
	GW	GREASE WASTE
	GV	GREASE VENT
	HDR	HEADER
	HP	HORSEPOWER
	HVAC	HEATING, VENTILATION, & AIR CONDITIONING
	I.E.	INVERT ELEVATION
	INV	INVERT
	I/VR	INDUSTRIAL VENT THROUGH ROOF
	I/W	IN WALL
	MAX	MAXIMUM
	MECH	MECHANICAL
	MFR.	MANUFACTURER
	MIN	MINIMUM
	MTD	MOUNTED
	N.C.	NORMALLY CLOSED
	N.I.C.	NOT IN CONTRACT
	NTS	NOT TO SCALE
	NO	NUMBER
	N.O.	NORMALLY OPEN
	OPER	OPERATING
	PD	PRESSURE DROP
	PLBG	PLUMBING
	PSI	POUNDS PER SQUARE INCH
	PSIG	POUNDS PER SQUARE INCH GAUGE
	SHT	SHEET
	SOV	SHUT- OFF VALVE
	ST STL	STAINLESS STEEL
	SPEC	SPECIFICATION
⌀	SQ FT	SQUARE FEET OR SQUARE FOOT
	STRUCT	STRUCTURAL
	TEMP	TEMPERATURE
	TP	TRAP PRIMER
	TYP	TYPICAL
	UNO	UNLESS NOTED OTHERWISE
	VTR	VENT THROUGH ROOF
	W.C.	INCHES WATER COLUMN
	QTY	QUANTITY

S — FIXTURE EQUIPMENT
1 — FIXTURE EQUIPMENT NUMBER
P — PLUMBING FIXTURE/EQUIP SYMBOL

1 — DETAIL NUMBER
P201 — DRAWING SHEET NUMBER (LOCATION OF DETAIL)
REFERENCE BUBBLE

GENERAL PLUMBING NOTES

1. THESE DRAWINGS ARE A GENERAL GRAPHIC PRESENTATION OF THE WORK. PLUMBING AS SHOWN, IS SCHEMATIC. FABRICATE AND INSTALL BASED ON ACTUAL FIELD MEASUREMENTS. COORDINATE WITH OTHER TRADES. MAINTAIN AN UP-TO-DATE SET OF AS-BUILT DRAWINGS AT THE JOB SITE DURING CONSTRUCTION.
2. CALIFORNIA MECHANICAL CODE 2022 (CMC 2022), CALIFORNIA PLUMBING CODE 2022 (CPC 2022) AND 2022 TITLE 24 ENERGY STANDARDS ARE THE CURRENT CODES/STANDARDS THAT ARE APPLICABLE TO THIS PROJECT.
3. REVIEW DRAWINGS AND SPECIFICATIONS INCLUDING ARCHITECTURAL, STRUCTURAL, CIVIL, MECHANICAL, PLUMBING, AND ELECTRICAL.
4. PROVIDE ACCESS AND CLEARANCE FOR MAINTENANCE OF PLUMBING EQUIPMENT AND COMPONENTS AS RECOMMENDED BY EQUIPMENT MANUFACTURER AND APPLICABLE CODES.
5. HANDLE, STORE AND INSTALL EQUIPMENT PER MANUFACTURER'S INSTRUCTIONS.
6. INSTALL VALVE WITH UNIONS OR FLANGES AT EACH PIECE OF EQUIPMENT ARRANGED TO ALLOW SERVICE, MAINTENANCE AND EQUIPMENT REMOVAL WITHOUT SYSTEM SHUT-DOWN.
7. BRACE AND SUPPORT PIPES, AND CONDUIT, IN ACCORDANCE TO SMACNA GUIDELINES FOR SEISMIC RESTRAINTS OF MECHANICAL AND PLUMBING PIPING SYSTEM.
8. INSULATE PLUMBING IN ACCORDANCE WITH GOVERNING CODES.
9. COMMISSION AND START-UP THE PLUMBING SYSTEM TO ENSURE A COMPLETE AND OPERATIONAL PLUMBING SYSTEM IN ACCORDANCE WITH ASHRAE AND NEBB.
10. VERIFY EXACT LOCATION OF PLUMBING FIXTURES, AND FLOOR/DECK/ROOF/OVERFLOW DRAINS WITH THE ARCHITECT.
11. PROVIDE MINIMUM 1/4" PER FOOT SLOPE FOR SANITARY SEWER PIPING UNLESS NOTED OTHERWISE.
12. TERMINATE VENTS THRU ROOF A MINIMUM OF I8 INCHES ABOVE AND TEN FEET HORIZONTAL AWAY FROM OUTSIDE AIR INTAKES.
13. VERIFY EQUIPMENT LOCATIONS, PIPE PENETRATIONS AND EQUIPMENT PAD LOCATIONS WITH STRUCTURAL ENGINEER PRIOR TO START OF WORK.
14. PROVIDE AN APPROVED BACKWATER VALVE IN DRAINAGE PIPING SERVING FIXTURES WITH FLOOD LEVEL RIM ELEVATION BELOW THE RIM OF THE UPSTREAM MANHOLE. FIXTURES ABOVE SUCH ELEVATION SHALL NOT DISCHARGE THROUGH THE BACKWATER VALVE.
15. PROVIDE AN APPROVED AUTOMATIC MEANS OF MAINTAINTING WATER SEALS FOR ALL FLOOR DRAINS OR SIMILAR TRAPS DIRECTLY CONNECTED TO THE DRAINAGE SYSTEM AND SUBJECT TO INFREQUENT USE.
16. INSTALLATION OF SOIL OR DRAIN PIPES IN FOOD HANDLING ESTABLISHMENTS WILL COMPLY WITH SECTION 318.0 U.P.C. AND 801.3.3. C.P.C.
17. BUILDING DRAIN AND VENT PIPING MATERIALS SHALL COMPLY WITH SECTIONS 701.0 AND 903.0 OF THE C.P.C.
18. ALL SANITARY SYSTEM MATERIALS SHALL BE LISTED BY AN APPROVED LISTING AGENCY.
19. PROVIDE VACUUM BREAKERS AT HOSE BIBS.
20. PROVIDE DOMESTIC HOT WATER PIPING INSULATION IN ACCORDANCE WITH THE CALIFORNIA ENERGY EFFICIENCY STANDARDS.
21. EACH WATER HEATER (WH-1) IS A LISTED, NON-STORAGE, INSTANTANEOUS HEATER HAVING AN INSIDE DIAMETER OF NOT MORE THAN 3 INCHES.
22. EACH FIXTURE TRAP SHALL HAVE A PROTECTING VENT LOCATED SO THAT THE DEVELOPED LENGTH OF THE TRAP ARM FROM THE TRAP WEIR TO THE INNER EDGE OF THE VENT SHALL BE WITHIN THE DISTANCE GIVEN IN TABLE 1002.2 CPC, BUT IN NO CASE LESS THAN TWO TIMES THE DIAMETER OF THE TRAP ARM.
23. PROPERLY TRAP AND VENT ALL PLUMBING FIXTURES THAT CONNECT TO THE SANITARY SEWER IN ACCORDANCE WITH THE 2022 CALIFORNIA PLUMBING CODE.
24. LAVATORY FAUCETS IN RESTROOMS SHALL BE THE SELF CLOSING TYPE AND SHALL NOT EXCEED A WATER FLOW OF 0.20 GAL/USE OR 0.5 GPM PER 2022 CPC 407.2.4, 407.2.4.1 AND 407.4.
25. SHOWERS AND TUB-SHOWER COMBINATIONS SHALL BE PROVIDED WITH MIXING VALVES PER SECTION 408.3 CPC.
26. EACH SHOWERHEAD SHALL NOT EXCEED A WATER FLOW OF 1.8 GPM.
27. LABELED MEDIUM PRESSURE GAS EVERY FIVE FEET.
28. EACH HANDSINK AND KITCHEN FAUCET SHALL NOT EXCEED WATER FLOW OF 1.8 GPM.
29. EACH VENT SHALL RISE VERTICALLY TO A POINT NOT LESS THAN 6 INCHES ABOVE THE FLOOD-LEVEL RIM OF THE FIXTURE SERVED BEFORE OFFSETTING HORIZONTALLY OR BEFORE CONNECTED TO ANY OTHER VENT.
30. ALL DIMENSIONS ARE IN INCHES UNLESS OTHERWISE NOTED.
31. URINALS TO BE 0.125 GPF MAX.
32. WATER HEATER SHALL BE ANCHORED OR STRAPPED TO RESIST HORIZONTAL DISPLACEMENT DUE TO EARTHQUAKE MOTION PER SECTION 507.2 CPC.
33. PROVIDE WITH WATER HAMMER ARRESTER(S) FOR BUILDING WATER SUPPLY SYSTEM WHERE QUICK CLOSING VALVES ARE INSTALLED PER CPC 609.10. WATER HAMMER SHALL COMPLY WITH ASSE 1010 OR PDI-WH 201 AND SHALL BE INSTALLED AS CLOSE AS POSSIBLE TO QUICK ACTING VALVES.
34. WATER CLOSET AND URINAL FLUSHOMETER VALVES SHALL BE EQUIPPED WITH VACUUM BREAKER PER SECTION 603.5.1 CPC.

SHEET INDEX

P001	PLUMBING NOTES
P002	PLUMBING SCHEDULES AND CALCULATIONS
P100	PLUMBING SITE PLAN
P201	PLUMBING FLOOR PLANS
P202	PLUMBING FLOOR PLANS
P301	PLUMBING DOMESTIC WATER PIPING DIAGRAMS
P302	PLUMBING FIRE WATER PIPING DIAGRAMS
P401	PLUMBING DETAILS
P501	PLUMBING SPECIFICATIONS

PLUMBING CONSTRUCTION DOCUMENTS GENERAL INFORMATION

1. THE DRAWINGS CONTAINED WITHIN THESE CONSTRUCTION DOCUMENTS ARE DIAGRAMMATIC. THE CONTRACTOR SHALL VERIFY ALL EXISTING CONDITIONS, DIMENSIONS, AND CLEARANCES PRIOR TO THE COMMENCEMENT OF WORK AND SHALL INCLUDE ALL COSTS, EQUIPMENT, MATERIALS, ETC. REQUIRED FOR A COMPLETE, FUNCTIONAL, AND CODE-COMPLIANT INSTALLATION.
2. CONTRACTOR SHALL PREPARE AND SUBMIT DETAILED 1/4"=1'-0" SCALE DRAWINGS THAT HAVE BEEN PROPERLY COORDINATED WITH OTHER TRADES. INDICATE LOCATION AND SIZES OF ACCESS PANELS IN HARD CEILINGS FOR EQUIPMENT AND DAMPER ACCESS.
3. THE CONTRACTOR SHALL COORDINATE ALL INSTALLATIONS WITH ALL OTHER TRADES.
4. CONTRACTOR SHALL COORDINATE ALL EQUIPMENT LOCATIONS WITH ARCHITECTURAL, MECHANICAL, STRUCTURAL, PLUMBING AND ALL APPROPRIATE DISCIPLINES.
5. ANY DISCREPANCIES THAT OCCUR SHALL BE BROUGHT TO THE ATTENTION OF THE DESIGN TEAM AND/OR ENGINEER PRIOR TO THE START OF CONSTRUCTION.
6. CONTRACTOR SHALL BE RESPONSIBLE FOR PROTECTION AND REPAIR OF EXISTING SURFACES, AREAS, AND PROPERTY THAT MAY BE DAMAGED AS A RESULT OF ANY ELECTRICAL DEMOLITION AND/OR NEW WORK.
7. VERIFY EXISTING CONDITIONS PRIOR TO BID AND INCLUDE ALL COSTS AS REQUIRED FOR A COMPLETE AND FUNCTIONAL INSTALLATION.
8. THE CONTRACTOR SHALL OBTAIN ALL REQUIRED PERMITS, APPROVALS, LICENSES, ETC. AS NEEDED FOR THE COMPLETE MECHANICAL INSTALLATION. THE CONTRACTOR SHALL COORDINATE WITH THE OWNER FOR ALL FEES AND DATA NEEDED FOR THE ABOVE ITEMS.
9. ALL WORK SHALL BE IN ACCORDANCE WITH CITY CODES, CALIFORNIA MECHNAICAL CODE, STATE OF CALIFORNIA ENERGY CONSERVATION STANDARDS AND ALL OTHER APPLICABLE CODES.
10. ALL DRAWINGS ARE CONSIDERED TO BE PART OF THE CONTRACT DOCUMENTS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE REVIEW & COORDINATION OF ALL DRAWINGS PRIOR TO ANY CONSTRUCTION, INCLUDING ARCHITECTURAL, STRUCTURAL, AIR CONDITIONING, PLUMBING & ELECTRICAL. ANY DISCREPANCIES THAT OCCUR SHALL BE BROUGHT TO THE ATTENTION OF ENGINEER PRIOR TO THE START OF CONSTRUCTION SO THAT A CLARIFICATION MAY BE ISSUED.
11. DO NOT SCALE DRAWINGS - ALL DIMENSIONS & JOB SITE CONDITIONS SHALL BE VERIFIED BY THE CONTRACTOR AT THE JOB SITE PRIOR TO BID SUBMITTAL. START OF CONSTRUCTION AND/OR FABRICATION OF MATERIALS, IF DISCREPANCIES ARE ENCOUNTERED, THE ENGINEER SHALL BE NOTIFIED FOR CLARIFICATION.
12. ALL DIMENSIONS ARE IN INCHES UNLESS OTHERWISE NOTED.

GENERAL FIRE SYSTEM NOTES

1. ALL FIRE PUMP MATERIAL SHALL COMPLY WITH U.L., FM, AND NFPA 20 LATEST EDITION.
2. INSTALLATION AND SIZING OF ALL PIPES FOR THE FIRE PUMP/SYSTEM SHALL COMPLY WITH NFPA 20, 2025.
3. ALL ELECTRONIC EQUIPMENT ASSOCIATED WITH THE FIRE SYSTEM SHALL COMPLY WITH NFPA 70,708 & 72, 2025.
4. ALL PIPING 2-1/2" AND GREATER SHALL BE SCHEDULE 10 PIPE UNLESS NOTED OTHERWISE.
5. ALL 1/2" SENSING LINE & FITTINGS SHALL BE BRASS.
6. ALL HANGERS AND SUPPORTS SHALL COMPLY WITH NFPA 13 AND NFPA 20, 2025.
7. ALL TESTING OF NEW FIRE PUMP SHALL BE PER NFPA 20 AND NFPA 24, 2025.
8. ALL FIRE PUMP FITTINGS SHALL BE 175 LB OR GREATER RATED FITTINGS.
9. PROVIDE PERMANENT WEATHERPROOF METAL OR RIGID PLASTIC IDENTIFICATION SIGNS FOR ALL CONTROL, DRAIN, VENT AND TEST CONNECTION VALVES PER NFPA 13 SECTION 6.6.

PIPE MATERIAL SCHEDULE

PLUMBING SYSTEM	PIPE MATERIAL
SANITARY WASTE LINES:	
(BELOW GRADE)	SCHEDULE 40 PVC
(ABOVE GRADE)	HUB-LESS CAST IRON PIPE & FITTINGS
VENT PIPING:	HUB-LESS CAST IRON PIPE & FITTINGS
DOMESTIC WATER PIPING:	
(ABOVE GRADE)	TYPE 'L' HARD COPPER PIPE AND WELDED FITTINGS OR 304 STAINLESS STEEL PIPE AND GROOVED FITTINGS
(BELOW GRADE)	TYPE 'K' HARD COPPER PIPE AND WELDED FITTINGS OR SCHEDULE 40 CPVC
FIRE WATER PIPING:	
(ABOVE GRADE)	SCHEDULE 10 IRON PIPE & FLANGED FITTINGS

CW PIPE SIZE SCHEDULE (8FT/SEC)

PIPE SIZE (IN.)	GPM (MAX)	VELOCITY FT./SEC	FIXTURE UNITS	
			FLUSH TANK	FLUSH VALVE
1/2	3	3.7	3	-
3/4	7	5	8	-
1	15	6	21	-
1 1/4	25	7	42	8
1 1/2	45	8	86	28
2	70	8	225	108
2 1/2	110	8	431	295
3	180	8	809	775
4	295	8	1765	1765
6	560	8	4480	4480

PER CPC SECTION 610.12.1 & 610212.2
MAXIMUM VELOCITIES IN COPPER & COPPER ALLOY TUBE AND FITTING SYSTEMS SHALL NOT EXCEED 8 FT./SEC IN COLD WATER & 5 FT./SEC IN HOT WATER.

HW PIPE SIZE SCHEDULE (5FT/SEC)

PIPE SIZE (IN.)	GPM (MAX)	VELOCITY FT./SEC	FIXTURE UNITS	
			FLUSH TANK	FLUSH VALVE
1/2	3	4	3	-
3/4	9	5	12	-
1	13	5	18	-
1 1/4	20	5	30	-
1 1/2	28	5	49	11
2	49	5	123	46
2 1/2	70	5	225	108
3	105	5	405	-
4	185	5	850	-
6	470	5	3360	-

PER CPC SECTION 610.12.1 & 610212.2
MAXIMUM VELOCITIES IN COPPER & COPPER ALLOY TUBE AND FITTING SYSTEMS SHALL NOT EXCEED 8 FT./SEC IN COLD WATER & 5 FT./SEC IN HOT WATER.

TYPICAL PIPE HANGER SPACING

SYSTEM	MATERIALS	HORIZONTAL	VERTICAL
STORM DRAIN	SCHEDULE 40 PVC	ALL SIZES 4'	BASE AND EACH FLOOR; PROVIDE MID-STORY GUIDES, PROVIDE FOR EXPANSION EVERY 30 FEET
	CAST IRON HUBLESS	EVERY OTHER JOINT, UNLESS OVER 4 FEET THEN SUPPORT EACH JOINT	BASE AND EACH FLOOR, NOT TO EXCEED 15 FEET
DOMESTIC WATER	COPPER	1-1/2" AND SMALLER, 6 FEET 2" AND LARGER, 10 FEET	EACH FLOOR, DO NOT EXCEED 10 FEET
	CPVC	1" AND SMALLER, 3 FEET 1 1/4" AND LARGER, 4 FEET	BASE AND EACH FLOOR; PROVIDE MID-STORY GUIDES
VENT	SCHEDULE 40 PVC	ALL SIZES 4'	BASE AND EACH FLOOR; PROVIDE MID-STORY GUIDES, PROVIDE FOR EXPANSION EVERY 30 FEET
	CAST IRON HUBLESS	EVERY OTHER JOINT, UNLESS OVER 4 FEET THEN SUPPORT EACH JOINT	BASE AND EACH FLOOR, NOT TO EXCEED 15 FEET
GAS	BLACK SCHEDULE 40	1/2" - 6 FEET 3/4" & 1" - 8 FEET 1/4" AND LARGER - 10 FEET	1/2" - 6 FEET 3/4" & 1" - 8 FEET 1-1/4" - EVERY FLOOR LEVEL
WASTE	SCHEDULE 40 PVC	ALL SIZES 4'	PROVIDE MID-STORY GUIDES, PROVIDE FOR EXPANSION EVERY 30 FEET
	CAST IRON HUBLESS	EVERY OTHER JOINT, UNLESS OVER 4 FEET THEN SUPPORT EACH JOINT	BASE AND EACH FLOOR, NOT TO EXCEED 15 FEET

SPACING BASED ON TABLE 313.3 2022 CPC

APPROVALS

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Project Title
IMPERIAL VALLEY COLLEGE
WATER & WASTEWATER PLANT IMPROVEMENTS

Sheet Title
PLUMBING NOTES

LICENSED PROFESSIONAL ENGINEER — STEVEN C. FULLER — No. 15997 — MECHANICAL — STATE OF CALIFORNIA — Exp. 12/31/25

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DOMESTIC WATER DISTRIBUTION PUMP SCHEDULE

TAG	MANUFACTURER & MODEL NO.	LOCATION	SERVICE	FLOWRATE (GPM)	ΔP (FT. HD.)	MINIMUM EFF. %	NPSHR MAX (FT)	VOLT./PH./HZ.	HP	TOTAL SKID WEIGHT (LBS)	
DWP 1	GRUNDFOS HYDRO MPC-E 3CRE 45-2	WATER DISTRIBUTION PLANT	DOMESTIC WATER DISTRIBUTION	225	180	74	40	208V/3/60	15	1600	
DWP 2	GRUNDFOS HYDRO MPC-E 3CRE 45-2	WATER DISTRIBUTION PLANT	DOMESTIC WATER DISTRIBUTION	225	180	74	40		15		
DWP 3	GRUNDFOS HYDRO MPC-E 3CRE 45-2	WATER DISTRIBUTION PLANT	DOMESTIC WATER DISTRIBUTION	225	180	74	40		15		

REMARKS
PUMP IS PART OF SKID. (3 PUMPS TOTAL). 1 PUMP REDUNDANT. PROVIDE WITH INTEGRAL FACTORY VFD AND CONTROLLER. PROVIDE WITH EQUIPMENT PAD. PUMP SKID WITH SINGLE POINT POWER CONNECTION.
PUMP TO START AND STOP BASED ON SYSTEM PRESSURE (68 PSI ADJUSTABLE).

FIRE WATER PUMP SCHEDULE

TAG	MANUFACTURER & MODEL NO.	LOCATION	SERVICE	FLOWRATE (GPM)	ΔP (PSI)	MINIMUM EFF. %	NPSH MAX (FT)	VOLT./PH./HZ.	HP	TOTAL WEIGHT (LBS)	
FWP 2	PEERLESS PUMP 6AEF16B	WATER DISTRIBUTION PLANT	FIRE WATER DISTRIBUTION	1500	100	-	-	460V/3/60	125	1800	

REMARKS
PROVIDE WITH FACTORY VFD, DRIVER, AND CONTROLLER. PROVIDE WITH SOFT START. PROVIDE OUTDOOR RATED ENCLOSURE FOR ALL CONTROLS AND ELECTRICAL COMPONENTS. PROVIDE WITH AIR RELEASE VALVE, CASING RELIEF VALVE FLOW METER AND PRESSURE GAUGE. PROVIDE WITH EQUIPMENT PAD. PUMP TO START AND STOP BASED ON SYSTEM PRESSURE (SEE PIPING PLAN FOR NOTES).

