

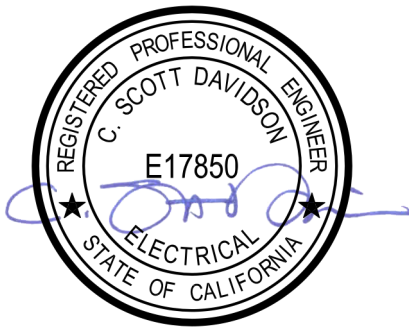
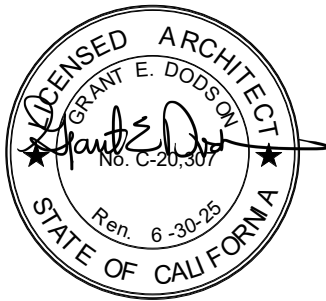
PROJECT MANUAL FOR

**MENDOTA ELEMENTARY SCHOOL – INC. NO. 01:
SITEWORK FOR MODULAR
CLASSROOM BUILDINGS****MENDOTA UNIFIED SCHOOL DISTRICT
115 MCCABE AVE
MENDOTA, CA 93640**

PREPARED BY:

DARDEN ARCHITECTS, INC.
ARCHITECTURE•PLANNING•INTERIORS
6790 N. WEST AVENUE
FRESNO, CALIFORNIA 93711

IDENTIFICATION STAMP DIV. OF THE STATE ARCHITECT		
APP: 02-122955 INC: 01		
REVIEWED FOR		
SS ☒	FLS ☒	ACS ☒
DATE: 05/28/2025		



END OF SECTION

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END OF SECTION

NOTICE TO CONTRACTORS

Notice is hereby given that **MENDOTA UNIFIED SCHOOL DISTRICT**, (hereinafter referred to as "Owner") will receive sealed lump sum bids prior to the date and time stated for the Bid Opening for construction of:

MENDOTA ELEMENTARY SCHOOL – SITEWORK FOR MODULAR CLASSROOM BUILDINGS

as per drawings and specifications which may be obtained from the Architect

DARDEN ARCHITECTS, INC.
6790 N. West Avenue
Fresno, California 93711
(559) 448-8051

on the following basis:

1. Deposit of **(\$500.00)**, refundable when drawings and specifications are returned in good condition as indicated in the "Instructions to Bidders". Along with the Deposit check, provide the following information:
 - a. Organization/Contact Person
 - b. Mailing address or P.O.Box Number
 - c. Phone Number
 - d. FAX Number
2. Electronic Bid Documents are available at no cost.
3. Contract Documents will also be issued to various Builders Exchanges.
4. No partial sets or individual sheets will be issued or sold.

Time of completion for this project is to be within **Three Hundred (300) calendar days** from the date established in the Owner's Notice to the Contractor to Proceed.

A **Non-Mandatory** Pre-Bid Bidder's Conference and walk-thru will be held on **April 4th, 2025 at 9:00 a.m.** at **Mendota Elementary School**, located at **605 Bass Ave, Mendota, California** for the purpose of acquainting all prospective bidders (and mandatory for any Abatement Subcontractors/Bidders) with the bid documents and work sites. Once the Pre-Bid Bidder's Conference is finished, the Pre-Bid walk-thru will occur. Whether or not bidders attend a non-mandatory conference and walk-thru, all bidders will be deemed to have notice of all conditions and information which bidders could have learned or obtained by attending the non-mandatory conference and walk-thru.

This project is subject to prequalification pursuant to Public Contract Code section 20111.6.

Bids will be sealed and filed in the Business Office of the Owner

MENDOTA UNIFIED SCHOOL DISTRICT
115 MCCABE AVE
MENDOTA, CA 93640

before **2:00 p.m.** on **April 22nd, 2025.**

The *DVBE Declaration of Good Faith Efforts* to Use Disabled Veteran Business Enterprises must be signed and filed in the Business Office of the Owner before **2:00 p.m.** on **April 22nd, 2025**, at which time the bids (including the Declaration of Good Faith Efforts to Use Disabled Veteran Business Enterprises) will be opened in public.

Bids will be opened in public at the Business Office of the Owner

MENDOTA UNIFIED SCHOOL DISTRICT
115 MCCABE AVE,
MENDOTA, CA 93640

Bids must be accompanied by a bidder's bond, cashier's check, or certified check for at least ten per cent (10%) of the amount of the base bid and made payable to the Owner, issued by an Admitted Surety (an insurance organization authorized by the Insurance Commissioner to transact business of insurance in the State of California during this calendar year), which shall be given as a guarantee that the bidder will enter into a contract if awarded the work and will be declared forfeited, paid to, or retained by the Owner as liquidated damages if the bidder refuses or neglects to enter into the contract provided by the Owner after being requested to do so.

The successful bidder will be required to furnish a Payment (Labor and Material) Bond in the amount of one hundred per cent (100%) of the contract price, and a Faithful Performance Bond in the amount of one hundred per cent (100%) of the contract price, said bonds to be secured from an Admitted Surety (an insurance organization authorized by the Insurance Commissioner to transact business of insurance in the State of California during this calendar year), and satisfactory to the Owner. The bidder will be required to give satisfactory proof to the Owner of the maintenance of Public Liability and Property Damage Insurance in an amount with a combined single limit of not less than **\$1,200,000** per occurrence.

The successful bidder will be allowed to substitute securities or establish an escrow in lieu of retainage, pursuant to Public Contract Code Section 22300, and as described in the Agreement Form.

The Owner will not consider or accept any bids from contractors who are not licensed to do business in the State of California, in accordance with the California Public Contract Code, providing for the licensing of contractors. In accordance with Section 3300 of said Code, the Contractor shall have a Class **B** license.

The Director of the Department of Industrial Relations of the State of California, in the manner provided by law, has ascertained the general prevailing rate of per diem wages and rate for legal holidays and overtime work as set forth in the Agreement and General Conditions. The Contractor must pay for any labor therein described or classified in an amount not less than the rates specified. Copies of the required rates are on file at the Owner's business office and are available- to any interested party on request.

Public works projects shall be subject to compliance monitoring and enforcement by the Department of Industrial Relations. For all projects over Twenty-Five Thousand Dollars (\$25,000), a contractor or subcontractor shall not be qualified to submit a bid or to be listed in a bid proposal subject to the requirements of Public Contract Code section 4104 unless currently registered and qualified under Labor Code section 1725.5 to perform public work as defined by Division 2, Part 7, Chapter 1 (§§1720 et seq.) of the Labor Code. For all projects over Twenty-Five Thousand Dollars (\$25,000), a contractor or subcontractor shall not be qualified to enter into, or engage in the performance of, any contract of public work (as defined by Division 2, Part 7, Chapter 1 (§§1720 et seq.) of the Labor Code) unless currently registered and qualified under Labor Code section 1725.5 to perform public work and proof of registration is provided.

For all projects over Twenty-Five Thousand Dollars (\$25,000), the bidder shall state the public works contractor registration number on the Designation of Subcontractors form for each subcontractor performing more than one-half of one percent (0.5%) of the bidder's total bid.

All contractors on public works projects over \$1,000.00 are required to submit Electronic Certified Payroll Records.

The Owner reserves the right to waive any irregularity and to reject any or all bids.

Unless otherwise required by law, no bidder may withdraw its bid for a period of sixty (60) days after date set for the opening thereof.

Dated: March 27th, 2025

By: **Jose Alcaide**

Chief Financial Officer

Advertise: March 27th, 2025
April 3rd, 2025

END OF SECTION

INSTRUCTIONS TO BIDDERS**SECURING DOCUMENTS:**

Drawings and Specifications are available at:

DARDEN ARCHITECTS, INC.
6790 N. West Avenue
Fresno, California 93711
(559) 448-8051

DEPOSIT:

A deposit of **Five Hundred (\$500.00)** is required of each bidder securing Contract Documents. This deposit is a guarantee that the Contract Documents will be returned in good condition within fifteen (15) calendar days from the bid date. If the Contract Documents have not been returned within fifteen (15) calendar days of the bid date, the bidder's deposit will be forfeited.