CONTROLLER WEIGHT: 1750 LBS

UV LIGHT WASTE WATER TREATMENT SCHEDULE

TAG	MANUFACTURER & MODEL NO.	SERVICE	FLOW RATE (GPM)	WATTS	VOLT./PH./HZ.	TOTAL WEIGHT (LBS)	
UV 1	XYLEM E15-UV-SW-225-6	SEWER TREATMENT	100	2500	208V/1/60	180	
UV 2	XYLEM E15-UV-SW-225-6	SEWER TREATMENT	100	2500	208V/1/60	180	
UV 3	XYLEM E15-UV-SW-225-6	SEWER TREATMENT	100	2500	208V/1/60	180	

REMARKS
PROVIDE WITH 304 SS NEMA 4X ENCLOSURE AND SKID. PROVIDE WITH CONTROLLER WITH NEMA 12 ENCLOSURE. PROVIDE WITH MODBUS OVER ETHERNET OPTION.
PROVIDE MOUNTING RACK FOR VERTICAL MOUNTING CONFIGURATION. LOCATE IN EXISTING ENCLOSURE.

CONTROLLER WEIGHT: 120 LBS.

EXPANSION TANK SCHEDULE

TAG	MANUFACTURER & MODEL NO.	SERVICE	VOLUME (GALLONS)	MAX ACCEPTANCE FACTOR	CONNECTION SIZE (IN.)	TYPE	SERVICE	TOTAL WEIGHT (LBS)	
ET 1	AMTROL ST-210V	DOMESTIC WATER	86	0.54	1-1/4"	BLADDER TANK	DOMESTIC WATER	520	
ET 2	AMTROL ST-210V	DOMESTIC WATER	86	0.54	1-1/4"	BLADDER TANK	DOMESTIC WATER	520	

REMARKS
PROVIDE HIGH CAPACITY AIR VENT AND STRAINER.
PROVIDE WITH EQUIPMENT PAD.

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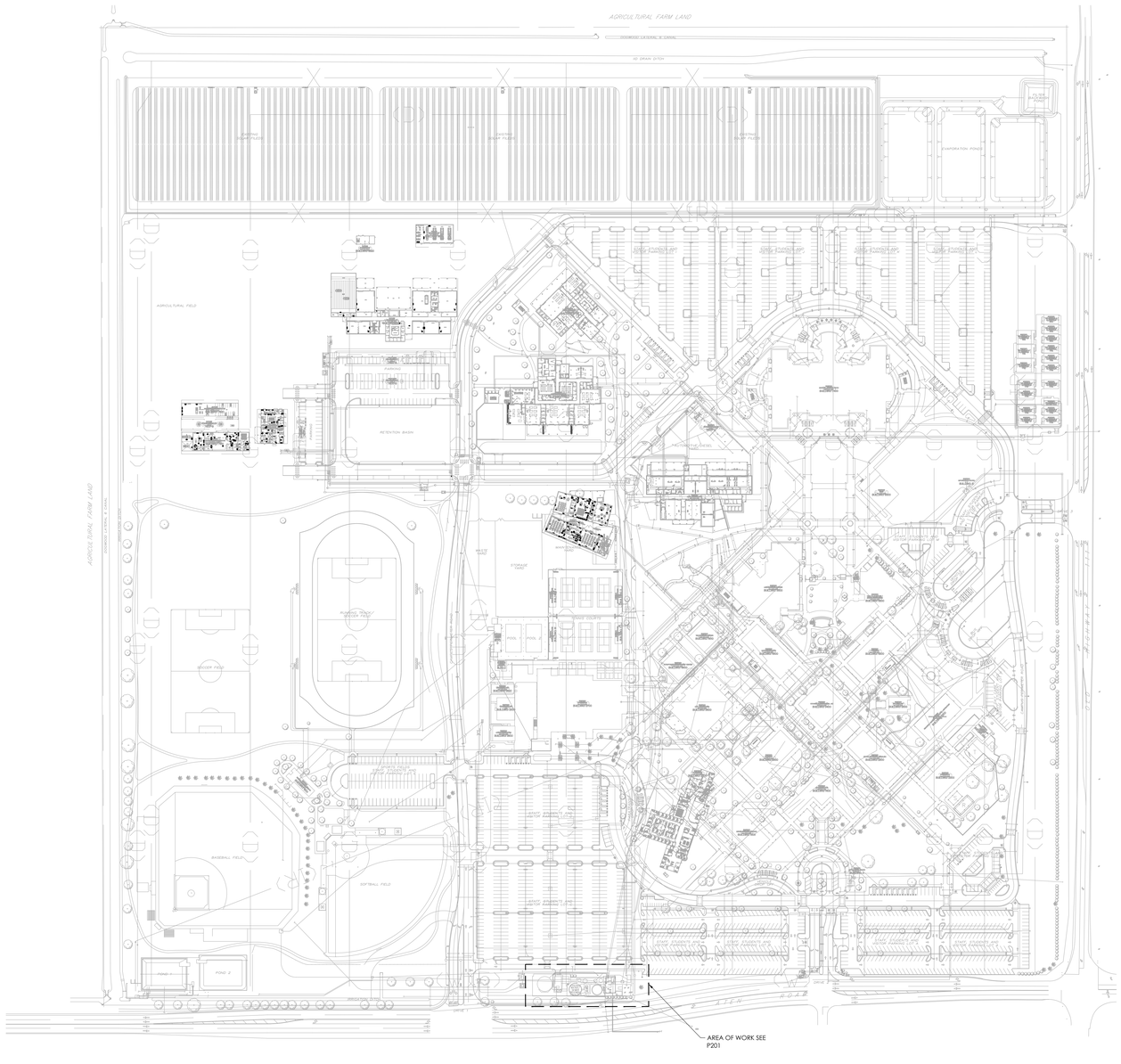
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WATER & WASTEWATER PLANT IMPROVEMENTS

Sheet Title
PLUMBING SCHEDULES AND CALCS

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PLUMBING SITE PLAN | SCALE 1/128"=1'-0" | 1

APPROVALS

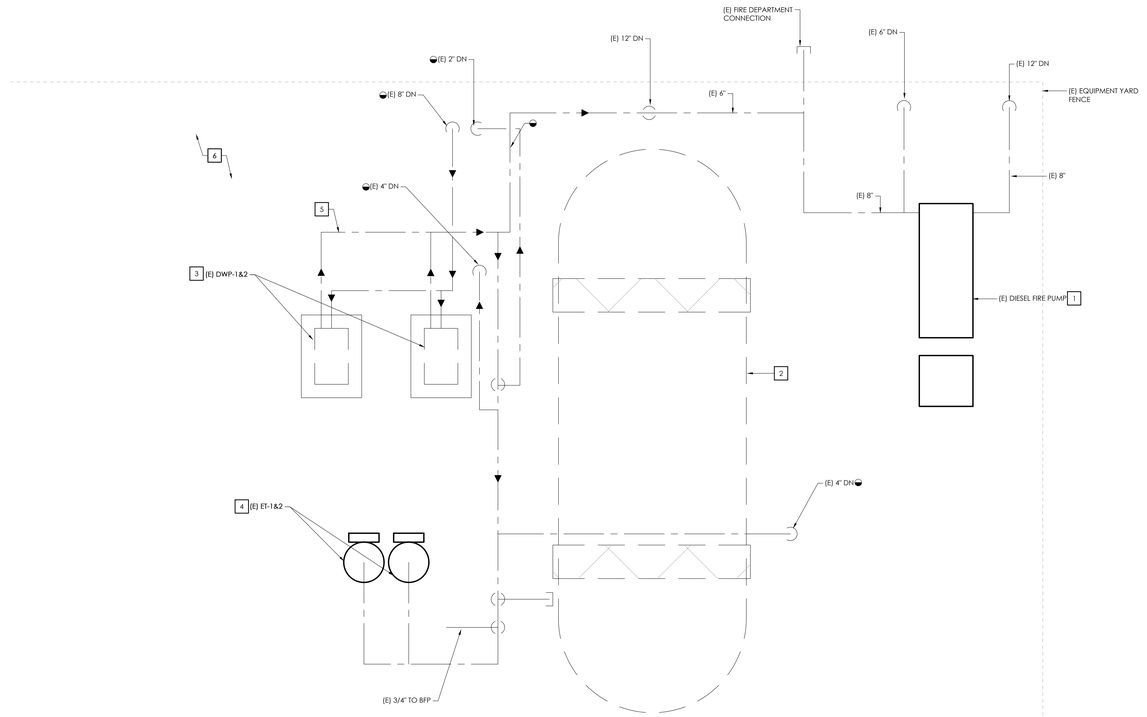
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WATER & WASTEWATER PLANT IMPROVEMENTS

Sheet Title
PLUMBING SITE PLAN

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PLUMBING DOMESTIC / FIRE WATER DEMOLITION FLOOR PLAN

SCALE 1/2"=1'-0" | 1

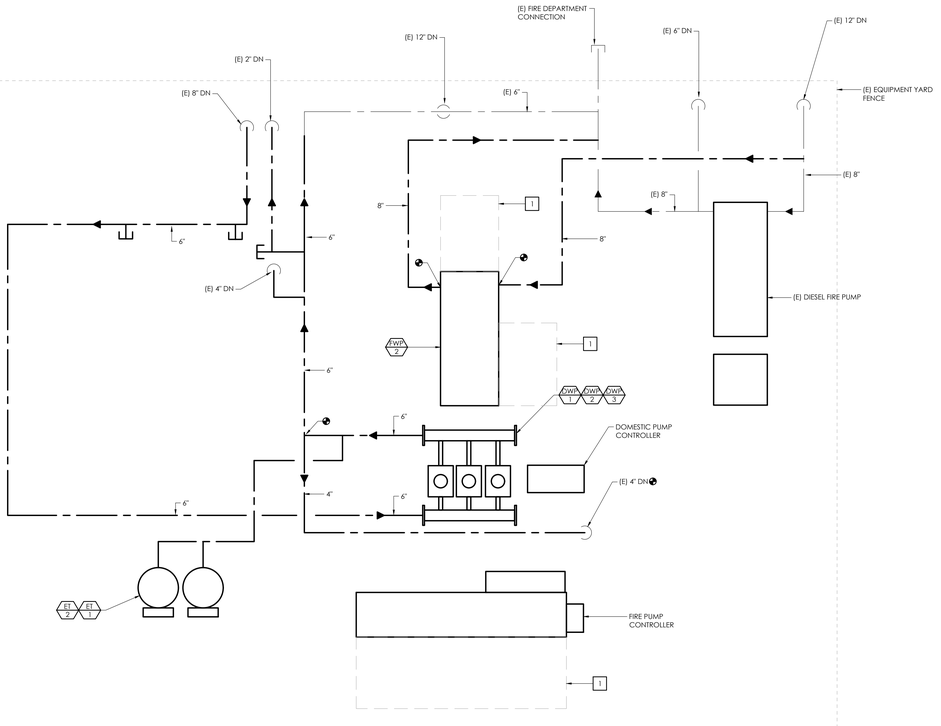
GENERAL NOTES:

1. SEE TEMPORARY AND FINAL FLOOR PLANS FOR TEMPORARY AND FINAL CONDITIONS.
2. REMOVE ALL PIPING, VALVES, GAUGES, SUPPORTS, EQUIPMENT AND ALL RELATED APPURTENANCES TO POINT OF DISCONNECTION AS SHOWN.
3. THE POINT OF DISCONNECTION AS SHOWN IS INTENDED TO REPRESENT WHERE THE PIPE ENTERS UNDERGROUND.
4. FIELD VERIFY ALL PIPE SIZES PRIOR TO START OF WORK. NOTIFY MECHANICAL ENGINEER OF RECORD OF ANY DISCREPANCIES.

KEY NOTES:

1. EXISTING DIESEL FIRE PUMP TO REMAIN.
2. REMOVE EXISTING TANK, ASSOCIATED PIPING AND ALL RELATED APPURTENACENES.
3. REMOVE EXISTING DOMESTIC WATER PUMPS AND ALL RELATED APPURTENANCES.
4. REMOVE EXISTING EXPANSION TANK AND ALL RELATED APPURTENANCES.
5. REMOVE ALL DOMESTIC WATER PIPING UPTO POINT OF DISCONNECTION SHOWN. SEE PIPING DIAGRAM.
6. REMOVE ALL ABANDONED TANKS, EQUIPMENT, PIPING AND APPURTENANCES IN PROJECT AREA. FIELD VERIFY FOR EXACT SIZE AND QUANTITY. SEE ARCHITECTURAL DRAWINGS.

APPROVALS



PLUMBING DOMESTIC / FIRE WATER FLOOR PLAN

SCALE NONE | 2

GENERAL NOTES:

1. SEE TEMPORARY FLOOR PLAN FOR TEMPORARY CONDITIONS. REMOVE ALL TEMPORARY PIPING THAT IS NO LONGER REQUIRED AFTER FINAL LAYOUT HAS BEEN INSTALLED.
2. SEE PIPING DIAGRAMS FOR REQUIRED VALVES.

KEY NOTES:

1. PROVIDE MAINTENANCE ACCESS AND REQUIRED CLEARANCES PER MANUFACTURER.

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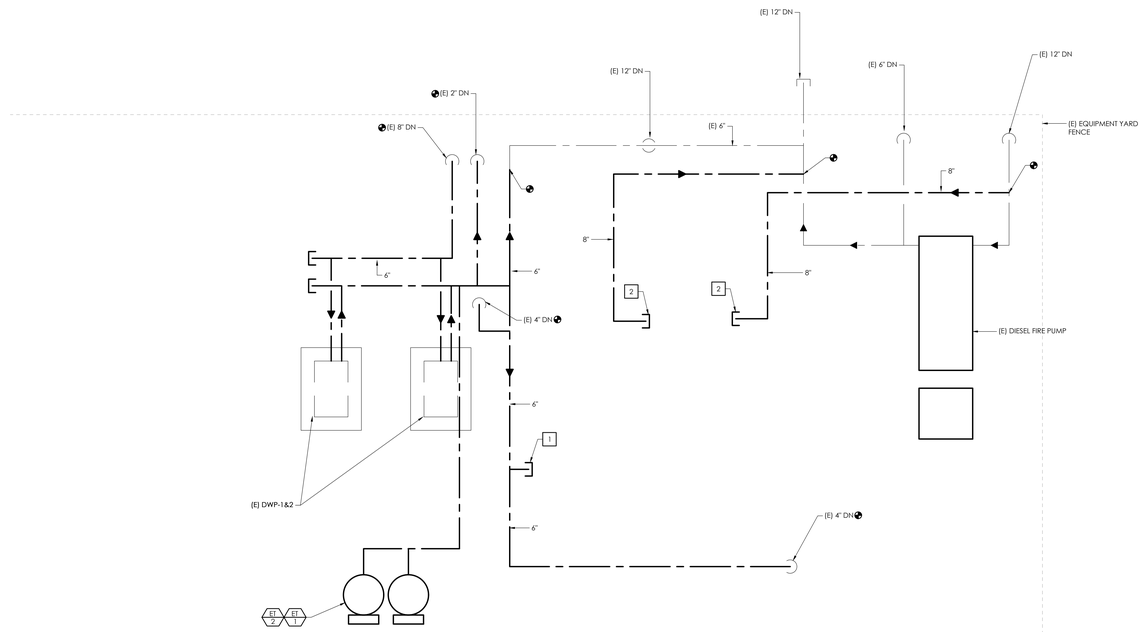
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Project Title
IMPERIAL VALLEY COLLEGE
WATER & WASTEWATER PLANT IMPROVEMENTS

Sheet Title
PLUMBING FLOOR PLANS

LICENSED PROFESSIONAL ENGINEER MATTHEW C. FULLER 12/31 MECHANICAL STATE OF CALIFORNIA

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GENERAL NOTES:

1. SEE DEMOLITION AND FINAL FLOOR PLANS FOR INFORMATION ON EXISTING AND FINAL CONDITIONS.
2. REMOVE ALL PIPING NO LONGER REQUIRED IN FINAL CONDITION AFTER TEMPORARY PHASE IS COMPLETE.
2. SEE PIPING DIAGRAMS FOR REQUIRED VALVES.

KEY NOTES:

1. PROVIDE 6" TEE WITH CAP FOR FUTURE CONNECTION.
2. PROVIDE UNION WITH CAP FOR FUTURE CONNECTION TO NEW FIRE WATER PUMP.

PLUMBING DOMESTIC / FIRE WATER TEMPORARY FLOOR PLAN — SCALE 1/2"=1'-0" — 1

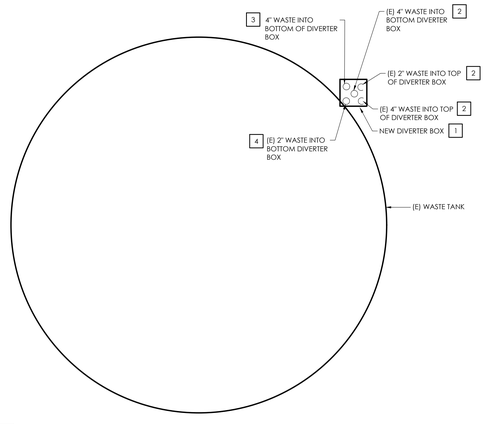


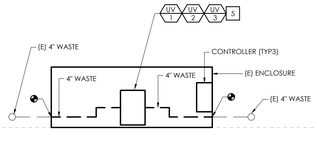
GENERAL NOTES:

1. FIELD VERIFY ALL EXISTING PIPE SIZES, LOCATIONS AND LENGTHS.
2. SEE P401 FOR EXISTING DIVERTER BOX PHOTOS.

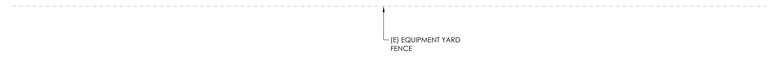
KEY NOTES:

1. PROVIDE NEW CUSTOM FABRICATED STEEL DIVERTER BOX WITH REMOVABLE LID AND CHAIN ACTUATED VALVES ON OUTLET PIPING. CUSTOM FABRICATE TO MATCH EXISTING.
2. PROVIDE NEW CAST IRON PIPING FROM CONNECTION TO DIVERTER BOX TO EXISTING CLEANOUT AT GRADE LEVEL.
3. PROVIDE NEW 6" WASTE PIPE FROM DIVERTER BOX TO EXISTING 4" WASTE PIPE.
4. PROVIDE NEW 4" CAST IRON WASTE PIPE FROM DIVERTER BOX TO WASTE TANK.
5. PIPE UV LIGHTS IN PARALLEL. PROVIDE RACK TO MOUNT UV CHAMBERS STACKED WITHIN ENCLOSURE.





PLUMBING WASTE PIPING FLOOR PLAN — SCALE 1/4"=1'-0" — 3

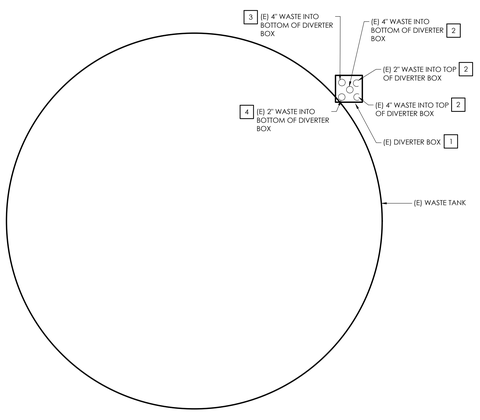


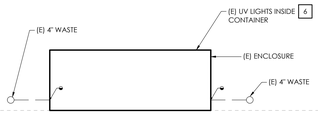
GENERAL NOTES:

1. FIELD VERIFY ALL EXISTING PIPE SIZES, LOCATIONS AND LENGTHS.
2. SEE P401 FOR EXISTING DIVERTER BOX PHOTOS.

KEY NOTES:

1. REMOVE DIVERTER BOX AND PROVIDE REPLACEMENT.
2. REMOVE EXISTING PIPING TO CLEANOUT.
3. REMOVE EXISTING 4" PIPE CONNECTION, ELBOW AND REDUCER.
4. REMOVE 2" WASTE PIPE TO WASTE TANK.
5. REMOVE EXISTING UV LIGHT SANITATION EQUIPMENT AND ALL APPURTENANCES. 4" WASTE POINT OF DISCONNECTION AT ENTRANCE AND EXIT FROM ENCLOSURE.





PLUMBING WASTE PIPING DEMOLITION PLAN — SCALE 1/4"=1'-0" — 2

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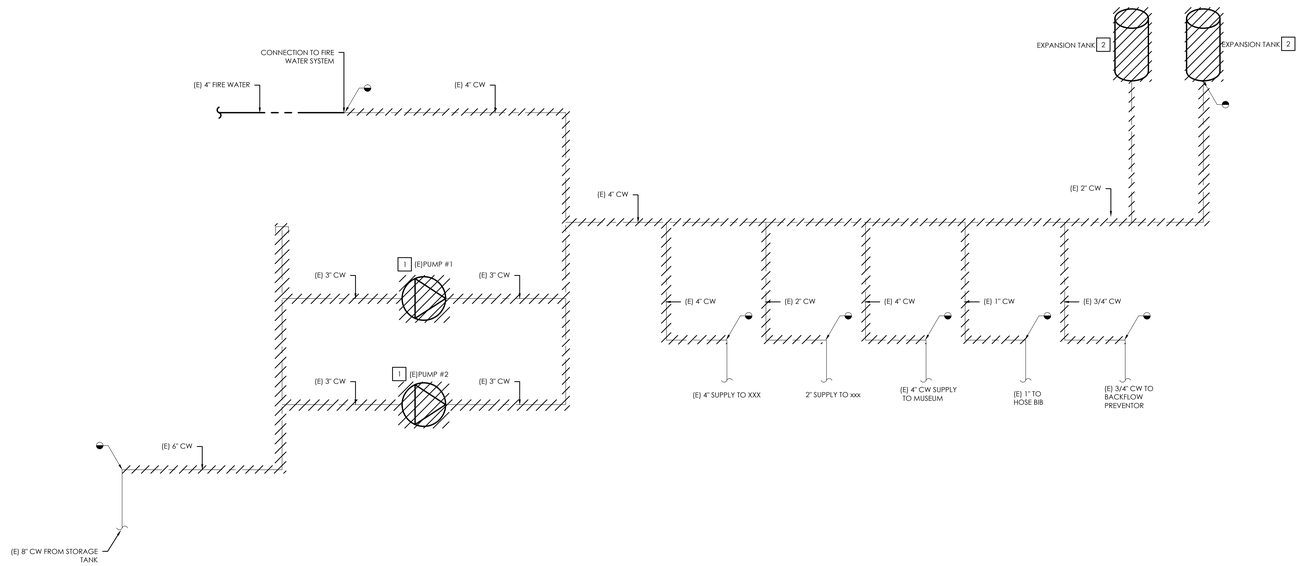
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IMPERIAL VALLEY COLLEGE
WATER & WASTEWATER PLANT IMPROVEMENTS

Sheet Title
PLUMBING FLOOR PLANS

REGISTERED PROFESSIONAL ENGINEER — MATTHEW C. FULLER — 12/31 — MECHANICAL — STATE OF CALIFORNIA

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EXISTING DOMESTIC WATER PIPING DIAGRAM

SCALE NONE | 1

GENERAL NOTES:

1. SEE TEMPORARY AND FINAL FLOOR PLANS FOR TEMPORARY AND FINAL CONDITIONS.
2. REMOVE ALL PIPING, VALVES, GAUGES, SUPPORTS, EQUIPMENT AND ALL RELATED APPURTENANCES TO POINT OF DISCONNECTION AS SHOWN.
3. THE POINT OF DISCONNECTION AS SHOWN IS INTENDED TO REPRESENT WHERE THE PIPE ENTERS UNDERGROUND.
4. FIELD VERIFY ALL PIPE SIZES PRIOR TO START OF WORK. NOTIFY MECHANICAL ENGINEER OF RECORD OF ANY DISCREPANCIES.