A minimal charge (a two-hour minimum) will be charged to those bidders whose sets are not in GOOD CONDITION, in order to return the BID DOCUMENTS to their original condition prior to bid.

PROPOSALS:

Proposals to receive consideration shall be made in accordance with the following instructions:

1. Proposals shall be made on a form therefore, obtained from the Architect or Owner. Bids not made on the proper form shall be disregarded. All items on the Bid Proposal Form shall be filled out. Numbers must be stated in words and figures, and the signatures of all individuals must be in longhand. The completed form should be without interlineations, alterations, or erasures.
2. No proposal will be considered which makes exceptions, changes, or in any manner makes reservations to the terms of the drawings or specifications, except that explanations or alternate proposals may be made on a separate sheet attached to the bid form. They will not, however, be considered in determining low bid.
3. Questions regarding documents, discrepancies, omissions, or doubt as to meanings shall be referred immediately to the Architect who will send written instructions clarifying such questions to each bidder. Oral responses will not be binding on Owner or Architect.
4. Each bid must give the full business address of the bidder, and the name of each person signing shall also be typed or printed below the signature. Bids by individuals must be signed by the individual. Bids by partnerships must furnish the full names of all partners and must be signed in the partnership name by one of the partners, or by an authorized representative, followed by the signature and designation of the person signing. Bid by corporations must be signed with the legal name of the corporation, followed by the name of the state of incorporation and by the signature and designation of the president, secretary, or other person authorized to bind the corporation in the matter. Satisfactory evidence of the authority of the officer signing on behalf of a corporation shall be attached.
5. Pursuant to the provisions of Sections §4100 to §4114, inclusive, of the Public Contract Code of the State of California, which are hereby incorporated and made a part hereof, every bidder shall, utilizing the Owner's Designation of Subcontractors form, set forth in its bid:
 - A. The name and location of the place of business of each subcontractor who will perform work or labor or render service to the 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 specifications, in an amount in excess of one-half (1/2) of one percent (1 percent) of the bidder's total bid.
 - B. The portion of the work which will be done by each such subcontractor. If the bidder fails to specify a subcontractor for any portion of the work to be performed under the contract in excess of one-half (1/2)

of one percent (1 percent) of the bidder's total bid, the bidder agrees to perform that portion itself. The successful bidder shall not, without the consent of the Owner:

- 1) Substitute any person as subcontractor in place of the subcontractor designated in the original bid.
 - 2) Permit any subcontract to be assigned or transferred or allow it to be performed by anyone other than the original subcontractor listed in the bid.
 - 3) Sublet or subcontract any portion of the work in excess of one-half (1/2) of one percent (1 percent) of the total bid as to which the original bid did not designate a subcontractor.
6. All proposals must be accompanied by a completed Non collusion Declaration. Only one Noncollusion Declaration need be filed even if the bidder is bidding more than one possible project. The bidder must certify that the Bid is genuine and is not sham or collusive, or made in the interest of or on behalf of any bidder not named in the bid, and that the bidder has not directly or indirectly induced or solicited any other bidder to put in a sham bid, or any other possible bidder to refrain from bidding, and that the bidder has not in any manner sought by collusion to secure for itself an advantage over any other bidder.
7. Proposals must be accompanied by a certified check, cashier's check, or bidder's bond, for an amount not less than ten percent (10 percent) of the amount of the base bid, made payable to the order of the Owner. If a bidder's bond accompanies the proposal, said bond shall be secured by an Admitted Surety (an insurance organization authorized by the Insurance Commissioner to transact business of insurance in the State of California during this calendar year) and satisfactory to the Owner. Said check or bond shall be given as a guarantee that the bidder will enter into the contract if awarded the work, and in case of refusal or failure to enter into said contract, the check or bond, as the case may be, shall be payable to the Owner and retained as liquidated damages. If the bid security exceeds ten percent (10 percent) of the actual contract awarded, because the bidder bid on more than one possible project, liquidated damages will be limited to ten percent (10 percent) of the actual contract awarded, and the remainder will be left uncashed or returned to the bidder.
8. Proposals shall be sealed and filed as indicated in the Notice to Contractors. Note regarding facsimiles: EXCEPT FOR BID SECURITY, all submitted before the bid opening documents may be in the form of facsimiles which have been sent elsewhere and sealed before filing with the Owner. (Any bidder who uses or attempts to use the Owner's facsimile equipment will be disqualified immediately.) The originals of the faxed documents must be mailed to the Owner, postmarked the same as the bid opening, via certified mail, return receipt requested, or hand-delivered to the Owner by the close of business on the day of the bid opening.

PREVAILING WAGE RATES; REGISTRATION:

The Contractor shall post at appropriate conspicuous weatherproof points on the site of the Project a schedule showing the Prevailing Wage Determinations published by the Director of the California Department of Industrial Relations that are applicable to the Project.

For all projects over Twenty-Five Thousand Dollars, (\$25,000), the Owner shall not accept any bid or enter into any contract without proof of the bidder's current registration to perform public work under Labor Code section 1725.5.

For all projects over Twenty-Five Thousand Dollars, (\$25,000), the bidder shall not accept any subbid or enter into any subcontract without proof of the subcontractor's current registration to perform public work under Labor Code section 1725.5.

COMPLIANCE WITH EDUCATION CODE SECTION §45125.2

The Contractor shall be required to satisfy the conditions set forth in the Contract and EDUCATION CODE SECTION §45125.2 regarding fingerprinting requirements and student safety prior to permitting any contact with students. Upon award of the contract and before beginning work, the Contractor shall be required to provide a verification of compliance with the student safety provisions of the Contract and EDUCATION CODE SECTION §45125.2.

BIDDERS MUST COMPLETE, EXECUTE AND SUBMIT WITH THEIR BIDS THE DECLARATION OF GOOD FAITH EFFORTS TO USE DISABLED VETERAN BUSINESS ENTERPRISES (DVBE)

Refer to the DVBE Declaration form (found in the Project Manual under BID PROPOSAL documents), to be filled out and submitted with the bid.

BID PROTESTS

All bid protests must comply with the following, or they shall be rejected as invalid:

1. The protest shall be in writing;
2. The protest shall be filed and received no later than 4:00 p.m. on the fourth (4th) business day after the deadline for submittal of the bids;
3. The protest shall set forth in detail all grounds for the protest, including all facts, supporting documentation, legal authorities and arguments in support of the bid protest;
4. Before the bid protest deadline, the protesting party shall transmit the complete bid protest, including all documentation, to all other parties having a potential interest that may be adversely affected by the outcome of the protest, including but not limited to all other bidders who may have a reasonable prospect of losing or obtaining an award of the contract depending on the outcome of the protest; and
5. All factual contentions must be supported by competent, admissible and credible evidence.

The procedures and time limits set forth in this section for bid protests are strictly construed and are protesting party's sole and exclusive remedy in the event of a bid protest. Protesting party's failure to strictly comply with these procedures and time limits shall constitute a waiver of any right to further pursue the bid protest, including but not limited to the presentation of a Government Code claim or legal proceedings. Any matter not set forth in the protest, including any ground for the protest or any evidence supporting a ground for the protest, shall be deemed waived.

A protesting party may not rely on the bid protest submitted by another protesting party, but must timely pursue its own bid protest.

Owner shall review a bid protest that was not rejected for failing to comply with the above procedures. Any final decision on such a bid protest shall be made by the Owner's governing board

WITHDRAWAL OF PROPOSALS:

Proposals may be withdrawn by the bidder prior to the time fixed for the submittal of bids. A successful bidder shall not be relieved of the bid unless by consent of the Owner or bidder's recourse to PUBLIC CONTRACT CODE SECTION §5100 et seq.