KEY NOTES:

1. REMOVE EXISTING DOMESTIC WATER DISTRIBUTION PUMP AND ALL APPURTENANCES.
2. REMOVE EXISTING EXPANSION TANK. PREPARE FOR NEW EXPANSION TANK IN PLACE.

APPROVALS

DOMESTIC WATER SYSTEM SEQUENCE OF OPERATION

1.

A. THE SYSTEM CONTROLLER SHALL OPERATE EQUAL CAPACITY VARIABLE SPEED PUMPS TO MAINTAIN A CONSTANT DISCHARGE PRESSURE OF 68 PSI (ADJUSTABLE). THE SYSTEM CONTROLLER SHALL RECEIVE AN ANALOG SIGNAL (4-20MA) FROM THE FACTORY INSTALLED PRESSURE TRANSDUCER ON THE DISCHARGE AND SUCTION MANIFOLDS, INDICATING THE ACTUAL SYSTEM PRESSURE AND INLET PRESSURE. THE CONTROLLER SHALL BE CAPABLE OF CONTROLLING OFF THE SUBTRACTION OF DISCHARGE MINUS SUCTION TRANSDUCERS FOR DIFFERENTIAL PRESSURE ACROSS THE MANIFOLDS.

STANDARD CASCADE CONTROL (PUMPING EFFICIENCY BASED):
THE PUMP SYSTEM CONTROLLER SHALL ADJUST PUMP SPEED AS NECESSARY TO MAINTAIN SYSTEM SET-POINT PRESSURE AS FLOW DEMAND INCREASES. UTILIZING THE PUMP CURVE INFORMATION (5TH/ ORDER POLYNOMIAL), THE PUMP SYSTEM CONTROLLER SHALL STAGE ON ADDITIONAL PUMPS WHEN PUMP HYDRAULIC EFFICIENCY WILL BE HIGHER WITH ADDITIONAL PUMPS IN OPERATION. EXCEPTION: WHEN THE FLOW AND HEAD ARE OUTSIDE THE OPERATING PUMP(S) ALLOWABLE OPERATING RANGE THE CONTROLLER SHALL SWITCH ON AN ADDITIONAL PUMP THUS DISTRIBUTING FLOW AND ALLOWING ALL PUMP(S) TO OPERATE IN ALLOWABLE OPERATING RANGE. WHEN THE SYSTEM PRESSURE IS EQUAL TO THE SYSTEM SET-POINT, ALL PUMPS IN OPERATION SHALL REACH EQUAL OPERATING SPEEDS. THE PUMP SYSTEM CONTROLLER SHALL HAVE FIELD ADJUSTABLE PROPORTIONAL GAIN AND INTEGRAL TIME (PI) SETTINGS FOR SYSTEM OPTIMIZATION.

B. THE SYSTEM CONTROLLER SHALL BE CAPABLE OF SWITCHING PUMPS ON AND OFF TO SATISFY SYSTEM DEMAND WITHOUT THE USE OF FLOW SWITCHES, MOTOR CURRENT MONITORS OR TEMPERATURE MEASURING DEVICES.

C. ALL PUMPS IN THE SYSTEM SHALL ALTERNATE AUTOMATICALLY BASED ON DEMAND, TIME AND FAULT. THE SYSTEM CONTROLLER SHALL HAVE THE CAPABILITY TO ALTERNATE THE PUMPS EVERY 24 HOURS, EVERY 48 HOURS OR ONCE PER WEEK BASED ON TOTAL RUN HOURS. THE INTERVAL AND ACTUAL TIME OF THE PUMP CHANGE-OVER SHALL BE FIELD ADJUSTABLE.

2. LOW FLOW STOP FUNCTION (CONSTANT PRESSURE APPLICATIONS)

THE SYSTEM CONTROLLER SHALL BE CAPABLE OF STOPPING PUMPS DURING PERIODS OF LOW-FLOW OR ZERO-FLOW WITHOUT WASTING WATER OR ADDING UNWANTED HEAT TO THE LIQUID. TEMPERATURE BASED NO FLOW SHUT-DOWN METHODS THAT HAVE THE POTENTIAL TO WASTE WATER AND ADD UNWANTED TEMPERATURE RISE TO THE PUMPING FLUID ARE NOT ACCEPTABLE AND SHALL NOT BE USED.

STANDARD LOW FLOW STOP AND ENERGY SAVING MODE
IF A LOW OR NO FLOW SHUT-DOWN IS REQUIRED (PERIODS OF LOW OR ZERO DEMAND) A BLADDER TYPE DIAPHRAGM TANK SHALL BE INSTALLED WITH A PRE-CHARGE PRESSURE OF 70% OF SYSTEM SET-POINT. THE TANK SHALL BE PIPED TO THE DISCHARGE MANIFOLD OR SYSTEM PIPING DOWNSTREAM OF THE PUMP SYSTEM. WHEN ONLY ONE PUMP IS IN OPERATION THE SYSTEM CONTROLLER SHALL BE CAPABLE OF DETECTING LOW FLOW (LESS THAN 10% OF PUMP NOMINAL FLOW) WITHOUT THE USE OF ADDITIONAL FLOW SENSING DEVICES. WHEN A LOW FLOW IS DETECTED, THE SYSTEM CONTROLLER SHALL INCREASE PUMP SPEED UNTIL THE DISCHARGE PRESSURE REACHES THE STOP PRESSURE (SYSTEM SET-POINT PLUS 50% OF PROGRAMMED ON/OFF BAND, ADJUSTABLE). THE PUMP SHALL REMAIN OFF UNTIL THE DISCHARGE PRESSURE REACHES THE START PRESSURE (SYSTEM SET-POINT MINUS 50% OF PROGRAMMED ON/OFF BAND, ADJUSTABLE). UPON LOW FLOW SHUT-DOWN A PUMP SHALL BE RESTARTED IN ONE OF THE FOLLOWING TWO WAYS:

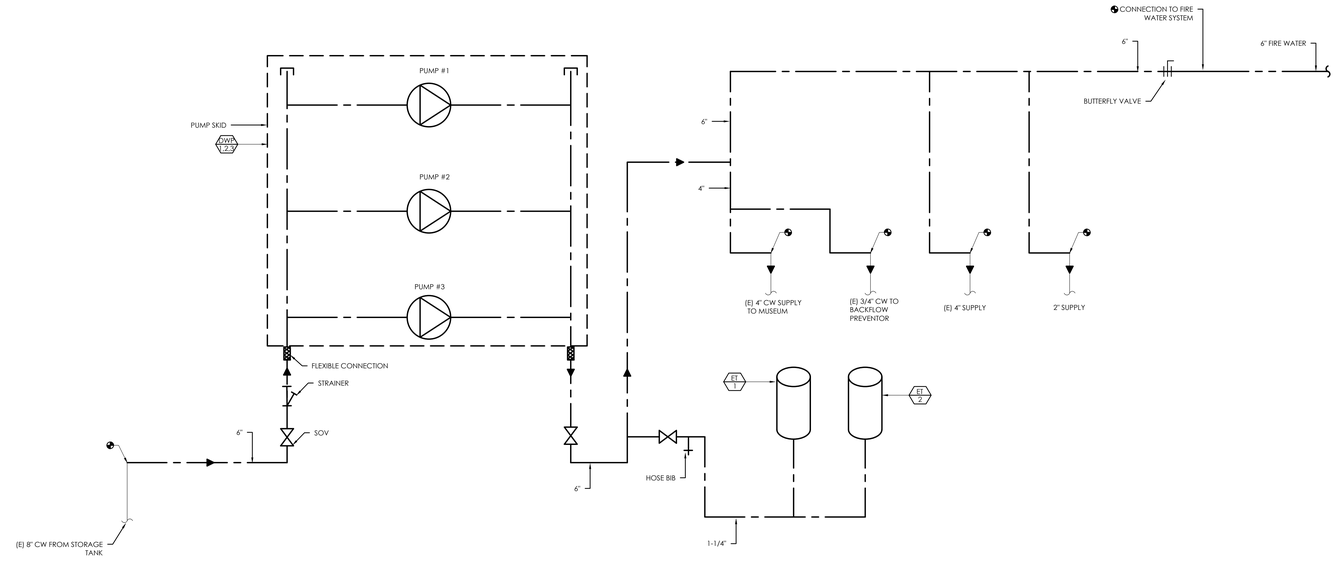
A. LOW FLOW RESTART: IF THE LOW FLOW CONDITION STILL EXISTS, THE PUMP SHALL START AND THE SPEED SHALL AGAIN BE INCREASED UNTIL THE STOP PRESSURE IS REACHED AND THE PUMP SHALL AGAIN BE SWITCHED OFF.

B. NORMAL FLOW RESTART: IF THE PUMP SYSTEM CONTROLLER DETERMINES A LOW FLOW CONDITION NO LONGER EXISTS THE PUMP SHALL START AND THE SPEED SHALL BE INCREASED UNTIL THE SYSTEM PRESSURE REACHES THE SYSTEM SET-POINT.

OPTIONAL LOW FLOW STOP AND ENERGY SAVING MODE

THE PUMP SYSTEM CONTROLLER SHALL BE CAPABLE RECEIVING A DIGITAL SIGNAL FROM A FLOW SWITCH OR AN ANALOG SIGNAL FROM A FLOW METER TO INDICATE A LOW FLOW CONDITION. A BLADDER TYPE DIAPHRAGM TANK SHALL BE INSTALLED WITH A PRE-CHARGE PRESSURE OF 70% OF SYSTEM SET-POINT. THE TANK SHALL BE PIPED TO THE DISCHARGE MANIFOLD OR SYSTEM PIPING DOWNSTREAM OF THE PUMP SYSTEM. WHEN LOW FLOW IS DETECTED (SIGNAL FROM FLOW SWITCH OR METER), THE SYSTEM CONTROLLER SHALL INCREASE PUMP SPEED UNTIL THE DISCHARGE PRESSURE REACHES THE STOP PRESSURE (SYSTEM SET-POINT PLUS 50% OF PROGRAMMED ON/OFF BAND). THE PUMP SHALL REMAIN OFF UNTIL THE DISCHARGE PRESSURE REACHES THE START PRESSURE (SYSTEM SET-POINT MINUS 50% OF PROGRAMMED ON/OFF BAND). THE PUMP SHALL REMAIN IN THE ENERGY SAVING ON/OFF MODE DURING LOW FLOW INDICATION. WHEN LOW FLOW IS NO LONGER PRESENT (LOW FLOW INDICATION CEASES), THE PUMP(S) SHALL RESUME CONSTANT PRESSURE OPERATION.

IT SHALL BE POSSIBLE TO CHANGE FROM THE STANDARD LOW FLOW STOP TO THE OPTIONAL LOW FLOW STOP (AND VICE-VERSA) VIA THE USER INTERFACE.



DOMESTIC WATER PIPING DIAGRAM

SCALE NONE | 2

GENERAL NOTES:

1. SEE P001 FOR PIPE MATERIAL SCHEDULE.
2. PROVIDE DIELECTRIC UNIONS OR NIPPLES AT ALL CHANGES IN PIPE MATERIAL.
3. SEE TEMPORARY FLOOR PLAN FOR TEMPORARY CONDITIONS. REMOVE ALL TEMPORARY PIPING THAT IS NO LONGER REQUIRED AFTER FINAL LAYOUT HAS BEEN INSTALLED. CAP PIPING AS REQUIRED. SEE DEMOLITION AND TEMPORARY PIPING PLAN FOR MORE INFORMATION.

KEY NOTES:

1. -

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Project Title
IMPERIAL VALLEY COLLEGE
WATER & WASTEWATER PLANT IMPROVEMENTS

Sheet Title
PLUMBING DW PIPING DIAGRAMS

REGISTERED PROFESSIONAL ENGINEER — MATTHEW C. FULLER — MECHANICAL — STATE OF CALIFORNIA
12/31

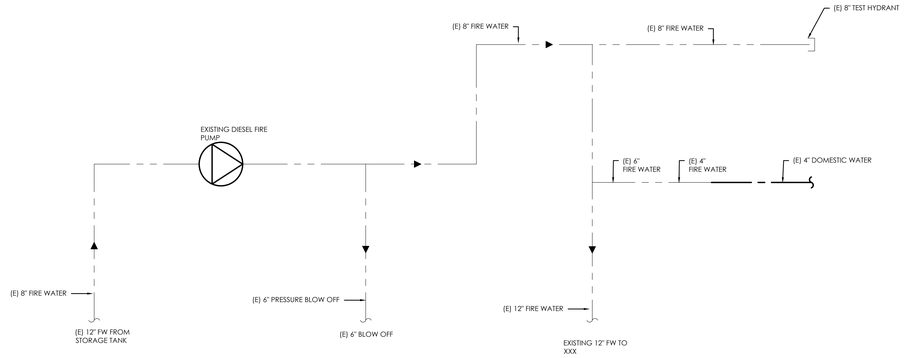
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GENERAL NOTES:

1. REMOVE ALL PIPING, VALVES, GAUGES, SUPPORTS, EQUIPMENT AND ALL RELATED APPURTENANCES TO POINT OF DISCONNECTION AS SHOWN.
2. THE POINT OF DISCONNECTION AS SHOWN IS INTENDED TO REPRESENT WHERE THE PIPE ENTERS UNDERGROUND.
3. FIELD VERIFY ALL PIPE SIZES PRIOR TO START OF WORK. NOTIFY MECHANICAL ENGINEER OF RECORD OF ANY DISCREPANCIES.

KEY NOTES:

1. -



EXISTING FIRE WATER PIPING DIAGRAM | SCALE NONE | 1

FIRE PUMP SYSTEM SEQUENCE OF OPERATION

SEE BELOW FOR SYSTEM START / STOP PRESSURES:

UPON SYSTEM PRESSURE EQUAL ELECTRIC FIRE PUMP START PRESSURE, FWP-2 WILL START UP ON INTERNAL CONTROLS. USING INTERGRAL SOFT START AND VFD CONTROLS, FWP-2 WILL OPERATE TO MAINTAIN A SYSTEM FLOW OF 1500 GPM @ 100 PSI.

IN THE EVENT FWP-2 IS UNABLE TO MAINTAIN SYSTEM FLOW AND PRESSURE, FWP-1 WILL ACTIVATE AT EXISTING DIESEL FIRE PUMP START PRESSURE.

FIRE PUMP START AND STOP SETTINGS

DIESEL FIRE PUMP START: 45 PSI (FIELD VERIFY AND MATCH EXISTING)

DIESEL FIRE PUMP STOP: 106 PSI (FIELD VERIFY AND MATCH EXISTING)

ELECTRIC FIRE PUMP START: DIESEL FIRE PUMP START PRESSURE +10 PSI

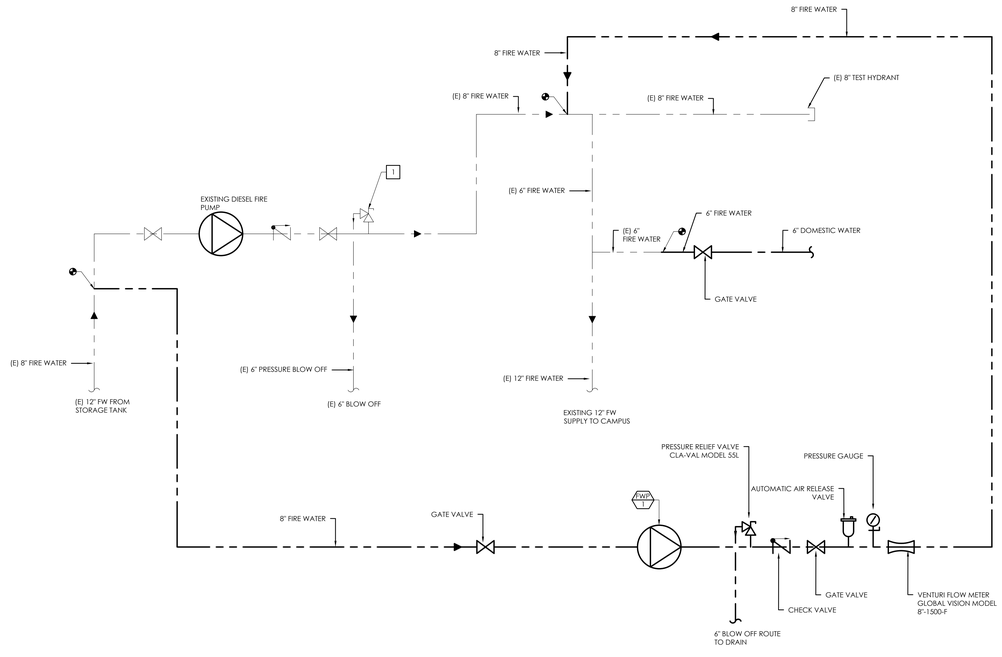
ELECTRIC FIRE PUMP STOP: 106 PSI (MATCH DIESEL PUMP STOP PRESSURE)

ELECTRIC AND DIESEL FIRE PUMP RATINGS:

1500 GPM @ 100 PSI

INLET HEAD PRESSURE = 6 PSI

TOTAL PUMP DISCHARGE PSI @ CHURN: 106 PSI



FIRE WATER PIPING DIAGRAM | SCALE NONE | 2

GENERAL NOTES:

1. PROVIDE SCHEDULE 10 CAST IRON PIPING AND FLANGED FITTINGS.
2. PROVIDE DIELECTRIC UNIONS OR NIPPLES AT ALL CHANGES IN PIPE MATERIAL.
3. SEE DEMOLITION AND TEMPORARY PIPING PLAN.

KEY NOTES:

1. EXISTING PRESSURE RELIEF VALVE, SERVICE VALVE PER MANUFACTURER OR REPLACE IF UNSERVICABLE.

APPROVALS

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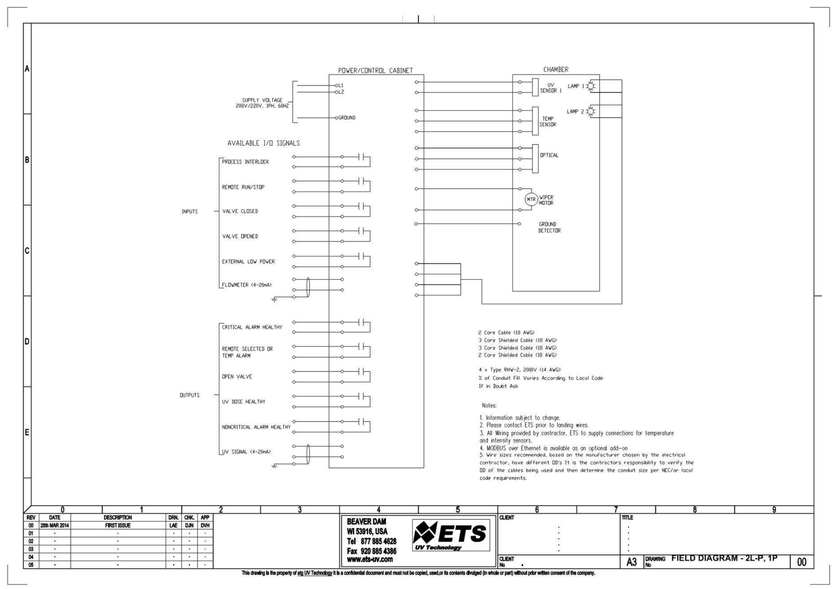
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LICENSED PROFESSIONAL ENGINEER — MECHANICAL — STATE OF CALIFORNIA — 12/31

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REV	DATE	DESCRIPTION	DRN.	CHK.	APP.
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04	-	-	-	-	-
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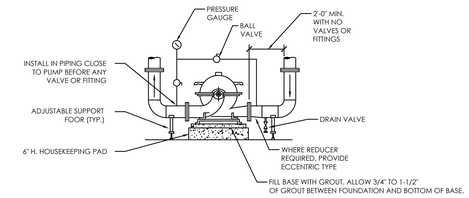
TITLE
FIELD DIAGRAM - 2L-P, 1P

A3 | DRAWING No: 00

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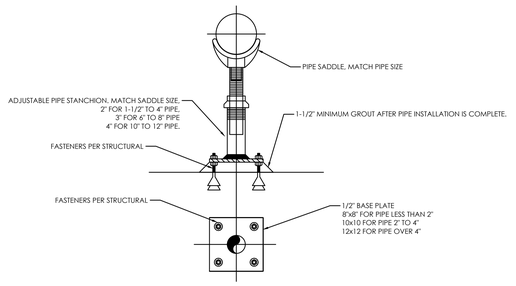
UV LIGHT WIRING DIAGRAM | SCALE NONE | 4

SEE PIPING DIAGRAMS FOR REQUIRED VALVES AND FITTINGS

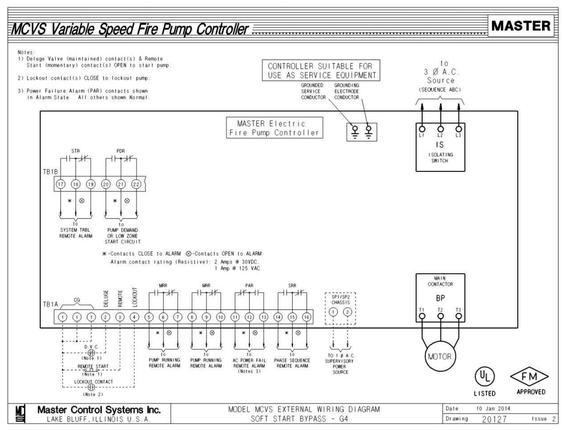


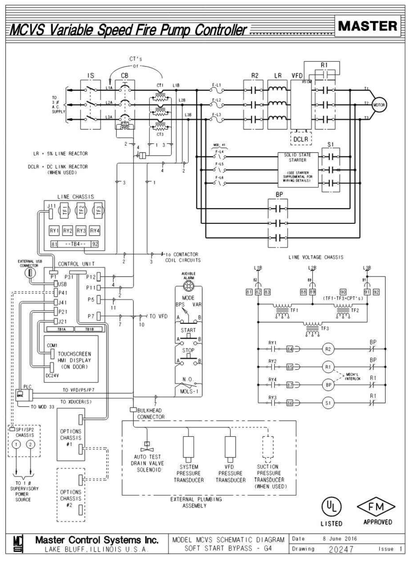
HORIZONTAL SPLIT CASE FIRE PUMP DETAIL | SCALE NONE | 1

PLATE STANCHION AND SADDLE TO BE GALVANIZED AND PAINTED



PIPE SUPPORT DETAIL | SCALE NONE | 2





FIRE PUMP WIRING DIAGRAMS | SCALE NONE | 5





EXISTING DIVERTER BOX PHOTOS | SCALE NONE | 3

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PLUMBING SPECIFICATIONS

PART I - GENERAL

A. CONDITIONS

1. GENERAL CONDITIONS, SUPPLEMENTARY CONDITIONS, SPECIAL CONDITIONS, AND OTHER RELATED PORTIONS OF DIVISION 1 APPLY TO THIS SECTION.

B. SUMMARY OF WORK

1. THE WORK INCLUDED IN THIS SECTION CONSISTS OF LABOR, MATERIALS, AND EQUIPMENT NECESSARY FOR THE INSTALLATION OF A COMPLETE PLUMBING SYSTEM AS INDICATED ON THE DRAWINGS AND AS DESCRIBED HEREIN. INSTALL SYSTEM IN PERFECT WORKING ORDER AND IN FULL ACCORDANCE WITH THE INTENT AND MEANING OF THE DRAWINGS AND SPECIFICATIONS. THE WORK IN GENERAL CONSISTS OF FURNISHING AND INSTALLING NEW PLUMBING FIXTURES AND TRIM INCLUDING CONNECTION OF NEW WASTE, VENT AND WATER PIPING TO EXISTING SERVICES AS REQUIRED TO PUT NEW FIXTURES INTO SERVICE.

C. REGULATIONS, CODES, PERMITS AND INSPECTIONS

1. COMPLY WITH NATIONAL, STATE, COUNTY, AND CITY CODES, ORDINANCES, ETC., HAVING JURISDICTION, INCLUDING RULES AND REQUIREMENTS OF UTILITY SERVING AGENCIES.
2. INCORPORATE CODES, ORDINANCES, ETC., INTO THE BASE BID AND INSTALLATION OF WORK. NO ADDITIONAL FUNDS WILL BE ALLOCATED FOR WORK REQUIRED TO CONFORM TO REGULATIONS AND REQUIREMENTS OR TO OBTAIN APPROVAL OF WORK.
3. OBTAIN AND PAY FOR REQUIRED PERMITS AND LICENSES. WHEN REQUIRED BY CODE, WORK MUST BE INSPECTED AND APPROVED BY LOCAL AUTHORITIES. PRIOR TO FINAL APPROVAL, FURNISH ARCHITECT WITH CERTIFICATES OF INSPECTION AND APPROVALS BY LOCAL AUTHORITIES.
4. IN ADDITION, THE LATEST ADOPTED EDITION OF THE FOLLOWING CODES AND PUBLISHED STANDARDS SHALL BE ADHERED TO:

   A. 2022 CALIFORNIA BUILDING CODE. (CBC)
   B. 2022 CALIFORNIA MECHANICAL CODE. (CMC)
   C. 2022 CALIFORNIA PLUMBING CODE. (CPC)
   D. NFPA STANDARDS.
   E. ASHRAE HANDBOOKS.
   F. SMACNA DUCT CONSTRUCTION STANDARDS.
   G. 2022 CALIFORNIA ELECTRIC CODE. (CEC)
   H. 2022 CALIFORNIA ENERGY CODE. (CEC)
   I. 2022 CALGREEN CODE

D. DESIGN DRAWINGS

1. DESIGN DRAWINGS ARE DIAGRAMMATIC AND ARE INTENDED ONLY TO DEFINE THE BASIC FUNCTIONS REQUIRED. PROVIDE LABOR, MATERIAL, ETC., NECESSARY TO ACCOMPLISH THESE REQUIREMENTS. MINOR DEVIATIONS FROM THE DESIGN LAYOUT ARE ANTICIPATED AND SHALL BE CONSIDERED A PART OF THE WORK INCLUDED. NO CHANGES THAT ALTER THE CHARACTER OF THE WORK WILL BE PERMITTED. DO NOT SCALE THE DESIGN DRAWINGS. SEE ARCHITECTURAL DRAWINGS FOR DIMENSIONS.
2. IF A CONFLICT OCCURS BETWEEN THE DESIGN DRAWINGS AND SPECIFICATIONS, PROMPTLY NOTIFY THE ARCHITECT AND/OR ENGINEER. AT THAT POINT, AN INTERPRETATION WILL BE MADE BY THE ARCHITECT AND/OR ENGINEER AND SAID DECISION SHALL BE CONSIDERED PART OF THE CONTRACT DOCUMENTS.

E. QUALIFICATIONS OF CONTRACTOR AND WORKMEN

1. CONTRACTOR SHALL BE PROPERLY LICENSED TO PERFORM THE WORK.
2. USE SUFFICIENT JOURNEYMEN, CRAFTSMEN AND SUPERVISORS TO ENSURE PROMPT, PROPER, AND SAFE EXECUTION OF THE WORK.

F. BASE BID

1. BASE BID SHALL INCLUDE MATERIALS AND EQUIPMENT SPECIFIED OR SCHEDULED ON THE DRAWINGS. REQUESTS FOR SUBSTITUTION OF MATERIALS AND EQUIPMENT SHALL BE BY ADDITIVE OR DEDUCTIVE ALTERNATE BID ONLY, WITH THE FOLLOWING DATA CLEARLY WRITTEN AT THE BEGINNING OF THE ALTERNATE PROPOSAL:

   A. ADDITIVE OR DEDUCTIVE AMOUNT CLEARLY WRITTEN IN WORDS AND NUMERALS.
   B. INCREASED OR REDUCED CONSTRUCTION TIME IN DAYS.
   C. OTHER DEMONSTRABLE BENEFIT, FOR WHICH THE SUBSTITUTION OF SUCH ITEM WILL BE IN THE OWNER'S INTEREST.

2. ONLY THOSE MATERIALS AND EQUIPMENT WHICH ARE SUBMITTED AS AN ALTERNATE BID AND WHICH ARE ACCOMPANIED BY THE SUPPORTING DATA INDICATED BELOW WILL BE REVIEWED AND CONSIDERED.

G. SUBSTITUTIONS

1. MATERIALS AND EQUIPMENT THAT ARE A SUBSTITUTE FROM THE LISTED MANUFACTURES MAY BE CONSIDERED. PRIOR TO PROPOSING ANY SUBSTITUTE ITEM, CONTRACTOR SHALL SATISFY HIMSELF THAT THE ITEM PROPOSED IS, IN FACT, EQUAL TO THAT SPECIFIED, THAT SUCH ITEM WILL FIT INTO THE SPACE ALLOCATED, THAT SUCH ITEM AFFORDS COMPARABLE EASE OF OPERATION, MAINTENANCE AND SERVICE, THAT THE APPEARANCE, LONGEVITY, CAPACITY, SUITABILITY, AND ELECTRICAL CHARACTERISTICS ARE COMPARABLE, AND THAT BY REASON OF COST SAVINGS, REDUCED CONSTRUCTION TIME, OR SIMILAR DEMONSTRABLE BENEFIT, THE SUBSTITUTION OF SUCH ITEM WILL BE IN THE OWNER'S INTEREST.
2. THE BURDEN OF PROOF OF EQUALITY OF A PROPOSED SUBSTITUTION FOR A SPECIFIED ITEM SHALL BE UPON THE CONTRACTOR. CONTRACTOR SHALL SUPPORT HIS REQUEST WITH SUFFICIENT TEST DATA AND OTHER MEANS TO PERMIT THE ENGINEER TO MAKE A FAIR AND EQUITABLE DECISION ON THE MERITS OF THE PROPOSED SUBSTITUTION. INSUFFICIENT SUBMITTAL DATA WILL RESULT IN REJECTION OF THE PROPOSED SUBSTITUTION. ANY ITEM BY A MANUFACTURER OTHER THAN THOSE SPECIFIED, OR OF BRAND NAME OR MODEL NUMBER, OR OF GENERIC SPECIES OTHER THAN THOSE SPECIFIED, WILL BE CONSIDERED A SUBSTITUTION. ENGINEER WILL BE THE SOLE JUDGE OF WHETHER OR NOT THE SUBSTITUTION IS EQUAL IN QUALITY, UTILITY AND ECONOMY TO THAT SPECIFIED.
3. APPROVAL OF A SUBSTITUTION SHALL NOT RELIEVE CONTRACTOR FROM RESPONSIBILITY FOR COMPLIANCE WITH ALL REQUIREMENTS OF THE CONTRACT. CONTRACTOR SHALL BEAR THE EXPENSE FOR ANY CHANGES IN OTHER PARTS OF THIS WORK OR OTHER WORK CAUSED BY THE PROPOSED SUBSTITUTION, INCLUDING BUT NOT LIMITED TO STRUCTURAL, ELECTRICAL, PLUMBING, AND ACCESS REQUIREMENTS.
4. IF ENGINEER REJECTS CONTRACTOR'S SUBSTITUTE ITEM ON THE FIRST SUBMITTAL, CONTRACTOR MAY MAKE ONLY ONE ADDITIONAL REQUEST FOR SUBSTITUTION IN THE SAME CATEGORY.

H. SUBMITTALS

1. EQUIPMENT AND MATERIALS:

   A. CONTRACTOR SHALL HAVE APPROVED SUBMITTALS PRIOR TO FABRICATION OR DELIVERY OF ANY MATERIAL AND/OR EQUIPMENT TO THE JOB SITE. SUBMIT ELECTRONIC COPIES, COMPLETELY DESCRIBING EACH MAJOR SYSTEM, MATERIAL AND EQUIPMENT PROPOSED TO BE USED. ANY PIECE OF EQUIPMENT PLACED ON THE JOB WITHOUT PRIOR APPROVAL WILL BE SUBJECT TO REMOVAL AT THE SOLE EXPENSE OF THE CONTRACTOR.

   B. SUBMITTALS ARE FOR INFORMATION AND COORDINATION ONLY. REVIEW OF MATERIAL AND/OR EQUIPMENT SUBMITTALS SHALL IN NO WAY RELIEVE THE CONTRACTOR OF THE RESPONSIBILITY TO COMPLY WITH PLANS AND SPECIFICATIONS REQUIREMENTS. POINTS OF NON-COMPLIANCE WHICH ARE NOT NOTED SHALL BE CONSTRUED TO BE AN EQUIPMENT DOES NOT AGREE WITH THE CONTRACT DOCUMENTS.

   C. ARCHITECTURAL PLANS AND SPECIFICATIONS SHALL BE REVIEWED FOR ADDITIONAL SUBMITTAL REQUIREMENTS.

2. SHOP DRAWINGS:

   INCLUDE DETAILED DRAWINGS WHERE REQUIRED FOR PROPER COORDINATION WITH OTHER TRADES. INDICATE EQUIPMENT LAYOUTS, ELECTRICAL CHARACTERISTICS, WIRING AND CONTROL DIAGRAMS, SIZES AND LOCATIONS OF PIPING, DUCTS, CONDUITS, AND OTHER ITEMS WHICH EFFECT THE SPACE AVAILABLE. SUBMIT ITEMS AT ONE TIME IN A NEAT AND ORDERLY MANNER WITHIN 15 DAYS OF AWARD OF CONTRACT. PARTIAL LIST WILL NOT BE ACCEPTABLE. SUBMITTALS SHALL INCLUDE MANUFACTURER'S SPECIFICATIONS, PHYSICAL DIMENSIONS, WEIGHTS AND RATINGS OF EQUIPMENT SUBMITTED. SUBMITTALS SHALL BE INDEXED AND SECURELY BOUND IN A SUITABLE MANNER. SUBMIT THE FOLLOWING ITEMS FOR APPROVAL: 1) CLEANOUTS 2) PIPING AND FITTINGS 3) VALVES.

3. RECORD DRAWINGS:

   MAINTAIN ACCURATE RECORDS OF AN CHANGES FROM THE CONTRACT DOCUMENTS AND SHOP DRAWING. UPON COMPLETION OF THE PROJECT, DELIVER TO THE OWNER ONE (1) SET OF LEGIBLE AND REPRODUCIBLE COPIES OF THESE RECORD DRAWINGS.

4. WARRANTY:

   UNLESS SPECIFIED OTHERWISE BY ARCHITECT, ENGINEER, OWNER OR OWNER'S REPRESENTATIVE, UPON COMPLETION OF THE PROJECT, DELIVER TO THE OWNER A WRITTEN ONE (1) YEAR WARRANTY ON THE SYSTEMS, MATERIALS AND ALL WORK PERFORMED, WHICH INCLUDES THE ENTIRE COST, INCLUDING MATERIALS AND/OR LABOR, OF CORRECTIVE WORK REQUIRED AND NECESSITATED BY DEFECTS IN MATERIALS AND/OR WORKMANSHIP. CONTRACTOR SHALL ALSO PRESENT THE OWNER WITH A COPY OF ALL MANUFACTURER'S WARRANTIES THAT EXCEED THE WARRANTY PERIOD, SUCH AS WATER HEATERS.

5. OPERATION AND MAINTENANCE INSTRUCTIONS:

   UPON THE COMPLETION OF THE PROJECT, DELIVER TO THE OWNER THE REQUIRED NUMBER OF COPIES OF HARD BOUND O & M MANUALS. INCLUDE IN THE MANUAL INSTRUCTIONS PREPARED SPECIFICALLY FOR THE SYSTEMS PROVIDE, ALONG WITH DESCRIPTIONS, PARTS LIST, INSTRUCTIONS, AND WARRANTIES. START-UP REPORTS FOR ALL EQUIPMENT WILL BE DELIVERED WITH THE MATERIALS AND EQUIPMENT WILL BE DELIVERED WITH THE MATERIALS AND EQUIPMENT UTILIZED IN THE PROJECT. IDENTIFY EACH ITEM BY THE DESIGNATION APPEARING ON THE DRAWINGS.

6. OWNER TRAINING:

   AT A TIME DESIGNATED BY THE OWNER, PROVIDE A SUITABLE TECHNICIAN, MECHANIC OR ENGINEER TO REVIEW THE SYSTEMS WITH OWNER'S REPRESENTATIVE TO THOROUGHLY FAMILIARIZE HIM WITH THE OPERATIONS AND MAINTENANCE OF THE SYSTEMS. UP TO (8) EIGHT HOURS TOTAL TRAINING TIME SHALL BE REQUIRED WITHOUT ADDITIONAL COST TO THE OWNER. PRIOR TO TRAINING THE OWNER SHALL HAVE TAKEN POSSESSION OF THE O & M MANUALS, AND SHALL HAVE HAD A REASONABLE AMOUNT OF TIME FOR HIS PERSONNEL TO FAMILIARIZE THEMSELVES WITH THE CONTENTS OF THE MANUAL.

PART II - PRODUCTS

A. GENERAL PRODUCTS

1. SEISMIC RESTRAINTS:

   A. WHERE REQUIRED BY THE BUILDING OFFICIALS/BUILDING CODES, FURNISH AND INSTALL SEISMIC RESTRAINTS FOR PIPING, AND EQUIPMENT. SEISMIC RESTRAINTS SHALL BE DESIGNED TO RESIST SEISMIC FORCES PRESCRIBED IN THE BUILDING CODES FOR THE PROJECT LOCATION.
   B. WHERE REQUIRED BY THE BUILDING OFFICIAL, PROVIDE STRUCTURAL CALCULATIONS SEALED AND SIGNED BY A LICENSED STRUCTURAL ENGINEER.

2. FURNISH AND INSTALL NEW PRODUCTS OF ESTABLISHED AND REPUTABLE MANUFACTURERS. SEE LIST OF ACCEPTABLE MANUFACTURERS ELSEWHERE IN THIS SPECIFICATION. MAKE NO EQUIPMENT SUBSTITUTIONS THAT WOULD LEAVE INADEQUATE OPERATING OR SERVICING SPACE. REFER TO SUBSTITUTION SECTION OF THE SPECIFICATIONS.
3. ACCESSORIES REQUIRED FOR PROPER OPERATION OF THE SYSTEMS, EVEN THOUGH NOT SPECIFICALLY INDICATED, SHALL BE INCLUDED AND INSTALLED. SUCH ACCESSORIES MAY INCLUDE, BUT ARE NOT LIMITED TO, FILTERS, CONDENSATE DRAINS, RELIEF VALVES, SERVICE VALVES, AQUASTATS, VIBRATION ISOLATORS, ETC. STARTERS FOR NON-PREWIRED EQUIPMENT, I.E., FANS, PUMPS ETC., ARE UNDER THE ELECTRICAL CONTRACTOR'S SCOPE OF WORK, UNLESS NOTED OTHERWISE.
4. SPECIFIC REFERENCE TO A MANUFACTURER'S PRODUCT IS ONLY TO ESTABLISH TYPE, QUALITY, AND PERFORMANCE REQUIRED. THESE QUALIFICATIONS ARE IN ADDITION TO THE REQUIREMENTS SHOWN ON THE PLANS AND ELSEWHERE IN THESE SPECIFICATIONS. LISTING OF ALTERNATE EQUIPMENT MANUFACTURERS SHALL NOT BE CONSTRUED AS AN UNCONDITIONAL APPROVAL OF THE PRODUCTS OF THOSE MANUFACTURERS.

B. PIPING MATERIALS

1. SOIL, WASTE, AND VENT PIPING AND FITTINGS SHALL BE:

   A. CAST IRON, NO HUB.
   B. PLASTIC PIPE (WHERE ALLOWED BY THE CODE): (1) PVC ASTM D2665-82. JOINTS: SOLVENT WELD ASTM D2564-80. (2) PENETRATION OF FIRE RESISTIVE CONSTRUCTION SHALL CONFIRM TO THE REQUIREMENTS OF ALL APPLICABLE BUILDING CODES AND LOCAL AMENDMENTS ADOPTED BY THE BUILDING DEPARTMENT HAVING JURISDICTION.

2. WATER PIPING ABOVE GRADE:

   A. COPPER TUBING: ASTM B88, TYPE L, HARD DRAWN.
   B. FITTINGS: ANSI/ASME B16.23, CAST BRASS, OR ANSI/ASME B16.29 WROUGHT COPPER.
   C. JOINTS: SOLDER AND FLUXES SHALL HAVE A LEAD CONTENT OF LESS THAN 0.2 OF 1 PERCENT.

3. COOLING COIL CONDENSATE DRAIN PIPING:

   A. COPPER TUBING: ASTM B306, DWV.
   B. FITTINGS: ASME 16.23 CAST BRONZE OR ASME B16.29 WROUGHT COPPER.
   C. JOINTS: ASTM B32, SOLDER, GRADE 50B. WHERE BRANCH ARE SMALLER THAN AVAILABLE SIZES IN DWV, USE ASTM B88, TYPE M COPPER TUBING.

4. WATER VALVES:

   A. SHALL BE BY THE SAME MANUFACTURER WITH MANUFACTURER'S NAME AND PRESSURE RATING CLEARLY MARKED ON OUTSIDE OF BODY. PROVIDE VALVES SUITABLE TO CONNECT TO ADJOINING PIPE AS SPECIFIED FOR PIPE JOINTS. USE PIPE SIZE GATE VALVES WITH RISING STEM OR BALL VALVES. VALVES SHALL BE 125 # CLASS.

C. PIPE SUPPORTS

1. SEISMIC RESTRAINTS:

   A. ATTACHMENTS FOR PIPING AND EQUIPMENT SUPPORTED BY THE BUILDING STRUCTURE SHALL BE DESIGNED TO RESIST SEISMIC FORCES PRESCRIBED IN ALL APPLICABLE BUILDING CODES AND LOCAL AMENDMENTS ADOPTED BY THE BUILDING DEPT., HAVING JURISDICTION.
   B. WHERE REQUIRED BY THE BUILDING OFFICIAL, PROVIDE STRUCTURAL CALCULATIONS SIGNED BY A LICENSED STRUCTURAL ENGINEER.

2. SOIL, WASTE, AND VENT PIPING: AS REQUIRED BY LOCAL BUILDING CODE HAVING JURISDICTION.
3. WATER PIPING: AS REQUIRED BY LOCAL BUILDING CODE HAVE JURISDICTION.

D. CLEANOUTS

1. INTERIOR FINISHED FLOOR AREAS (FCO): TWO PIECE BODY WITH DOUBLE DRAINAGE FLANGE. WEEP HOLES, REVERSIBLE CLAMPING COLLAR, AND ADJUSTABLE NICKEL-BRONZE, ROUND SCORIATED COVER IN SERVICE AREAS AND ROUND OR SQUARE WITH DEPRESSED COVER TO ACCEPT FLOOR FINISH IN FINISHED FLOOR AREAS. (MATERIALS SPECIFIED UNDER PART 2, PARAGRAPH B.)