OPENING OF PROPOSALS:

Opening of proposals shall be as soon after the hour set as will be possible; opening and declaration to be as set forth in the Notice to Contractors. Any and all bidders will be permitted to attend. The Owner is allowed the number of days set forth in the Notice to Contractors in which to determine low bidder.

EXAMINATION OF CONTRACT DOCUMENTS AND SITE:

Before submitting a proposal, bidders shall examine the drawings, read the specifications, the form of contract, and other contract documents. They shall visit the site of the proposed work, examine the building, or buildings, if any, and any work that may have been done thereon. They shall fully inform themselves of all conditions, in, at, and about the site, the building or buildings, if any, and any work that may have been done thereon.

Pursuant to PUBLIC CONTRACT CODE SECTION §1104:

- (1) Bidders shall not be required to assume responsibility for the completeness and accuracy of architectural or engineering drawings and specifications, except on clearly designated design build projects;
- (2) However, bidders shall be required to review architectural or engineering drawings and specifications prior to submission of their bids and to report any errors and omissions to the Architect or the Owner; and

- (3) The review shall be confined to the bidder's capacity as a bidder and not as a licensed design professional.

FORM OF CONTRACT:

The form of contract, which the successful bidder(s) will be required to execute, if awarded the work, is attached hereto and is made apart hereof.

ADDENDA (OR BULLETINS):

Any addenda (or bulletins), issued during the time of bidding, shall form a part of the drawings and specifications loaned to the bidder for the preparation of its proposal, shall be covered in the proposal, and shall be made a part of the Contract Documents.

- (1) Addenda (or bulletins), shall be stamped and signed by the A/E on Record and delegated Design Professional when applicable, and approved by DSA (Sec. 4-338(b), Part 1).

AWARD OF CONTRACT:

Rejection of any or all proposals, to contract work with whomever and in whatever manner, to abandon work entirely, and/or to waive any informality in receiving of bids is reserved as the right of the Owner. Before the contract or contracts are awarded, the Owner may at its sole discretion require from the proposed Contractor on each project further evidence of the reasonable qualifications of such contractor to faithfully, capably, and reasonably perform such proposed contract and may consider such evidence before making its decision on the award of such proposed contract(s).

The contract(s) shall be awarded to the lowest and most responsible bidder(s) as interpreted by the Owner and specified herein and shall be entered into by the successful bidder(s) within ten (10) days after being notified by the Owner. Identity of lowest bidder(s) will be determined as follows per the PUBLIC CONTRACT CODE SECTIONS §10780-§10785:

- a) The lowest bid shall be the lowest bid price on the base contract without consideration of the prices on the additive or deductive items.

The award, if made, will be made within sixty (60) days after the opening of proposals.

EXECUTION OF CONTRACT:

The Contract(s) shall be signed by the successful bidder(s) in as many originals as the Owner deems necessary and returned, together with the contract bonds and insurance certificates, within ten (10) days after the bidder has received notice that the contract for that project has been awarded.

CONTRACT BONDS:

Two bonds, as itemized below and in the forms presented in these contract documents, shall be furnished by the successful bidder on each project awarded at the time of entering into the contract and filed with the Owner. They shall be in the form of surety bonds issued by an Admitted Surety (an insurance organization authorized by the Insurance Commissioner to transact business of insurance in the State of California during this calendar year) and satisfactory to the Owner.

Performance Bond in the amount of one hundred percent (100 percent) of the contract sum to insure Owner during construction and for one year after completion against faulty or improper materials or workmanship and to assure Owner of full and prompt performance of the contract.

Payment Bond (Labor and Material) in the amount of one hundred percent (100 percent) of the contract sum in accordance with the laws of the State of California to secure payment of any and all claims for labor and materials used or consumed in performance of this contract.

DRAWINGS, SPECIFICATIONS AND ADDENDA OR BULLETINS:

Return by each bidder of all drawings, specifications and addenda or bulletins in an un mutilated condition and without any marks or annotations is demanded within the time limit indicated under **DEPOSIT** in this section.