PART III - EXECUTION

A. GENERAL

1. INSTALL MATERIALS AND EQUIPMENT IN AN ARRANGEMENT THAT WILL GIVE THE GREATEST PRACTICAL EASE OF OPERATION AND SERVICE TO THE OWNER.
2. INSTALL EQUIPMENT IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDED INSTALLATION PROCEDURES.
3. PERFORM WORK IN ACCORDANCE WITH THE BEST TRADE PRACTICES. INSTALL MATERIALS AND EQUIPMENT SQUARELY WITH THE BUILDING LINES. PROVIDE RIGID PERMANENT BASES AND SUPPORTS FOR WORK. CONSTRUCT AND BRACE EQUIPMENT, PIPING, ETC., SO THAT THERE WILL BE NO VIBRATION AND/ OR RATTLING WHEN THE SYSTEM IS IN OPERATION.
4. COVER AND PROTECT EQUIPMENT AND MATERIALS FROM WEATHER, THEFT, ETC., UNTIL DATE OF COMPLETION. PLUG AND/OR CAP OPEN ENDS OF INSTALLED PIPING.

B. INSTALLATION

1. CONCEAL PIPING IN WALLS, FURRED SPACES, PIPE SPACES, OR ABOVE SUSPENDED CEILINGS, AS SHOWN ON THE DRAWINGS. GROUP PIPING WHEREVER PRACTICAL AND INSTALL UNIFORMLY IN STRAIGHT PARALLEL LINES, SQUARELY WITH BUILDING LINES.
2. SUPPORT HORIZONTAL PIPING WITH PIPE HANGERS. DO NOT USE PERFORATED METAL TAPE. ARRANGE PIPING SO THAT THERMAL EXPANSION DOES NOT CAUSE STRESS. INSTALL AND SECURE PIPING SO THAT HOT AND COLD LINES, AND LINES OF DISSIMILAR METALS, ARE NOT IN CONTACT.
3. VERIFY EQUIPMENT DIMENSIONS AND REQUIREMENTS FOR ROUGH-IN WORK. BENDING OR OFFSETTING OF FINISHED PIPING CONNECTIONS AND "COCKING" OF FITTINGS OR TRIM WILL NOT BE ACCEPTABLE. DO NOT SUPPORT ANY PIPING WEIGHT FROM EQUIPMENT.
4. SANITARY: LAY PIPING AT A UNIFORM GRADE. MAKE JOINTS CLOSE AND SQUARE. USE FITTINGS FOR TURNS AND OFFSETS. UNIFORMLY GRADE AND COMPACT TRENCHES PRIOR TO LAYING PIPING. PROVIDE CONTINUOUS SUPPORT FOR PIPING.
5. PIPING CONNECTIONS SHALL BE APPROVED BY THE ARCHITECT PRIOR TO PERFORMING THE WORK.
6. CUTTING AND PATCHING SHALL BE APPROVED BY THE ARCHITECT PRIOR TO PERFORMING THE WORK.
7. INSULATE ALL PIPING CONVEYING FLUIDS ABOVE OR BELOW AMBIENT TEMPERATURES, ALL CONDENSATE PIPING AND THE UNDERSIDE OF ROOF DRAINS/OVERFLOW ROOF DRAINS AND THE UNDERSIDE OF HORIZONTAL RAINWATER PIPING, WHERE EXPOSED, COVER INSULATION WITH ALUMINUM JACKET.

C. TESTING REQUIREMENTS

1. TEST SYSTEMS IN ACCORDANCE WITH ALL APPLICABLE CODES, REGULATIONS, ORDINANCES, ETC. MINIMUM REQUIREMENTS ARE AS FOLLOWS:

   A. SANITARY: STATIC WATER PRESSURE FOR ONE (1) HOUR.
   B. POTABLE WATER: AVAILABLE PRESSURE FOR ONE (1) HOUR.
   C. GAS PIPING: PRESSURE 14-INCH WATER COLUMN OR LESS. 10 PSI FOR ONE (1) HOUR.
   D. GAS PIPING: OVER 14-INCH WATER COLUMN, 60 PSI FOR ONE (1) HOUR.

2. IF ANY TEST SHOWS THE WORK TO BE DEFECTIVE IN ANY WAY OR AT VARIANCE WITH SPECIFICATION REQUIREMENTS, MAKE NECESSARY CHANGES AND REMEDY DEFECTS.
3. TEST PIPING SYSTEMS AFTER INSTALLATION AND PRIOR TO BEING PUT INTO USE. COVERED OR CONCEALED BY INSULATION, BACKFILLING OR BUILDING CONSTRUCTION.

D. DISINFECTION OF DOMESTIC WATER PIPING SYSTEM

1. DISINFECT WATER PIPING IN STRICT CONFORMANCE WITH THE REQUIREMENTS OF THE STATE OF CALIFORNIA "WATER SUPPLY REGULATIONS", SECTION 3. CPC SECTION 609.10 AND IN ACCORDANCE TO ALL APPLICABLE PLUMBING CODES AND LOCAL AMENDMENTS ADOPTED BY THE BUILDING DEPARTMENT HAVING JURISDICTION.

APPROVALS

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IMPERIAL VALLEY COLLEGE TTHM REDUCTION PROJECT
90% SUBMITTAL

380 E ATEN RD.
IMPERIAL, CA 92251

OCTOBER 2025

REGISTERED PROFESSIONAL ENGINEER
TERESA A. VALENTINE
C 83580
Exp. 3-31-27
CIVIL
STATE OF CALIFORNIA

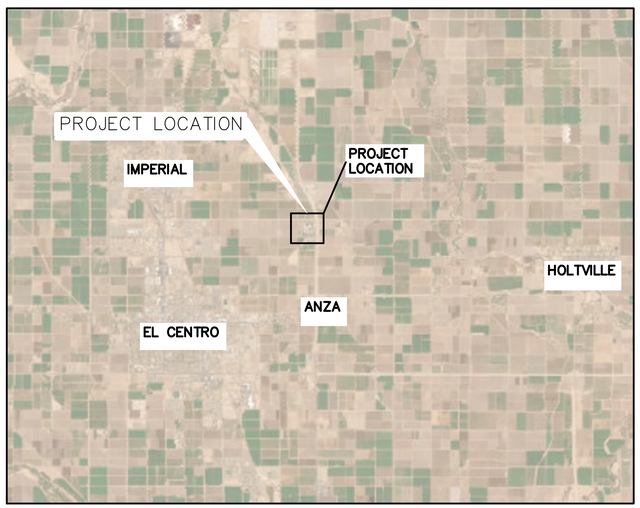
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PROJECT LOCATION MAP
NOT TO SCALE



VICINITY MAP
NOT TO SCALE

OWNER

IMPERIAL VALLEY COLLEGE
380 E ATEN RD.
IMPERIAL, CA 92251

ENGINEER

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CONTACT 811 BEFORE YOU DIG
811
SAFE DIGGING PARTNER

GENERAL
IMPERIAL VALLEY COLLEGE TTHM REDUCTION PROJECT COVER SHEET, VICINITY MAP AND SHEET INDEX
SCALE: NONE

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DATE: OCTOBER 2025
G0.0
SHEET 1 OF 9
CAD FILE: G0.0.DWG

IMPERIAL VALLEY COLLEGE TTHM REDUCTION PROJECT

CONSTRUCTION NOTES

1. ALL CONSTRUCTION IN THE PUBLIC RIGHTS–OF–WAY OR IN EASEMENTS GRANTED FOR PUBLIC USE MUST CONFORM TO THE LATEST COUNTY OF IMPERIAL DEPARTMENT OF PUBLIC WORKS ENGINEERING DESIGN GUIDELINES MANUAL.

2. WHENEVER EXCAVATION IS TO BE DONE, CALL 811 TWO WORKING DAYS BEFORE EXCAVATION IS TO BEGIN. THE CENTER WILL SEE THAT THE LOCATION OF THE UNDERGROUND UTILITY LINES IS IDENTIFIED FOR THE PROJECT. CALL "COLLECT" IF NECESSARY.

3. ENCROACHMENT PERMITS ARE REQUIRED FOR ALL WORK IN PUBLIC RIGHT–OF–WAY AND EASEMENTS GRANTED FOR PUBLIC PURPOSES. COPIES OF ALL PERMITS SHALL BE RETAINED ON SITE AND SHALL BE AVAILABLE FOR INSPECTION AT ALL TIMES. FAILURE TO PRODUCE THE REQUIRED PERMITS WILL RESULT IN IMMEDIATE WORK STOPPAGE UNTIL THE PROPER PERMIT DOCUMENTATION IS OBTAINED.

4. ALL EXCAVATION AND GRADING WHICH IS NOT IN THE PUBLIC RIGHTS–OF–WAY OR NOT IN EASEMENTS GRANTED FOR PUBLIC USE MUST CONFORM TO CHAPTER 33, EXCAVATION AND GRADING, OF THE LATEST EDITION OF THE UNIFORM BUILDING CODE PREPARED BY THE INTERNATIONAL CONFERENCE OF BUILDING OFFICIALS. A PERMIT FOR THIS GRADING MUST BE SECURED.

5. THE CONTRACTOR SHALL OBTAIN ANY PERMITS REQUIRED FOR THE WORK, UNLESS OTHERWISE INDICATED. CONTRACTOR SHALL REVIEW PERMIT REQUIREMENTS AND INCLUDE COSTS IN THE BID TO COMPLY WITH ALL PERMIT REQUIREMENTS, INCLUDING COORDINATION OF ALL RELOCATION AND REMOVALS BY OTHERS.

6. THE CONTRACTOR IS ADVISED THAT AN EXCAVATION AND DIRT MOVING PERMIT MAY BE REQUIRED. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO OBTAIN THIS PERMIT, IF NECESSARY, AND COMPLY WITH ITS REQUIREMENTS.

7. THE CONTRACTOR SHALL COORDINATE WORK SCHEDULES WITH THE OWNER'S REPRESENTATIVE SO AS TO PREVENT ANY CONFLICTING WORK CONDITIONS.

8. LOCATIONS, ELEVATIONS AND DIMENSIONS OF EXISTING UTILITIES, STRUCTURES AND OTHER FEATURES ARE SHOWN ACCORDING TO THE BEST INFORMATION AVAILABLE AT THE TIME OF THE PREPARATION OF THESE PLANS, BUT DO NOT PURPORT TO BE ABSOLUTELY CORRECT AND ARE APPROXIMATE. NEW(ER) UTILITIES MAY EXIST. THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING LOCATIONS, ELEVATIONS AND DIMENSIONS OF ALL EXISTING AND NEW(ER) UTILITIES, STRUCTURES AND OTHER FEATURES AFFECTING THIS WORK AND AVOIDING DAMAGE TO SAME.

9. THE CONTRACTOR SHALL CONTACT THE UTILITY PRIOR TO PROCEEDING WITH WORK WHICH INVOLVES OR AFFECTS EXISTING FEATURES OR AFFECTS EXISTING UTILITIES.

10. ALL UTILITIES SHALL BE PROTECTED FROM DAMAGE AS A RESULT OF THE WORK AND CONTRACTOR CREW ACTIVITIES. THE CONTRACTOR SHALL RELOCATE, REPAIR OR REPLACE ANY UTILITIES TO THE SATISFACTION OF THE UTILITIES AND THE OWNER. THE CONTRACTOR SHALL ASSUME FULL RESPONSIBILITY FOR ANY DAMAGE TO EXISTING FACILITIES RESULTING FROM THE PERFORMANCE OF THE WORK. REPAIR AND REPLACEMENT OF DAMAGED FACILITIES SHALL BE PERFORMED IN A TIMELY MANNER AT NO ADDITIONAL COST TO THE OWNER.

11. PROVIDE THRUST RESTRAINT FOR EXISTING PIPING WHENEVER THE WORK REQUIRES. CONTRACTOR TO REPLACE OR RESTORE THE EXISTING RESTRAINT SYSTEM TO LIKE NEW CONDITION. RESTRAINT SYSTEMS FOR EXISTING DUCTILE IRON PIPE SHALL BE MECHANICAL JOINT RESTRAINT ONLY. NO THRUST BLOCKS ARE PERMITTED FOR EXISTING DUCTILE IRON PIPES. RESTRAINT JOINTS FOR EXISTING DUCTILE IRON PIPE SHALL BE IN ACCORDANCE WITH THE APPLICABLE IMPERIAL COUNTY STANDARDS. DUCTILE IRON PIPING SYSTEMS TO BE RESTRAINED THE COMPLETE LENGTH OF THE PIPELINE SYSTEM.

12. (*) INDICATES DIMENSIONS, DISTANCES, COORDINATES OR ELEVATIONS TO BE SURVEYED AND FIELD VERIFIED BY THE CONTRACTOR PRIOR TO INITIATING ANY OF THE WORK.

13. EXISTING BURIED PIPING, ELECTRICAL DUCT BANKS AND OTHER BURIED UTILITIES ARE SHOWN IN THEIR APPROXIMATE LOCATIONS AND MAY VARY FROM THAT WHICH HAS BEEN SHOWN WITHIN THIS SET OF DRAWINGS. CONTRACTOR SHALL BE RESPONSIBLE FOR DETERMINING EXACT LOCATION, ORIENTATION, AND SIZE OF SUCH UTILITIES. CONTRACTOR SHALL BE RESPONSIBLE FOR LOCATING AND EXPOSING BURIED PIPE, ELECTRICAL DUCT BANK AND OTHER UTILITIES THAT MAY EFFECT WORK AREAS PRIOR TO COMMENCING WORK. THIS IS NOT CONSIDERED POTHOLING, POTHOLING SHALL BE DIRECTED BY THE OWNER.

14. IN THE EVENT THAT HISTORIC OR PREHISTORIC SURFACE OR SUBSURFACE CULTURAL FEATURES OR DEPOSITS ARE ENCOUNTERED DURING PROJECT ACTIVITIES, THESE ACTIVITIES MUST BE DISCONTINUED IN THE IMMEDIATE AREA WHERE THE CULTURAL RESOURCES ARE DISCOVERED, AND AN ARCHAEOLOGIST CONSULTED TO EVALUATE THE NATURE AND SIGNIFICANCE OF THE MATERIALS.

15. CONTRACTOR SHALL KEEP ALL CONSTRUCTION EQUIPMENT AT LEAST 50' FROM EXISTING OVERHEAD POWER LINES. IF THIS IS NOT FEASIBLE, CONTACT THE UTILITY OWNER TO INSTALL A TEMPORARY PROTECTIVE COVERING ON THE POWER LINES.

16. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO PROVIDE ALL NECESSARY FITTINGS AND ADAPTERS REQUIRED TO CONNECT DIFFERENT TYPES OF PIPE LINE MATERIAL.

17. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS BEFORE STARTING WORK AND SHALL IMMEDIATELY NOTIFY THE OWNER OF ANY DISCREPANCIES.

18. UNLESS DETAILED, SPECIFIED OR INDICATED OTHERWISE, CONSTRUCTION SHALL BE AS INDICATED IN THE APPLICABLE TYPICAL DETAILS AND GENERAL NOTES. TYPICAL DETAILS ARE MEANT TO APPLY EVEN THOUGH NOT REFERENCED AT SPECIFIC LOCATIONS OR IN SPECIFIC DRAWINGS.

19. GOVERNING BUILDING CODES
    ALL CONSTRUCTION SHALL COMPLY WITH THE FOLLOWING CODES AND AMENDMENTS PER THEIR ADOPTING ORDINANCES:
    2018 INTERNATIONAL BUILDING CODE (IBC)
    2018 INTERNATIONAL MECHANICAL CODE (IMC)
    2018 INTERNATIONAL FIRE CODE (IFC)
    2018 INTERNATIONAL ENERGY CONSERVATION CODE (IECC)
    2018 INTERNATIONAL PLUMBING CODE (IPC)
    2017 NATIONAL ELECTRIC CODE (NEC)

20. ALL MATERIALS WHICH MAY COME INTO CONTACT WITH DRINKING WATER SHALL CONFORM TO NATIONAL SANITATION FOUNDATION STANDARD 60 AND 61.

21. ALL OFFSITE CONSTRUCTION ACTIVITIES SHALL BE CONTAINED WITHIN THE PUBLIC RIGHT OF WAY OR IN EASEMENTS GRANTED FOR THE WORK. ONSITE CONSTRUCTION ACTIVITIES SHALL BE WITHIN DELINEATED WORK AREA BOUNDARIES.

22. THE SEPARATION OF WATER AND SEWER MAINS SHALL CONFORM TO THE APPLICABLE IMPERIAL COUNTY AND CALIFORNIA STANDARDS.

23. MINIMUM VERTICAL CLEARANCE BETWEEN THE PIPELINE AND EXISTING UTILITIES SHALL BE 24 INCHES.

24. WATER VALVES – THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING CONTINUOUS ACCESS DURING CONSTRUCTION TO THE VALVE OPERATION NUT FOR ALL WATER VALVES WITHIN PROJECT BOUNDARIES.

25. WHERE NEW WORK AND EXISTING FEATURES ARE DEPICTED ON THE SAME SHEETS, EXISTING FEATURES ARE SHOWN WITH LIGHTER, SCREENED, LINES.

26. REPAIR AND REPLACEMENT WORK ON EXISTING UTILITIES, INCLUDING OVERHEAD POWER LINES AND POLES, SHALL BE PERFORMED BY THE CONTRACTOR, WITH PERMISSION GRANTED BY THE UTILITY OWNER. ALL COSTS ASSOCIATED WITH REPAIR AND/OR EXISTING UTILITIES DUE TO CONTRACTOR'S WORK SHALL BE THE CONTRACTOR'S RESPONSIBILITY.

27. ALL GROUND WATER PUMPED FROM EXCAVATION AREAS SHALL BE DISCHARGED PER PERMIT INTO APPROVED EROSION CONTROL FACILITIES AND DRAINAGE COURSES.

28. CONTRACTOR SHALL PREPARE AND FURNISH TO THE OWNER A SET OF AS–BUILT DRAWINGS AT THE COMPLETION OF THE PROJECT. AS–BUILT DRAWINGS SHALL SHOW THE CORRECT AND ACTUAL, INSTALLED LOCATION OF THE PIPELINE AND APPURTENANCES. SEE SPECIFICATIONS FOR REQUIREMENTS.

29. ALL CROSSED UTILITIES SHALL BE SUPPORTED WITH ONE SACK SLURRY CONCRETE OR AS DIRECTED BY THE OWNER.

30. SIGNS REQUIRE SEPARATE APPROVALS AND PERMITS.

31. CONCRETE ENCASEMENT SHALL BE PROVIDED IN THE LENGTHS SHOWN, AND LOCATED TO PROVIDE THE ENCASEMENT WITH EQUAL LENGTHS EXTENDING BEYOND THE UTILITY(IES) BEING CROSSED PER THE APPLICABLE IMPERIAL COUNTY STANDARDS.

32. LIMITS OF CONSTRUCTION LINE (LOC) SHALL BE CONTAINED WITHIN THE CONSTRUCTION FENCING AS APPROVED BY OWNER.

33. FINISHED GRADE SHALL MATCH THE EXISTING GRADE AS SHOWN AND SPECIFIED.

34. THE CONTRACTOR SHALL ATTEMPT TO MINIMIZE CONDUIT BENDS WHEN ENTERING A PULL BOX.

35. ANY DEVIATION FROM THE APPROVED PLANS SHALL BE REVIEWED AND APPROVED BY THE ENGINEER PRIOR TO THAT CHANGE BEING INCORPORATED INTO THE PROJECT.

36. ANY SPECIAL INSPECTION REQUIRED SHALL BE IN ADDITION TO ANY ROUTINE INSPECTION BY THE OWNER.

37. FOR ALL BURIED VALVES, NEW, RELOCATED OR ADJUSTED, CONTRACTOR SHALL CONSTRUCT BLOCKING AND SHALL PROVIDE A VALVE BOX WITH A DEBRIS CAP IN ACCORDANCE WITH THE APPLICABLE IMPERIAL COUNTY STANDARDS.

38. ALL POTABLE WATERLINES AND FITTINGS SHALL HAVE A NSF–PW SEAL. ALL MATERIALS AND PRODUCTS USED IN THE POTABLE WATER SYSTEM SHALL CONFORM TO NSF STANDARDS 60 AND 61 IN ACCORDANCE WITH THE APPLICABLE IMPERIAL COUNTY STANDARDS AND CODES. ALL MATERIALS SHALL BE LEAD–FREE AS DEFINED IN THE APPLICABLE IMPERIAL COUNTY STANDARDS AND CODES.

39. TRENCHES SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE APPLICABLE IMPERIAL COUNTY STANDARDS. FOR WATER AND SEWER LINES WHICH ARE TWELVE (12) INCHES AND UNDER, TRENCH SHALL BE CONSTRUCTED TO PROVIDE SUPPORT UNDER FULL LENGTH OF THE BARREL WITH HAND EXCAVATED HOLES FOR COUPLINGS AND/OR BELLS.

40. WATER MAIN AND SANITARY SEWER MAIN SEPARATION AND/OR EXTRA PROTECTION SHALL BE IN ACCORDANCE WITH THE APPLICABLE IMPERIAL COUNTY STANDARDS. AN ALTERNATIVE TO CONSTRUCTING SANITARY SEWER MAIN WITH MECHANICAL JOINT OR RESTRAINED JOINT DUCTILE IRON PIPE MAY CONSIST OF CONCRETE ENCASEMENT PER THE APPLICABLE IMPERIAL COUNTY STANDARDS.

41. APPROVED "AS–BUILT" PLANS PRODUCED AND CERTIFIED FOR CORRECTNESS BY A REGISTERED PROFESSIONAL CIVIL ENGINEER OR LAND SURVEYOR REGISTERED IN THE STATE OF CALIFORNIA WILL BE REQUIRED PRIOR TO FINAL APPROVAL OF WATER AND SEWER CONSTRUCTION. THE "AS–BUILT" PLANS SHALL INCLUDE THE LOCATIONS OF ALL VERTICAL AND HORIZONTAL PIPE BENDS, VALVES, MANHOLES, SEWER TAPS, ETC., BY STATION/OFFSET AND NORTHING AND EASTING STATE PLANE COORDINATES.

42. BACKFLOW PREVENTION ASSEMBLIES SHALL HAVE A CERTIFICATE OF APPROVAL ISSUED BY USC–FCCCHR, OR OTHER APPROVED THIRD–PARTY CERTIFYING ENTITY UNRELATED TO THE PRODUCT MANUFACTURER OR VENDOR, IN ACCORDANCE WITH THE APPLICABLE IMPERIAL COUNTY STANDARDS AND CODES. ALL ASSEMBLIES SHALL BE INSTALLED IN ACCORDANCE WITH THE APPLICABLE IMPERIAL COUNTY STANDARDS. NO ASSEMBLY SHALL BE PLACED IN SERVICE UNLESS IT HAS BEEN TESTED AND IS FUNCTIONING AS DESIGNED. A CERTIFIED TEST MUST BE SUBMITTED TO THE OWNER (BACKFLOW PREVENTION) FOR APPROVAL. OPERATIONAL APPROVAL OF WATER FACILITIES WILL NOT BE GRANTED PRIOR TO BACKFLOW PREVENTION APPROVAL.

43. ALL CONSTRUCTION MATERIALS USED FOR ANY FACILITIES CONNECTED TO OR PART OF THE PUBLIC WATER SYSTEM SHALL BE LEAD–FREE AS DEFINED IN THE APPLICABLE IMPERIAL COUNTY STANDARDS AND CODES.

44. ALL WORK AND TESTING SHALL BE IN ACCORDANCE WITH THE APPLICABLE IMPERIAL COUNTY STANDARDS UNLESS OTHERWISE STATED ON PLANS.

45. ALL WATER LINES SHALL BE DISINFECTED PER AWWA C651–05.

46. ALL WATER LINES SHALL BE PRESSURE AND LEAKAGE TESTED PER THE APPLICABLE IMPERIAL COUNTY STANDARDS.

47. ALL WATER LINE PIPE, FITTINGS, VALVES, FIRE HYDRANTS SHALL CONFORM TO THE LATEST AWWA AND ASTM STANDARDS.

48. ALL GRAVITY LINES SHALL BE PRESSURE AND LEAKAGE TESTED PER ASTM F1417.

49. ALL FORCEMAINS SHALL BE PRESSURE AND LEAKAGE TESTED PER THE APPLICABLE IMPERIAL COUNTY STANDARDS AND CODES.

50. PVC PIPE INSTALLATION MUST CONFORM WITH ASTM STANDARD SPECIFICATION D2321.

51. DEFLECTION TESTS SHALL CONFORM TO THE APPLICABLE IMPERIAL COUNTY STANDARDS.

52. THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING THE EXISTENCE AND LOCATION OF ANY UTILITIES THAT MAY IMPACT THE WORK.

NOTES:
(*) INDICATES DIMENSIONS, DISTANCES, COORDINATES OR ELEVATIONS TO BE SURVEYED AND FIELD VERIFIED BY THE CONTRACTOR PRIOR TO INITIATING ANY OF THE WORK.
(**) INDICATES DIMENSION, ELEVATION OR COORDINATES WILL VARY DEPENDENT UPON MEASUREMENTS OF MANUFACTURER SUPPLIED EQUIPMENT.

IMPERIAL VALLEY COLLEGE TTHM TREATMENT SYSTEM

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Exp. 3-31-27
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REVISIONS			
NO.	BY	DATE	REMARKS

DES RO
DWN DC
CKD TAV

IMPERIAL VALLEY COLLEGE
IMPERIAL COUNTY, CA

TTHM REDUCTION PROJECT
90% SUBMITTAL

GENERAL
IMPERIAL VALLEY COLLEGE TTHM REDUCTION PROJECT
GENERAL CONSTRUCTION NOTES
SCALE: NTS

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DATE: OCTOBER 2025
G1.0
SHEET 2 OF 14
CAD FILE: G1.0.DWG

FILE: Z:\25IVC–TTHM TREATMENT\GENERAL\G1.0.DWG G1.0 (10–16–25) ROMALIA

ABBREVIATIONS

AC	ASPHALT CONCRETE
ACI	AMERICAN CONCRETE INSTITUTE
APN	ASSESSOR'S PARCEL NUMBER
AR	AIR RELEASE VALVE
ARFC	AS REQUIRED FOR CONSTRUCTION
ASME	AMERICAN SOCIETY OF MECHANICAL ENGINEERS
ASPH	ASPHALT
ASS	ASSEMBLY
@	AT
AVR	AIR/VACUUM RELIEF VALVE
AVAIL	AVAILABLE
AWWA	AMERICAN WATER WORKS ASSOCIATION
BOC	BACK OF CURB
BC	BEGIN HORIZONTAL CURVE
BO	BLOW OFF
BOL	BEGINNING OF LINE
BLDG	BUILDING
B.S.L.	BUILDING SET BACK LINE
B.V.C.	BEGIN VERTICAL CURVE
C	CENTER
C/C	CENTER TO CENTER
CA	CEMENT ASBESTOS
CATV	CABLE TELEVISION
CBC	CONCRETE BOX CULVERT
C.C.S.	CONCRETE CYLINDER PIPE
CFS	CUBIC FEET PER SECOND
CIP	CAST IRON PIPE
	CENTERLINE
CLR	CLEAR
CM	CORRUGATED METAL
CMC	CEMENT MORTAR COATED
CML	CEMENT MORTAR LINED
CML&C	CEMENT MORTAR LINED & COATED
CMP	CORRUGATED METAL PIPE
CO	CLEAN OUT
CONC	CONCRETE
CONST	CONSTRUCTION
CPLG	COUPLING
D	DRAIN
DG	DECOMPOSED GRANITE
DTL	DETAIL
DI	DRAIN INLET
DIA	DIAMETER
DIP	DUCTILE IRON PIPE
D/L	DAYLIGHT
DWG	DRAWING
EA	EACH
EC	END HORIZONTAL CURVE
E.F.	EACH FACE
EHH	ELECTRIC HANDHOLE
EL	ELEVATION
ELEC	ELECTRIC
E'LY	EASTERLY
EM	ELECTRIC METER
EOP	EDGE OF PAVEMENT
EP	ELECTRIC PANEL
EPED	ELECTRIC PEDESTAL
EV	ELECTRIC VAULT
E.V.C.	END VERTICAL CURVE
EOL	END OF LINE
E.W.	EACH WAY
EXIST	EXISTING
FAD	FOUL AIR DUCT
FND	FOUND
F.F.	FINISHED FLOOR
FE	FINISHED EFFLUENT
FH	FIRE HYDRANT
FL	FLOW LINE
FLG	FLANGE
FM	FORCE MAIN
FP	FLAG POLE
GA	GUAGE
GAL	GALLON
GALV	GALVANIZED
GP	GUY POLE
GPT	GUARD POST
GSV	GAS VALVE
GW	GUY WIRE
HDWL	HEADWALL
HH	HAND HOLE
HORIZ	HORIZONTAL
HPG	HIGH PRESSURE GASLINE
ID	INSIDE DIAMETER
IE	INVERT ELEVATION
INV	INVERT
IRRIG	IRRIGATION
L	CURVE LENGTH
LF	LINEAR FEET
LOC	LIMITS OF CONSTRUCTION
LS	LUMP SUM
LT	LEFT
M.A.G.	MARICOPA ASSOCIATION OF GOVERNMENTS
MAX	MAXIMUM
MB	MAILBOX
MH	MANHOLE
MIN	MINIMUM
M.O.	MARKOUT
MRKD	MARKED
MTR	METER
MW	MANWAY
N.A.O.S.	NATURAL AREA OPEN SPACE
N.C.	NORMALLY CLOSED
N.O.	NORMALLY OPEN
NEMA	NATIONAL ELECTRICAL MANUFACTURERS ASSOCIATION
N.T.S.	NOT TO SCALE
NO.	NUMBER
NPW	NON-POTABLE WATER
OFF	OFFSET
O.C.	ON CENTER
OD	OUTSIDE DIAMETER
PCCP	PRESTRESSED CONCRETE CYLINDER PIPE
PED	PEDESTAL
P.I.	HORIZONTAL POINT OF INFLECTION
PLCS	PLACES
PMH	PROPOSED MANHOLE
PRA	PRESSURE REGULATING ASSEMBLY
PRES	PRESSURE
PV	PLUG VALVE
PVC	POLYVINYL CHLORIDE PIIPE
PW	POTABLE WATER
R	RADIUS OR RESTRAINED JOINT
RCCP	REINFORCED CONCRETE CYLINDER PIPE
RCP	REINFORCED CONCRETE PIPE
REG.	REGIONAL
REQ'D	REQUIRED
RR	RAILROAD
R/W	RIGHT-OF-WAY
ROW	RIGHT-OF-WAY
RT	RIGHT
SE	SECONDARY EFFLUENT
SEC	SECTION
SCO	SEWER CLEAN OUT
SD	STORM DRAIN
SDMH	STORM DRAIN MANHOLE
SDR	STANDARD DIMENSION RATIO
SIM	SIMILAR
SMH	SEWER MANHOLE
SHT	SHEET
SPEC(S)	SPECIFICATION(S)
SQ	SQUARE
SY	SQUARE YARDS
SS	SANITARY SEWER
SSFM	SANITARY SEWER FORCEMAIN
STA	STATION
STD	STANDARD
STL	STEEL
STLT	STREET LIGHT
T	TANGENT
t	STEEL THICKNESS
T/B	TOP AND BOTTOM
TC	TOP OF CURB
TELE	TELEPHONE
THH	TELEPHONE HANDHOLE
THK	THICK
TG	TOP OF GRATE
TOW	TOE OF SLOPE
T.O.P.	TOP OF PIPE
TPED	TELEPHONE PEDESTAL
TPOLE	TELEPHONE POLE
TRANS	TRANSFORMER
TYP	TYPICAL
UG	UNDERGROUND
UGE	UNDERGROUND ELECTRICAL
UTELE	UNDERGROUND TELEPHONE
VAC	VACUUM
VERT	VERTICAL
VLV	VALVE
V.P.I.	VERTICAL POINT OF INTERSECTION
W	WATERLINE
W/	WITH
WGV	WATER GATE VALVE
W'LY	WESTERLY
WM	WATER METER
WMH	WATER MANHOLE
WS	WATER SERVICE
WSP	WELDED STEEL PIPE
WV	WATER VAULT
XMH	EXISTING MANHOLE
YD	YARD
YH	YARD HYDRANT
Δ	DELTA ANGLE
ø	DIAMETER
#	NUMBER

LEGEND

SYMBOL	ITEM
	EXISTING BUILDING/STRUCTURE
	NEW BUILDING/STRUCTURE
	EXISTING FENCE
	NEW FENCE
326	EXISTING GROUND CONTOUR
326	FINISH GRADE CONTOUR
	EXISTING CURVEBACK, CURB, AND GUTTER
	EXISTING SIDEWALK
	EXISTING ROADWAY
	EXISTING DITCH
	EXISTING FIRE HYDRANT
	NEW FIRE HYDRANT
S	EXISTING SEWER MANHOLE
S	NEW SEWER MANHOLE
APN 123-456-78	PARCEL NUMBER
1283 1283	HORIZONTAL AND VERTICAL CONTROL POINT
× 1349.2	SPOT ELEVATION
V	EXISTING IRRIGATION VALVE BOX
M	EXISTING UTILITY METER
	EXISTING BUSH OR TREE
	EXISTING CACTUS
	EXISTING PALM TREE
	EXISTING VALVE
CB	EXISTING CATCH BASIN
SIGN	EXISTING POST/SIGN
W	EXISTING WELL
	EXISTING REDUCER
	EXISTING CAP
	EXISTING POWER POLE
	EXISITNG AIR RELEASE VALVE
	EXISTING TRAFFIC LIGHT
CO	EXISTING CLEAN OUT
CO	CLEAN OUT
	DRAINAGE DIRECTION
	DEMOLISH AND REMOVE
	CONCRETE ENCASEMENT
	GROUND PROFILE, EXISTING
00+00	CENTERLINE
	NEW LINE IN PROFILE
	EASEMENT LINE
	PROPERTY LINE/RIGHT-OF-WAY
GAS	EXISTING ELECTRICAL
PA	EXISTING PROPERTY LINE
IRR-CON	EXISTING IRRIGATION CONTROL VALVE
	DIRT ROAD

FLANGED FITTINGS

SYMBOL	ITEM
	CROSS
	CROSS UP
	TEE
	TEE UP
	TEE DOWN
	REDUCING TEE
	REDUCING TEE UP
	LATERAL
	LATERAL DOWN
	LATERAL UP
	22.5° ELBOW
	45° ELBOW
	45° ELBOW DOWN
	45° ELBOW UP
	REDUCING ELBOW
	90° ELBOW LONG
	90° ELBOW LONG DOWN
	90° ELBOW LONG UP
	90° ELBOW SHORT
	90° ELBOW SHORT DOWN
	90° ELBOW SHORT UP
	CONCENTRIC/ECCENTRIC REDUCER
	FLEXIBLE COUPLING
	DAMPER VALVE
	GATE VALVE
	PLUG VALVE
	CHECK VALVE

MECHANICAL JOINT FITTINGS

	CROSS
	TEE
	REDUCING TEE
	LATERAL
	90° ELBOW LONG
	45° ELBOW
	22.5° ELBOW
	REDUCER

SINGLE LINE FITTINGS

	TEE
	TEE UP
	TEE DOWN
	LATERAL
	90° ELBOW
	45° ELBOW
	90° ELBOW DOWN
	90° ELBOW UP
	UNION
	CONCENTRIC REDUCER
	ECCENTRIC REDUCER
	CAP PLUG
	GATE VALVE

SHEET CATEGORY

G	– GENERAL	C	– CIVIL
M	– MECHANICAL	E	– ELECTRICAL

SECTION NUMBER (CONSECUTIVELY NUMBERED ON SHEET OR SECTION ON WHICH DETAIL IS LOCATED)

SHEET ON WHICH SECTION IS FIRST CUT

1 X1.1 X1.1

SHEET ON WHICH SECTION IS LOCATED

SECTION KEY

DETAIL NUMBER (CONSECUTIVELY NUMBERED ON SHEET OR SECTION ON WHICH DETAIL IS LOCATED)

A

DETAIL KEY

LEGEND

W	WATERLINE
	FLOW DIRECTION
	BLIND FLANGE
	FLANGED CONNECTION
	CONTROL VALVE
	CAM LOCK (MALE)
	DRAIN
M	FLOW METER
	PRESSURE GAUGE
	BALL VALVE
	BUTTERFLY VALVE
	GATE VALVE
	CHECK VALVE
	PLUG VALVE
	CALIBRATION COLUMN
	REDUCER
S	SOLENOID VALVE
	PUMP
BFP	BACK FLOW PREVENTER
	VACUUM/ AIR RELEASE
BD	BURST DISK
	SAMPLE PORT
	PRESSURE REGULATING VALVE
BD	BURST DISK

CONTACT 811 BEFORE YOU DIG 811 SAFE DIGGING PARTNER

IMPERIAL VALLEY COLLEGE TTHM TREATMENT SYSTEM

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REGISTERED PROFESSIONAL ENGINEER TERESA A. VALENTINE C 83580 Exp. 3-31-27 CIVIL STATE OF CALIFORNIA

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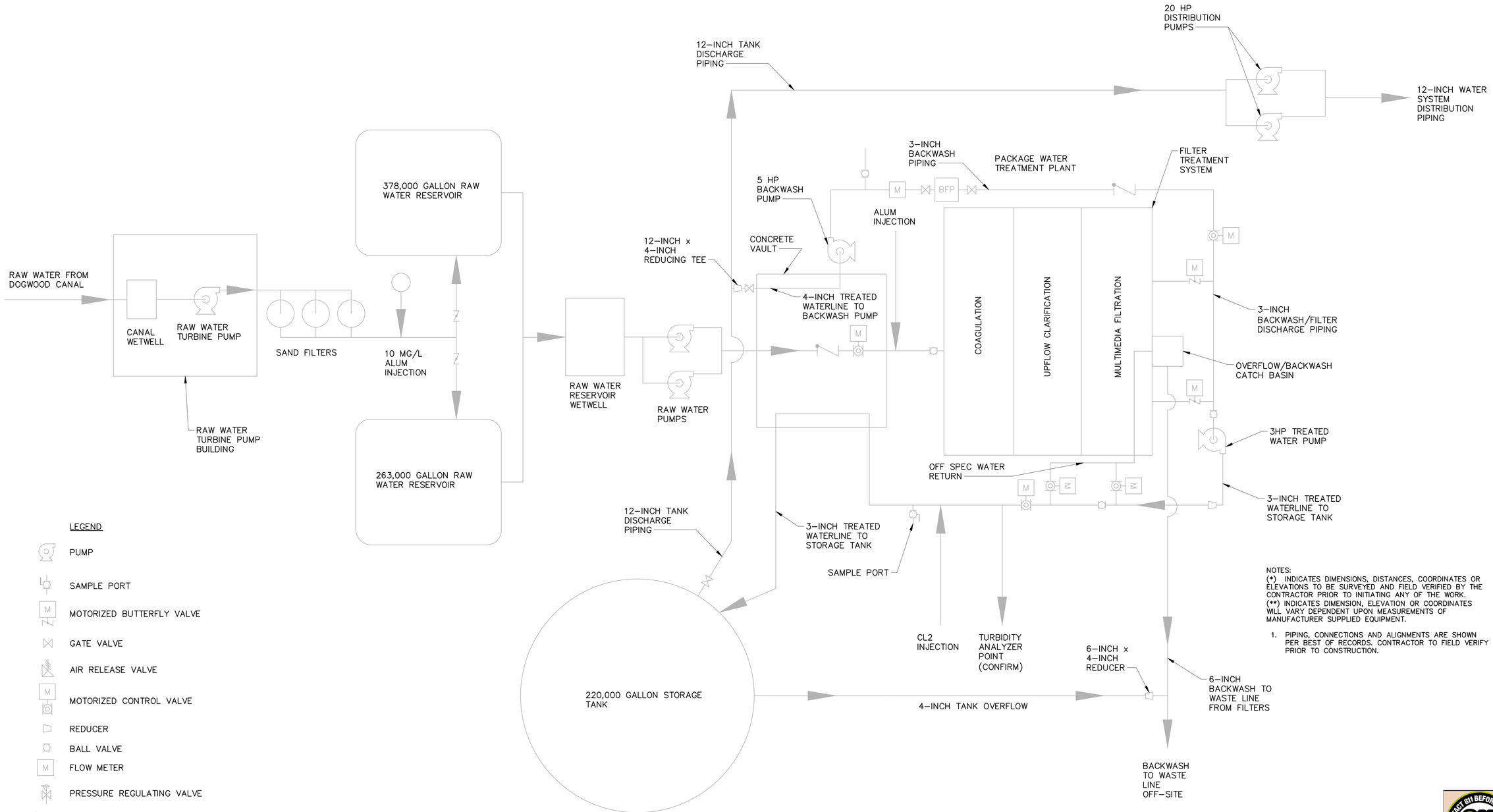
IMPERIAL VALLEY COLLEGE
IMPERIAL COUNTY, CA

TTHM REDUCTION PROJECT
90% SUBMITTAL

GENERAL
IMPERIAL VALLEY COLLEGE TTHM REDUCTION PROJECT
ABBREVIATIONS, SYMBOLS, NOTES
SCALE: NTS

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G2.0
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CAD FILE: G2.0.DWG

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EXISTING PROCESS FLOW DIAGRAM

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IMPERIAL VALLEY COLLEGE TTHM REDUCTION PROJECT EXISTING PROCESS FLOW DIAGRAM

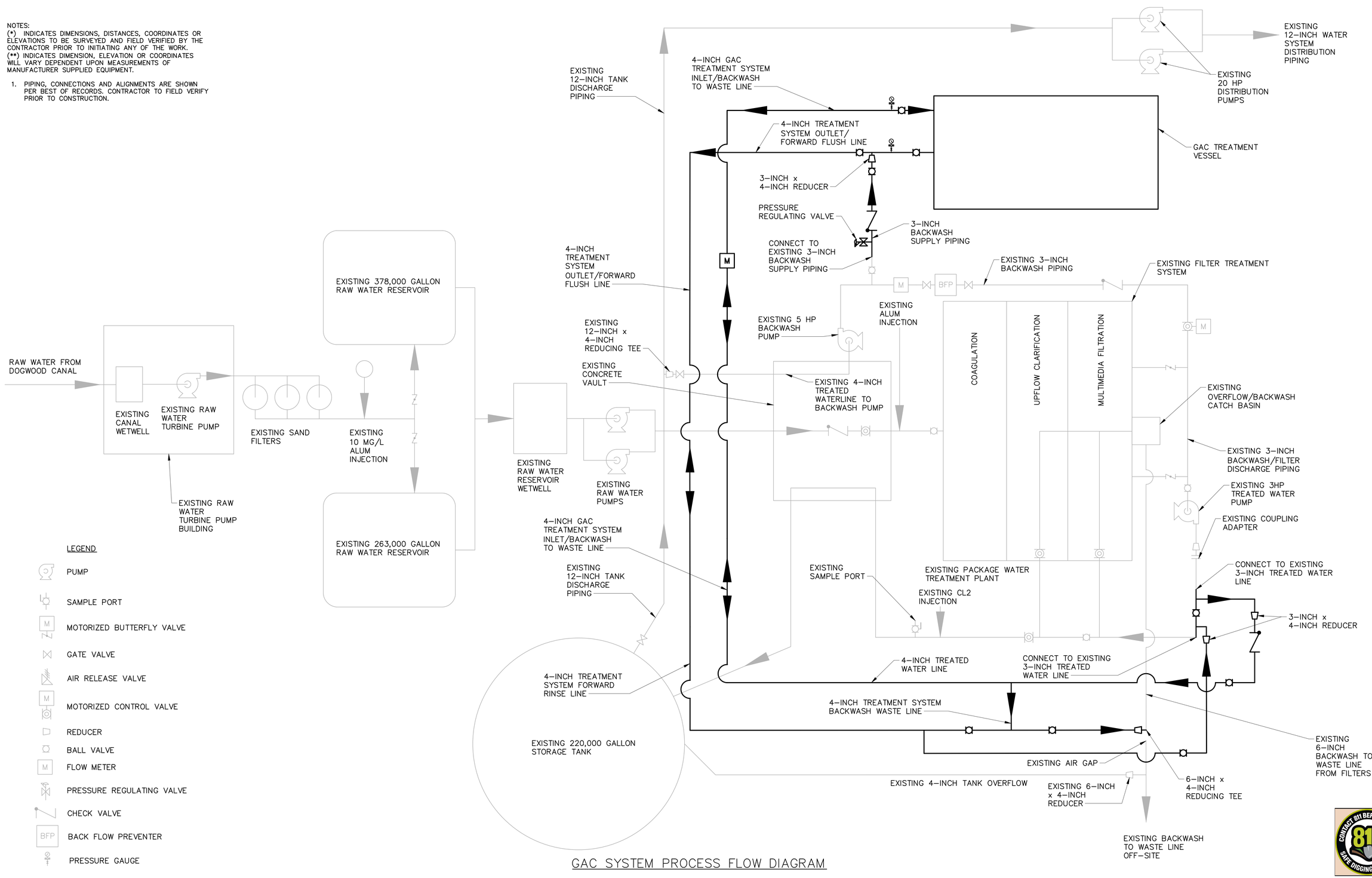
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GAC SYSTEM PROCESS FLOW DIAGRAM