SUBSTITUTION OF MATERIALS:

All materials are mentioned as standards. Should a Contractor or Bidder (claimant) desire to substitute materials or methods for those specified, the Contractor or Bidder (claimant) shall follow the guidelines stated herein, and in accordance with Specification Section – SUBSTITUTION PROCEDURES and the PUBLIC CONTRACT CODE SECTION §3400. Each review of a substitution request by the Architect or its consultants will be billed to the Contractor or Bidder (claimant) at an hourly rate as indicated in Specification Section – SUBSTITUTION PROCEDURES.

Substitutions can be submitted in two ways: (1) Prior to Bid Opening, and (2) After Award of the Contract:

- (1) Prior to Bid Opening: The Contractor or Bidder (claimant) must insure that proposed substitutions of materials by the Contractor or Bidder (claimant) are submitted to the Architect's office up to fourteen (14) calendar days prior to the Bid Opening for review and possible approval of any equipment or materials thought to be equal to or better than those specified in the drawings or specifications. An Addendum will be issued at a minimum of seven (7) calendar days and a maximum of three (3) calendar days prior to Bid Opening including all equipment and materials deemed equivalent to those specified and approved by the Architect. Substitution submittals shall include comparative spec-data of that specified equipment or material and the proposed substitution as indicated on the completed "Substitution Request Form" in accordance with Specification Section - SUBSTITUTION PROCEDURES. Submittals without this information will be automatically rejected.
- (2) After Award of the Contract: In accordance with the provisions of Section §3400 of the California Public Contract Code, the Contractor awarded the Contract (claimant) will be provided a period of thirty-five (35) calendar days after the award of the Contract for submission of data substantiating a request for a substitution of "an equal" item or items. Substitution requests must be made as provided in the Contract Documents, and in accordance with Specification Section - SUBSTITUTION PROCEDURES. Submittals without this information will be automatically rejected.

PAYMENTS:

Payments to the Contractor on account of the contract shall be made in accordance with the terms of the contract.

TAXES:

The Owner is exempt from payment of Federal Excise Tax on materials. The Owner will furnish exemption certificates to the Contractor to be used to obtain materials ordinarily subject to Federal Excise Tax without payment of the tax. Bidder shall deduct Federal Excise Taxes from their bid prices before submitting bids, so that such taxes will not be included in the Contract Sum.

TIME OF COMPLETION AND LIQUIDATED DAMAGES:

Time is of the essence in this contract, and the time of completion for this project shall be **Three Hundred (300) consecutive calendar days**, all from the date established in the Owner's Notice to Proceed. Should said work not be completed within the time limit as may be extended as herein provided, damages will be sustained by the Owner. It is understood and agreed that it is and will be impracticable or extremely difficult to determine the actual amount of damages which the Owner will sustain in the event of and by reason of such delay, and it is therefore agreed that the Contractor will pay the Owner the sum of **Two Thousand Dollars (\$2,000.00) per consecutive calendar day** for each and every day's delay beyond the time specified as and for liquidated damages; in case the Contractor fails to make such payment, the Owner may deduct the amount thereof from any money due or that may become due the Contractor under the contract. Should such money not be sufficient to cover the agreed liquidated damages, the Owner shall have the right to recover the balance from the Contractor or his sureties.

BIDDER'S CHECKLIST

To assist the Bidder in properly completing all documentation required, the following checklist is provided for the Bidder's convenience. The Bidder is solely responsible for verifying compliance with bid submittal requirements.

1. Used the Bid Form provided in the Project Manual.
2. Prepared the Bid Form as required by the Instructions to Bidders.
3. Indicated on the Bid Form the Addenda received.