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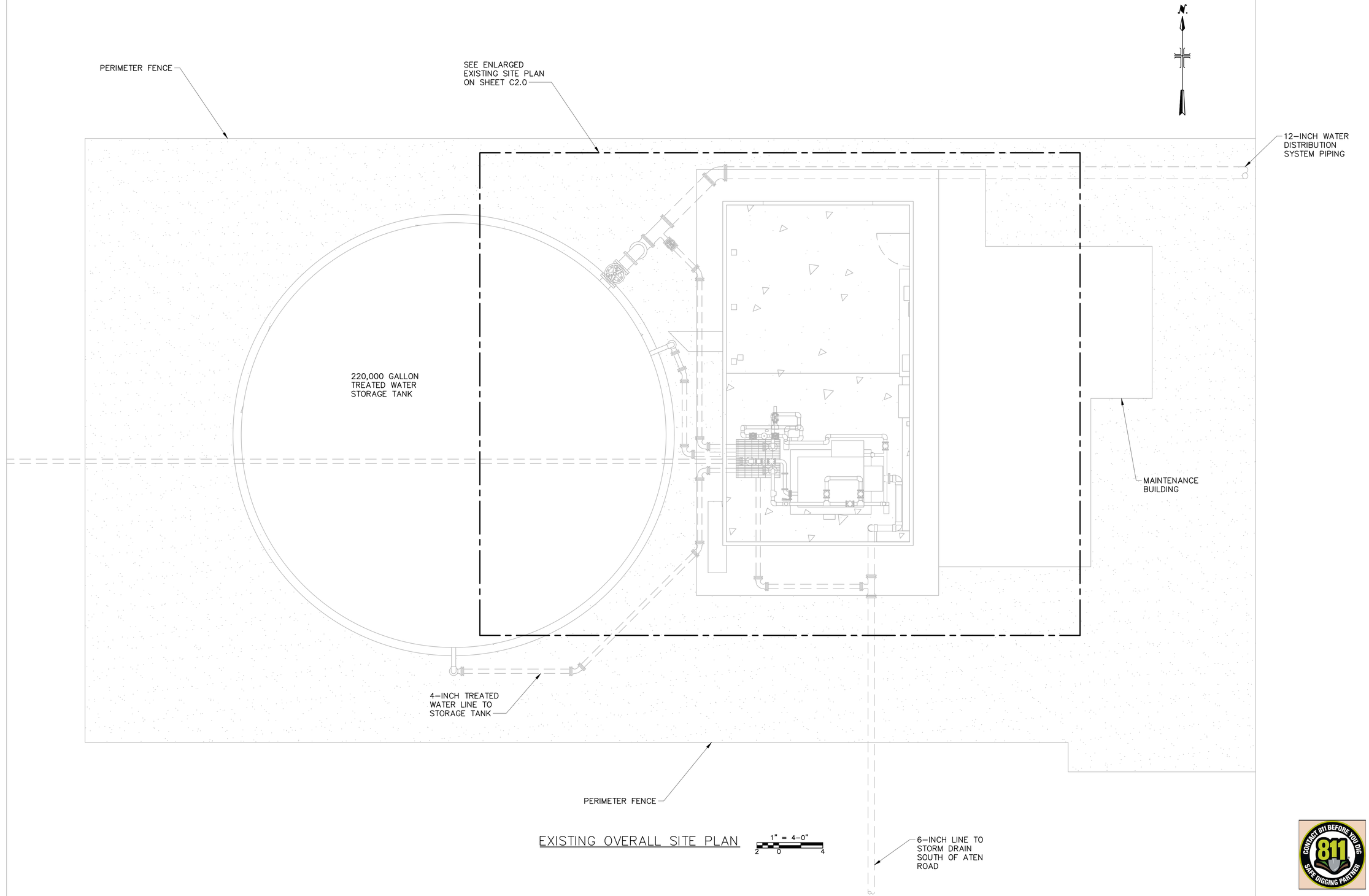
GENERAL

IMPERIAL VALLEY COLLEGE TTHM REDUCTION PROJECT GAC SYSTEM PROCESS FLOW DIAGRAM

SCALE: NONE

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EXISTING OVERALL SITE PLAN

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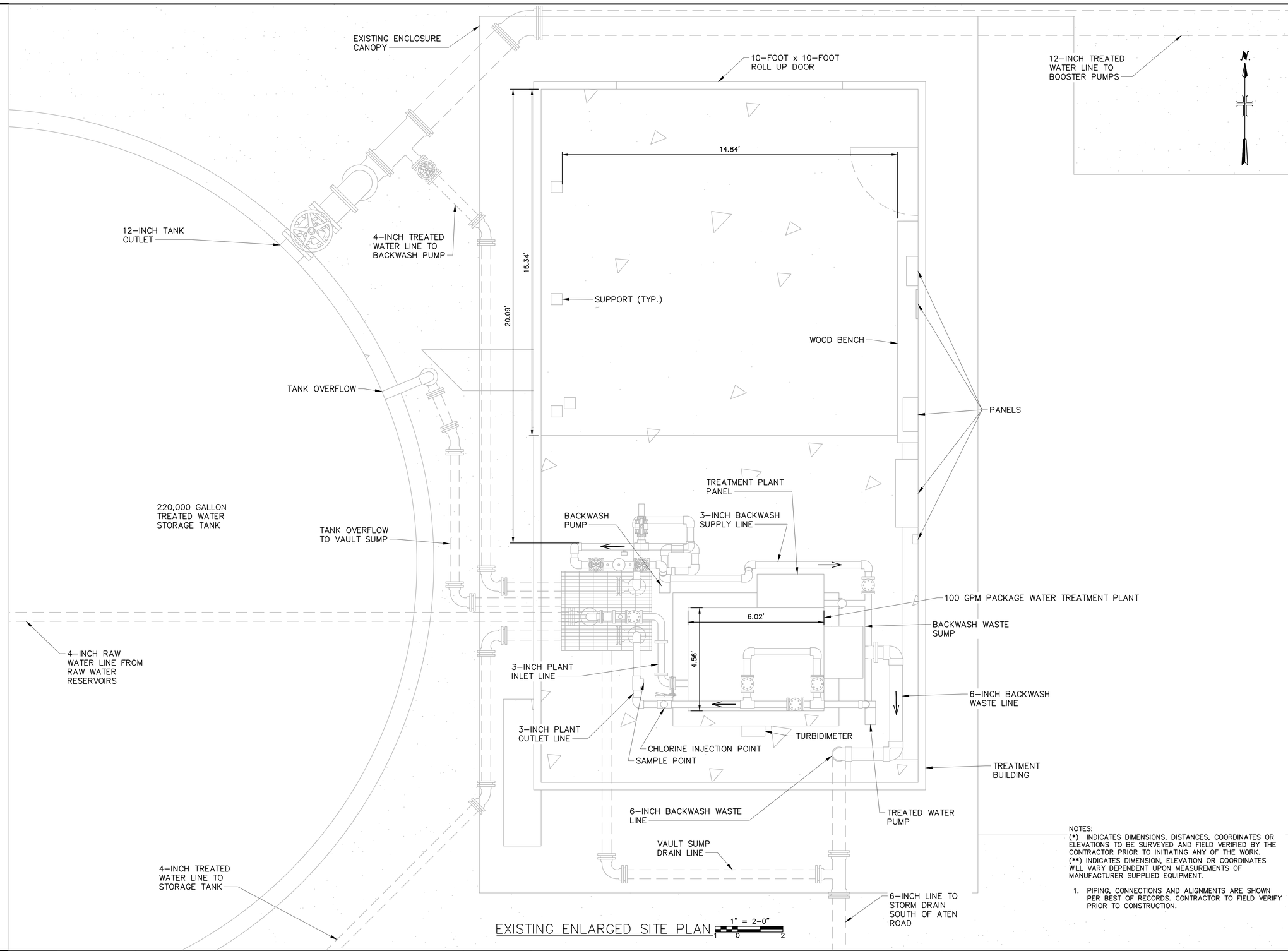
TTHM REDUCTION PROJECT
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CIVIL
IMPERIAL VALLEY COLLEGE TTHM REDUCTION PROJECT
EXISTING OVERALL SITE PLAN
SCALE: 1"=4'

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EXISTING ENLARGED SITE PLAN 1" = 2–0"

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IMPERIAL VALLEY COLLEGE TTHM REDUCTION PROJECT
EXISTING ENLARGED SITE PLAN

SCALE: 1"=2'

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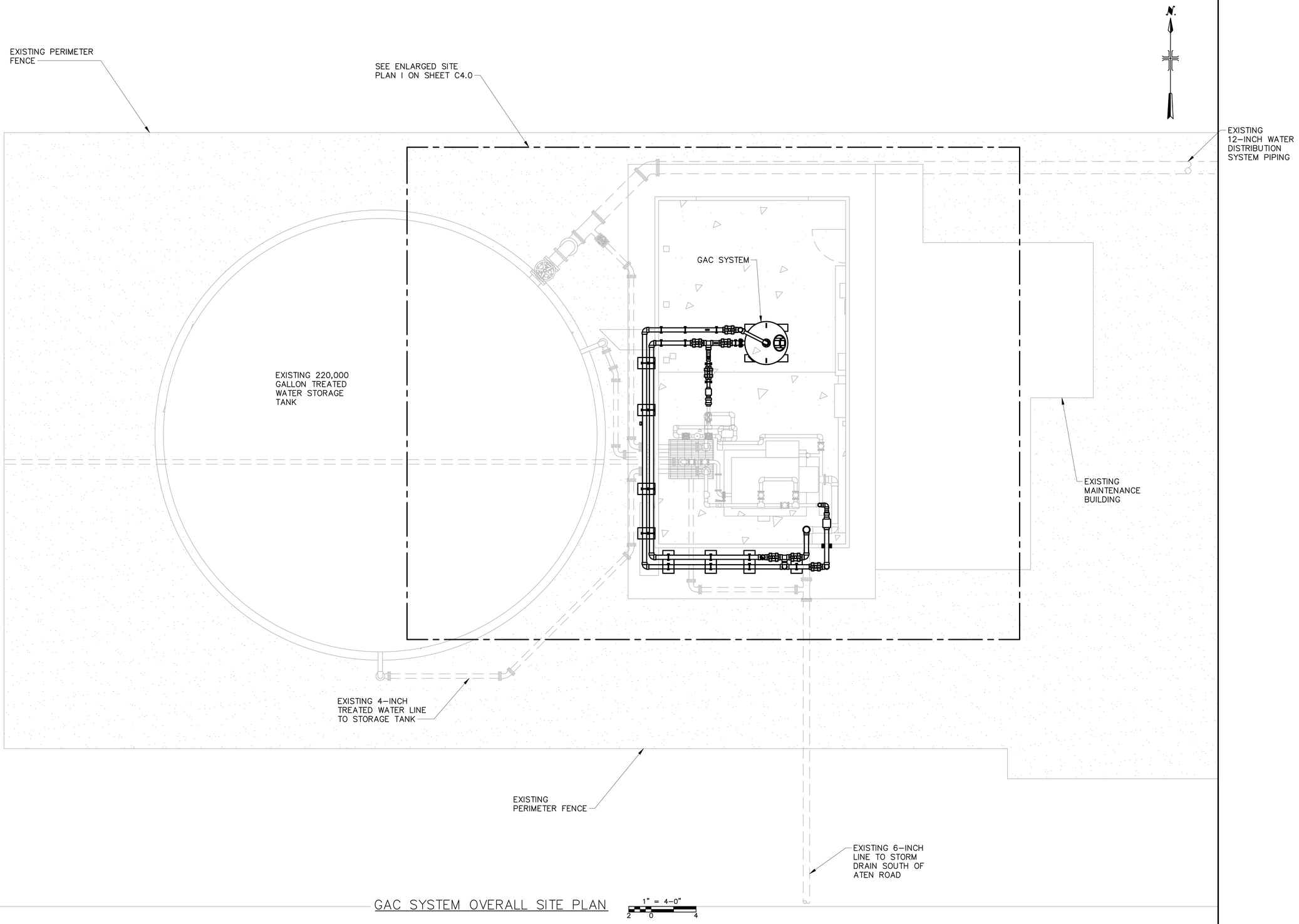
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M2.0

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CAD FILE: M2.0.DWG

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GAC SYSTEM OVERALL SITE PLAN

1" = 4'-0"

2 0 4

IMPERIAL VALLEY COLLEGE TTHM TREATMENT SYSTEM

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IMPERIAL VALLEY COLLEGE TTHM REDUCTION PROJECT
GAC SYSTEM OVERALL SITE PLAN

SCALE: 1"=4'

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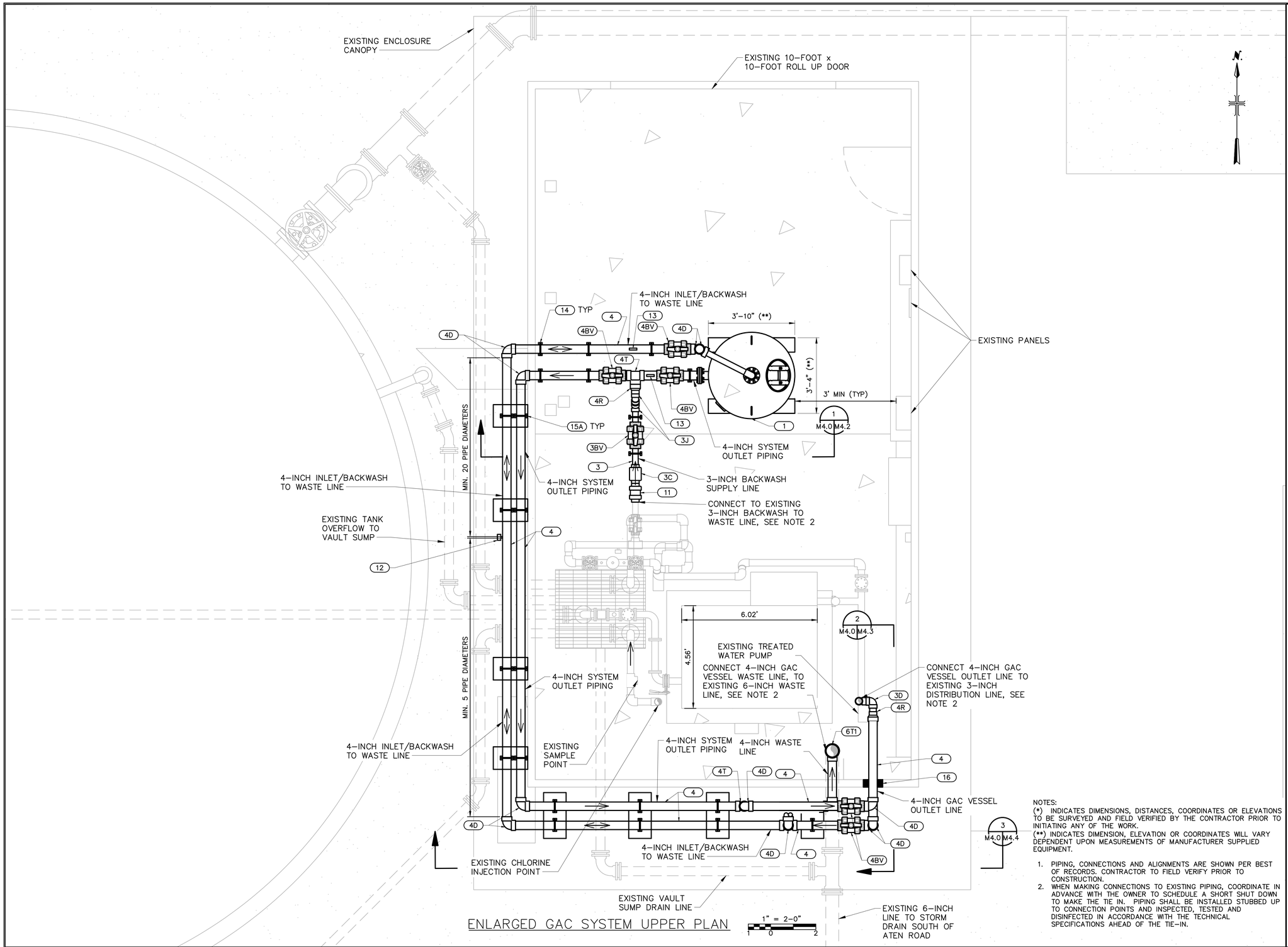
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SHEET 8 OF 14

CAD FILE: M3.0.DWG

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ENLARGED GAC SYSTEM UPPER PLAN

1" = 2'–0"

1 0 2

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2. WHEN MAKING CONNECTIONS TO EXISTING PIPING, COORDINATE IN ADVANCE WITH THE OWNER TO SCHEDULE A SHORT SHUT DOWN TO MAKE THE TIE IN. PIPING SHALL BE INSTALLED STUBBED UP TO CONNECTION POINTS AND INSPECTED, TESTED AND DISINFECTED IN ACCORDANCE WITH THE TECHNICAL SPECIFICATIONS AHEAD OF THE TIE–IN.

CONSTRUCTION NOTES

1	INSTALL OWNER PRE–PURCHASED GAC TREATMENT VESSEL IN ACCORDANCE WITH TECHNICAL SPECIFICATIONS 11001 AND 11555.
3	PROVIDE 3–INCH PIPING
3BV	PROVIDE 3–INCH BALL VALVE
3C	PROVIDE 3–INCH CHECK VALVE
3D	PROVIDE 3–INCH 90° BEND (SOLVENT WELDED)
3J	PROVIDE 3–INCH 45° BEND (SOLVENT WELDED)
4	PROVIDE 4–INCH PIPING
4BV	PROVIDE 4–INCH BALL VALVE
4D	PROVIDE 4–INCH 90° BEND (SOLVENT WELDED)
4R	PROVIDE 4–INCH X 3–INCH REDUCER (SOLVENT WELDED)
4T	PROVIDE 4–INCH X 4–INCH X 4–INCH TEE (SOLVENT WELDED)
6T1	PROVIDE 6–INCH X 6–INCH X 4–INCH REDUCING TEE (SOLVENT WELDED)
11	PROVIDE PRESSURE REGULATING VALVE
12	PROVIDE GF SIGNET TYPE 515 ROTOR–X PADDLEWHEEL FLOW SENSOR MODEL P51530–P0 AND GF SIGNET 8150 BATTERY POWERED FLOW TOTALIZER
13	PROVIDE PRESSURE GAUGE, SEE DETAIL 3 ON SHEET M5.0
14	PROVIDE U–BOLT PIPE SUPPORT ON SLAB, SEE DETAIL 2 ON SHEET M5.0
15A	PROVIDE U–BOLT PIPE SUPPORT ON GRADE, SEE DETAIL 1 ON SHEET M5.0
16	CONTRACTOR SHALL CORE OPENING FOR PIPE SLEEVE AND PROVIDE GROUT BETWEEN ANNULAR SPACE AND PIPE

IMPERIAL VALLEY COLLEGE TTHM TREATMENT SYSTEM

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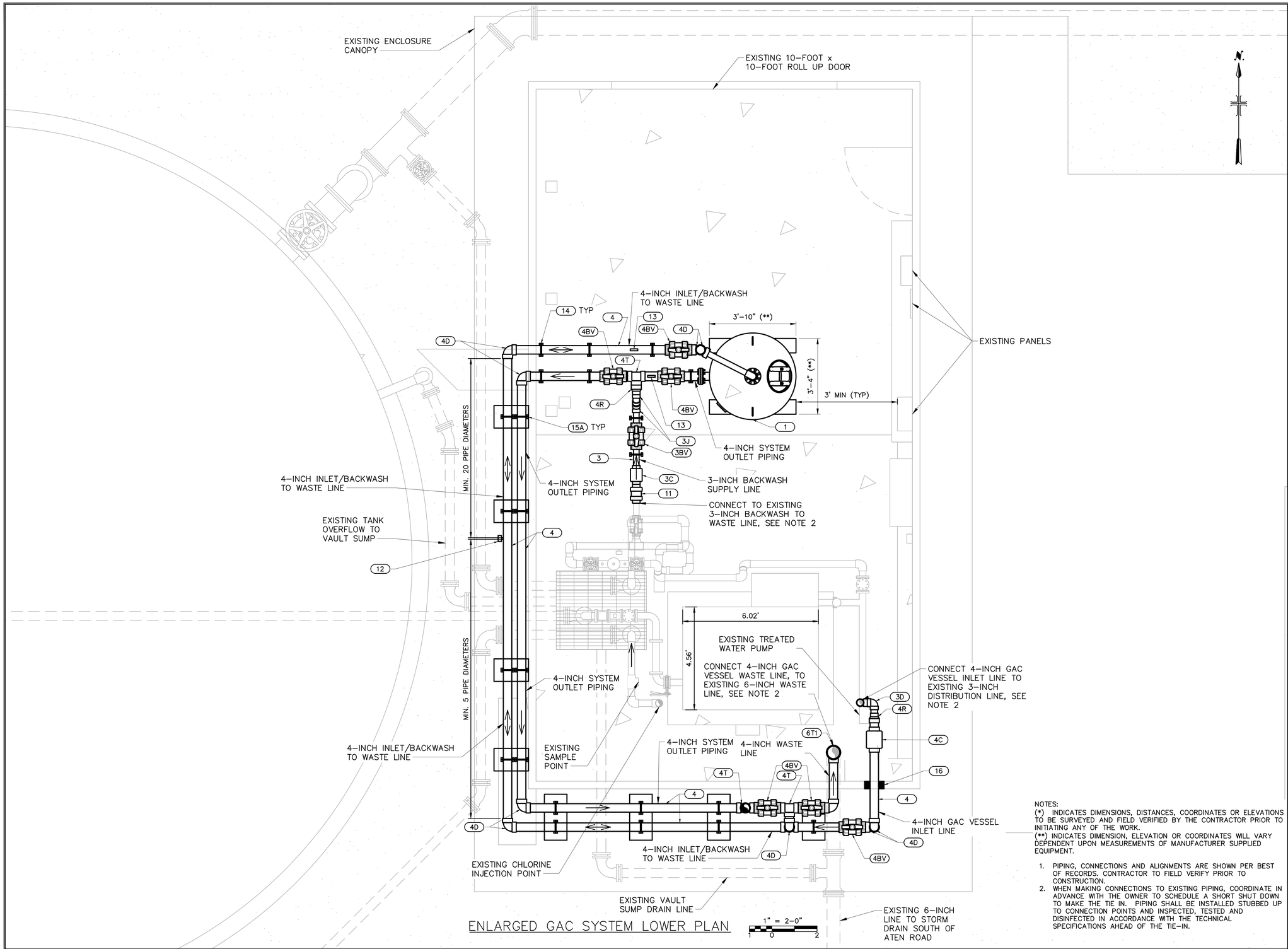
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IMPERIAL COUNTY, CA

TTHM REDUCTION PROJECT
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IMPERIAL VALLEY COLLEGE TTHM REDUCTION PROJECT
ENLARGED GAC SYSTEM UPPER PLAN
SCALE: 1"=2'

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ENLARGED GAC SYSTEM LOWER PLAN

1" = 2'–0"

CONSTRUCTION NOTES

1. INSTALL OWNER PRE–PURCHASED GAC TREATMENT VESSEL IN ACCORDANCE WITH TECHNICAL SPECIFICATIONS 11001 AND 11555.
3. PROVIDE 3–INCH PIPING
3BV. PROVIDE 3–INCH BALL VALVE
3C. PROVIDE 3–INCH CHECK VALVE
3D. PROVIDE 3–INCH 90° BEND (SOLVENT WELDED)
3J. PROVIDE 3–INCH 45° BEND (SOLVENT WELDED)
4. PROVIDE 4–INCH PIPING
4BV. PROVIDE 4–INCH BALL VALVE
4C. PROVIDE 4–INCH CHECK VALVE
4D. PROVIDE 4–INCH 90° BEND (SOLVENT WELDED)
4R. PROVIDE 4–INCH X 3–INCH REDUCER (SOLVENT WELDED)
4T. PROVIDE 4–INCH X 4–INCH X 4–INCH TEE (SOLVENT WELDED)
6T1. PROVIDE 6–INCH X 6–INCH X 4–INCH REDUCING TEE (SOLVENT WELDED)
11. PROVIDE PRESSURE REGULATING VALVE
12. PROVIDE GF SIGNET TYPE 515 ROTOR–X PADDLEWHEEL FLOW SENSOR MODEL P51530–P0 AND GF SIGNET 8150 BATTERY POWERED FLOW TOTALIZER
13. PROVIDE PRESSURE GAUGE, SEE DETAIL 3 ON SHEET M5.0
14. PROVIDE U–BOLT PIPE SUPPORT ON SLAB, SEE DETAIL 2 ON SHEET M5.0
15A. PROVIDE U–BOLT PIPE SUPPORT ON GRADE, SEE DETAIL 1 ON SHEET M5.0
16. CONTRACTOR SHALL CORE OPENING FOR PIPE SLEEVE AND PROVIDE GROUT BETWEEN ANNULAR SPACE AND PIPE

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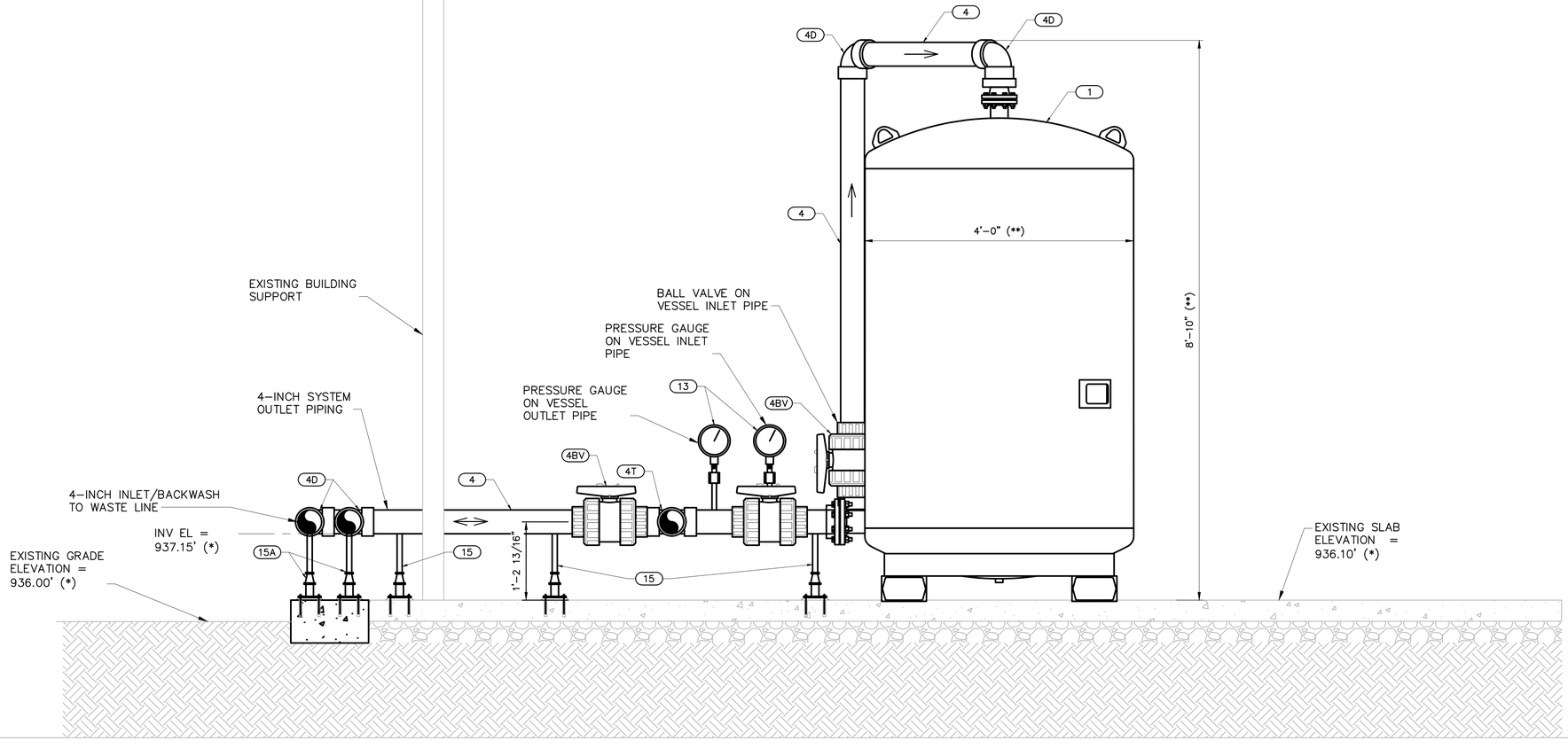
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IMPERIAL COUNTY, CA

TTHM REDUCTION PROJECT
90% SUBMITTAL

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ENLARGED GAC SYSTEM LOWER PLAN
SCALE: 1"=2'

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GAC TREATMENT SYSTEM SECTION I (1 / M4.0 | M4.2)

SCALE: 1" = 1'–0"

0.5 0 1

CONSTRUCTION NOTES

(1) INSTALL OWNER PRE–PURCHASED GAC TREATMENT VESSEL IN ACCORDANCE WITH TECHNICAL SPECIFICATIONS 11001 AND 11555.

(4) PROVIDE 4–INCH PIPING

(4BV) PROVIDE 4–INCH BALL VALVE

(4D) PROVIDE 4–INCH 90° BEND (SOLVENT WELDED)

(4T) PROVIDE 4–INCH X 4–INCH X 4–INCH TEE (SOLVENT WELDED)

(13) PROVIDE PRESSURE GAUGE, SEE DETAIL 4 ON SHEET M5.0

(14) PROVIDE U–BOLT PIPE SUPPORT ON SLAB, SEE DETAIL 2 ON SHEET M5.0

(15A) PROVIDE U–BOLT PIPE SUPPORT ON GRADE, SEE DETAIL 1 ON SHEET M5.0

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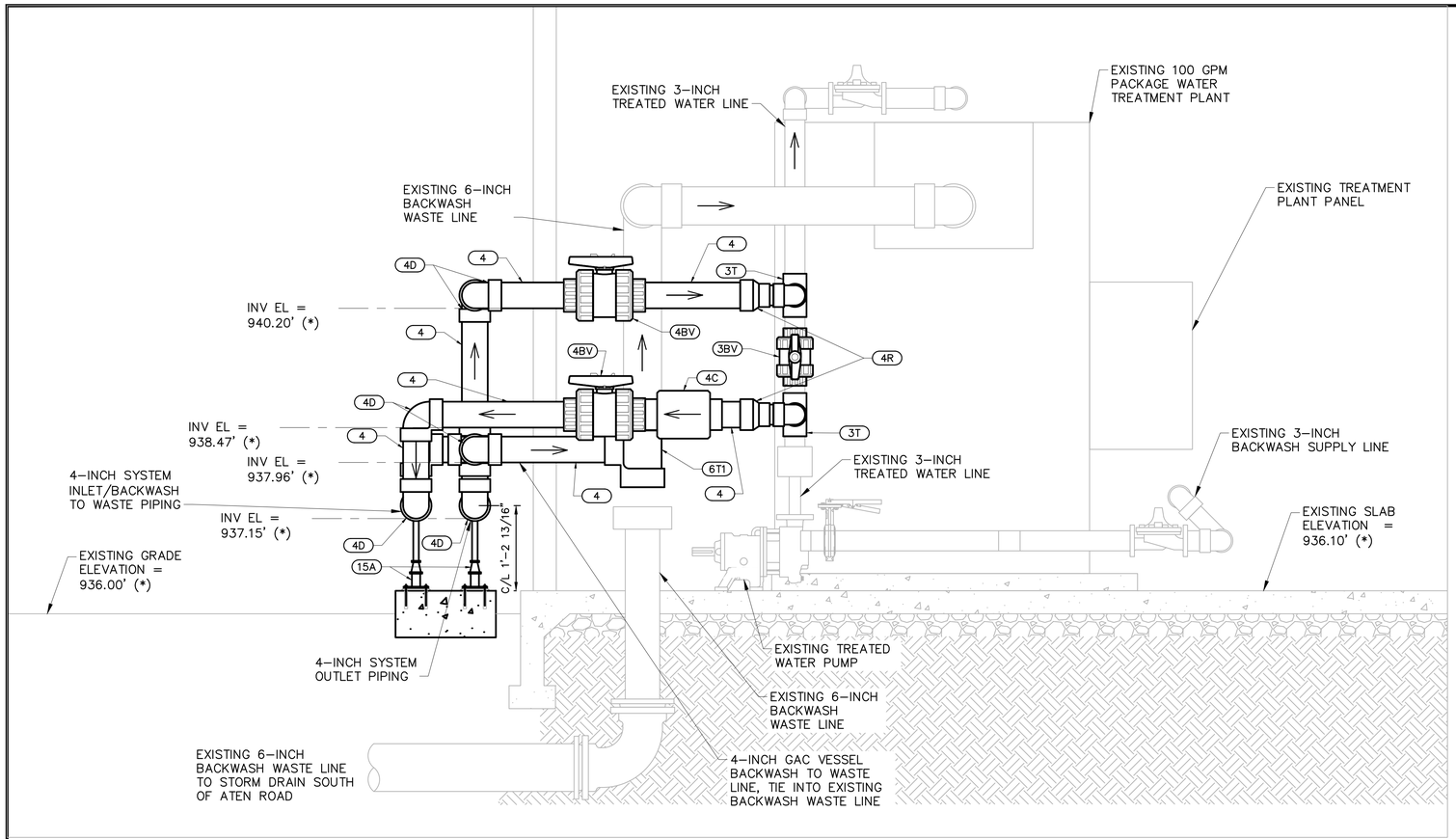
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IMPERIAL COUNTY, CA

TTHM REDUCTION PROJECT
90% SUBMITTAL

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IMPERIAL VALLEY COLLEGE TTHM REDUCTION PROJECT
GAC TREATMENT SYSTEM SECTION I
SCALE: 1"=1'–0"

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GAC TREATMENT SYSTEM SECTION II (2 / M4.0 | M4.3)

SCALE:
1" = 1'–0"
0.5 0 1

CONSTRUCTION NOTES

- (3BV) PROVIDE 3–INCH BALL VALVE
- (3T) PROVIDE 3–INCH X 3–INCH X 3–INCH TEE (SOLVENT WELDED)
- (4) PROVIDE 4–INCH PIPING
- (4BV) PROVIDE 4–INCH BALL VALVE
- (4C) PROVIDE 4–INCH CHECK VALVE
- (4D) PROVIDE 4–INCH 90° BEND (SOLVENT WELDED)
- (4R) PROVIDE 4–INCH X 3–INCH REDUCER (SOLVENT WELDED)
- (6T1) PROVIDE 6–INCH X 6–INCH X 4–INCH REDUCING TEE (SOLVENT WELDED)
- (15A) PROVIDE U–BOLT PIPE SUPPORT ON GRADE, SEE DETAIL 1 ON SHEET M5.0

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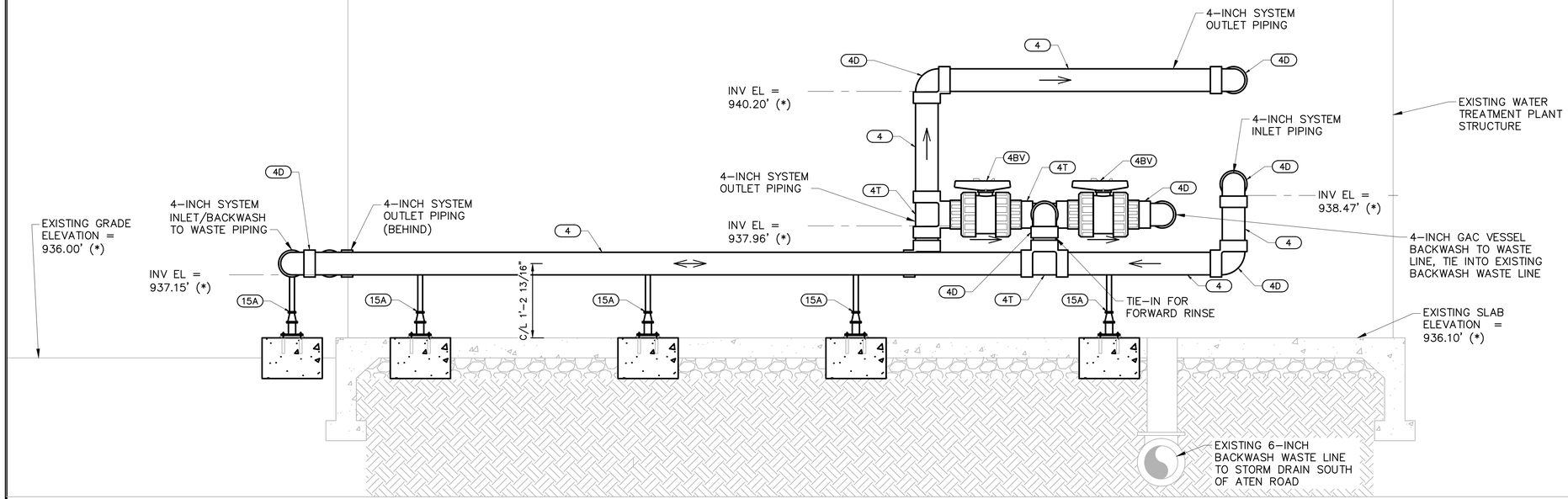
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IMPERIAL COUNTY, CA

TTHM REDUCTION PROJECT
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GAC TREATMENT SYSTEM SECTION II
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GAC TREATMENT SYSTEM SECTION III 3 M4.0 M4.4

SCALE: 1" = 1'-0"
0.5 0 1

CONSTRUCTION NOTES

- (4) PROVIDE 4-INCH PIPING
- (4BV) PROVIDE 4-INCH BALL VALVE
- (4D) PROVIDE 4-INCH 90° BEND (SOLVENT WELDED)
- (4T) PROVIDE 4-INCH X 4-INCH X 4-INCH TEE (SOLVENT WELDED)
- (15A) PROVIDE U-BOLT PIPE SUPPORT ON GRADE, SEE DETAIL 1 ON SHEET M5.0

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2. WHEN MAKING CONNECTIONS TO EXISTING PIPING, COORDINATE IN ADVANCE WITH THE OWNER TO SCHEDULE A SHORT SHUT DOWN TO MAKE THE TIE IN. PIPING SHALL BE INSTALLED STUBBED UP TO CONNECTION POINTS AND INSPECTED, TESTED AND DISINFECTED IN ACCORDANCE WITH THE TECHNICAL SPECIFICATIONS AHEAD OF THE TIE-IN.

CONTACT 811 BEFORE YOU DIG — SAFE DIGGING PARTNER

IMPERIAL VALLEY COLLEGE TTHM TREATMENT SYSTEM

VALENTINE
Environmental Engineers, LLC
15845 South 46th Street, Suite 144 Phoenix, Arizona 85048
Phone: (480) 283 - 8991 Fax: (480) 283 - 0082

REGISTERED PROFESSIONAL ENGINEER — TERESA A. VALENTINE — C 83580 — Exp. 3-31-27 — CIVIL — STATE OF CALIFORNIA

REVISIONS			
NO.	BY	DATE	REMARKS

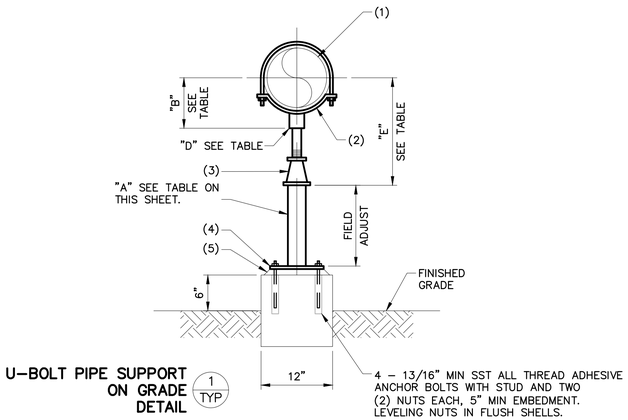
DES RO
DWN DC
CKD TAV

IMPERIAL VALLEY COLLEGE
IMPERIAL COUNTY, CA
TTHM REDUCTION PROJECT
90% SUBMITTAL

CIVIL
IMPERIAL VALLEY COLLEGE TTHM REDUCTION PROJECT
GAC TREATMENT SYSTEM SECTION III
SCALE: 1"=1'-0"

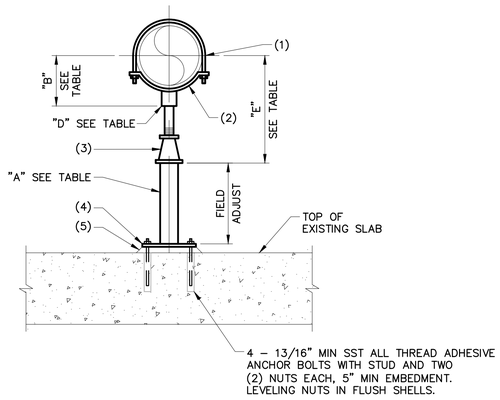
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DATE: OCTOBER 2025
M4.4
SHEET 13 OF 14
CAD FILE: M4.4.DWG

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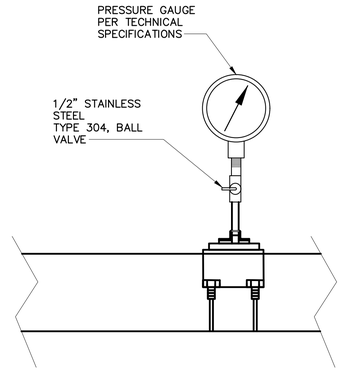
U–BOLT PIPE SUPPORT ON GRADE DETAIL (1 TYP)

SCALE: NTS



U–BOLT PIPE SUPPORT ON SLAB DETAIL (2 TYP)

SCALE: NTS



PRESSURE GAUGE DETAIL (3 TYP)

SCALE: NTS

NOTES:

1. PIPE DIAMETER, SEE MECHANICAL PLANS.
2. PIPE SADDLE SUPPORT W/U–BOLT, GRINNELL FIG 259 OR EQUAL.
3. ADJUSTABLE PIPE SUPPORT, GRINNELL FIG 264 OR EQUAL.
4. 1/2"x 9"x 9" STEEL PLATE.
5. 1" NON–SHRINK LEVELING GROUT, AS REQUIRED.

ADJUSTABLE PIPE SADDLE SUPPORT TABLE

PIPE SIZE	A (STEEL PIPE)	B	C (STEEL PLATE)	D	E	
					MIN.	MAX.
4"	3"	4 1/4"	9"	2 1/2"	9 1/4"	14"
6"	3"	5 1/2"	9"	2 1/2"	10 1/2"	15 1/4"
8"	3"	6 7/8"	9"	2 1/2"	11 3/4"	16 1/2"
10"	3"	8 1/2"	9"	2 1/2"	13 1/2"	18 1/4"
12"	3"	9 15/16"	9"	2 1/2"	15"	19 3/4"

DETAILS

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REGISTERED PROFESSIONAL ENGINEER TERESA A. VALENTINE C 83580 Exp. 3-31-27 CIVIL STATE OF CALIFORNIA

PRELIMINARY

REVISIONS

NO.	BY	DATE	REMARKS

DES RO
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IMPERIAL VALLEY COLLEGE
IMPERIAL COUNTY, CA

TTHM REDUCTION PROJECT
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CIVIL

IMPERIAL VALLEY COLLEGE TTHM REDUCTION PROJECT
DETAILS

SCALE: AS NOTED

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M5.0

SHEET 14 OF 14

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