4. Attached to the Bid Form: Bid Bond OR a certified check for the amount required.
5. Attached to the Bid Form: Student Safety Declaration.
6. Attached to the Bid Form: Designation of Subcontractors.
7. Attached to the Bid Form: Job References.
8. Attached to the Bid Form: Iran Contracting Act Verification Form.
9. Attached to the Bid Form: Sufficient Funds Declaration.
10. Attached to the Bid Form: DVBE Certificate & DVBE Prime Bidder Worksheet.
11. Attached to the Bid Form: Drug-Free Workplace Certification.
12. Attached to the Bid Form: Non-Collusion Declaration.
13. Attached to the Bid Form: CARB Compliance Declaration.
14. Attached to the Bid Form: Workers Compensation Certificate (Art. 18 (d) of General Conditions)
15. Attached to the Bid Form: Proof of Contractor's registration per Labor Code section 1725.5.
16. Bid envelope shows name and address of the Bidder.
17. Bid envelope shows the Bidder's Contractor's License Number.
18. Bid envelope shows name of Project being bid.
19. Bid envelope shows name of Prime Contract being bid, if applicable.
20. Bid envelope shows time and day of Bid Opening.
21. Verified that the Bidder can provide executed Performance Bond and Payment Bond.
22. Verified that the Bidder can provide Certificates of Insurance in the amounts indicated.

END OF SECTION

BID FORM

_____, California

_____, 20_____

MENDOTA UNIFIED SCHOOL DISTRICT
115 MCCABE AVE,
MENDOTA, CA 93640

Dear Board Members:

The undersigned doing business under the firm name of _____

hereby propose and agree to enter into an agreement, to furnish any and all labor, materials, equipment and services for the completion of work described hereinafter and in the contract documents entitled construction of:

MENDOTA ELEMENTARY SCHOOL – SITEWORK FOR MODULAR CLASSROOM BUILDINGS
 prepared by:

DARDEN ARCHITECTS, INC.
6790 N. West Avenue
Fresno, California 93711
(559) 448-8051

for the sum quoted below:

BASE BID (as defined in Specification Section - SUMMARY OF WORK):

_____ Dollars.

WRITTEN IN WORDS

(\$ _____)

FIGURES

If written notice of the acceptance of this bid is mailed, telegraphed, or delivered to the undersigned within sixty (60) days after the date of opening of the bids, or any time thereafter before this bid is withdrawn, the undersigned will, within ten (10) days after the date of such mailing, telegraphing, or delivering of such notice, execute and deliver a contract in the form of agreement present in these contract documents and give Performance and Payment Bonds in accordance with the specifications and bid as accepted.

The undersigned hereby designates as his office to which such notice of acceptance may be mailed, telegraphed, or delivered:

Our Public Liability and Property Damage Insurance is placed with _____

Our Workers' Compensation Insurance is placed with _____

Circular letters, bulletins, addenda, etc., bound with specifications or issued during the time of bidding are included in the proposal, and, in completing the contract, they are to become part thereof.

The receipt of the following addenda to the specifications is acknowledged:

Addendum No. _____ Date _____ Addendum No. _____ Date _____ Addendum No. _____ Date _____

Addendum No. _____ Date _____ Addendum No. _____ Date _____ Addendum No. _____ Date _____

Addendum No. _____ Date _____ Addendum No. _____ Date _____ Addendum No. _____ Date _____

This bid may be withdrawn at any time prior to the scheduled time for the opening of bids or any authorized postponement thereof.

Proof of bidder's registration must be submitted pursuant to Labor Code section 1725.5.

Note: Each bid must give the full business address of the bidder and be signed by him with his usual signature. Bids by partnerships must furnish the full name of all partners and must be signed in the partnership name by one of the members of the partnership, or by an authorized representative, followed by the signature and designation of the person signing. Bid by corporations must be signed with the legal name of the corporation, followed by the name of the state of incorporation and by the signature and designation of the president, secretary, or other person authorized to bind it in the matter. The name of each person signing shall also be typed or printed below the signature. When requested by the Owner, satisfactory evidence of the authority of the officer signing in behalf of the corporation shall be furnished.

Dated _____, 20____

Name of Company as Licensed in California: _____

Signed _____

Print or Type Name _____

Business Address _____

Phone Number: (_____) _____

Email address: _____

Contractor's _____

License Number: _____

Class & Expiration Date: _____

Public Works Contractor Registration No.: _____

Additional Signature Lines if Applicable:

Signed _____

Print or Type Name _____

Business Address _____

Signed _____

Print or Type Name _____

Business Address _____

Signed _____

Print or Type Name _____

Business Address _____

State of Incorporation if Applicable _____

Evidence of authority to bind corporation is attached.

END OF SECTION

BID BOND

KNOW ALL PERSONS BY THESE PRESENTS that we the undersigned _____

_____ as Principal

and _____ as Surety, are hereby held and

firmly bound unto the **MENDOTA UNIFIED SCHOOL DISTRICT**, hereinafter called the "Owner", in the sum

of _____ Dollars(\$ _____)

for payment of which sum, well and truly to be made, we hereby jointly and severally find ourselves, our heirs, executors, administrators, successors, and assigns.

The condition of the above obligation is such that whereas the Principal has submitted to the Owner a certain bid, attached hereto and hereby made a part hereof, to enter into a contract in writing for the construction of

MENDOTA ELEMENTARY SCHOOL – SITEWORK FOR MODULAR CLASSROOM BUILDINGS

in strict accordance with Contract Documents.

NOW, THEREFORE,

- a. If said bid shall be rejected, or, in the alternate;
- b. If said bid shall be accepted and the Principal shall execute and deliver a contract in the form of agreement attached hereto and shall execute and deliver Performance and Payment Bonds in the forms attached hereto (all properly completed in accordance with said bid).

Then this obligation shall be void, otherwise the same shall remain in force and effect, it being expressly understood and agreed that the liability of the Surety for any and all default of the Principal hereunder shall be the amount of this obligation as herein stated.

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

IN WITNESS WHEREOF, the above-bounden parties have executed this instrument under

several seals this _____ day of _____

20 _____, the name and corporate party being hereto affixed and these presents duly

signed by its undersigned representative, pursuant to authority of its governing body.

In presence of:

(Individual Principal) (Seal)

(Address) (Business Address)

(Individual Principal) (Seal)

(Address) (Business Address)

Attest

(Corporate Principal)

(Business Address)

By: _____
(Affix Corporate Seal)

Attest

(Corporate Surety)

(Business Address)

By: _____
(Affix Corporate Seal)

The rate or premium on this bond is _____ per thousand.

Total amount of premium charged, \$ _____
(The above must be filled in by Corporate Surety)

END OF SECTION

STUDENT SAFETY DECLARATION

Education Code Section 45125.2

I, _____, declare as follows:

1. I am a representative of _____, and am authorized to make this declaration on its behalf;
2. Pursuant to Education Code section 45125.2, I shall not permit any employee, agent or subcontractor unsupervised interaction with pupils without taking protective measures as set forth in that section and this declaration.
3. I declare that I have taken one or more of the following protective measures pursuant to Education Code section 45125.2:
 - a. Neither I, my employees, agents nor subcontractors will have unsupervised interaction with students.
 - b. I have installed or will install a physical barrier at the worksite such that no employee, agent, or subcontractor will have unsupervised interaction with students.
 - c. An employee, agent or subcontractor will continually monitor and supervise all employee(s), agent(s), and subcontractor(s) who interact with students.
I have submitted fingerprints to the Department of Justice for the supervisory employee(s), agent(s), or subcontractor(s).
I have received a response from the Department of Justice, and I certify that none of these supervisory employees, agents or subcontractors have been convicted of a felony as defined in Education Code section 45122.1.
I have attached a list of these supervisors.
 - d. I have arranged, with Owner's approval, for surveillance of my employees by Owner's personnel.

I know the above of my own personal knowledge and if called as a witness could competently testify thereto. I declare under penalty of perjury that the foregoing is true and correct and that this declaration was executed on _____, 20_____, at _____, California.

Name of Contractor

By: _____

DESIGNATION OF SUBCONTRACTORS

In compliance with the provisions of Sections 4100 to 4114, inclusive, of the Public Contract Code of the State of California, and any amendments thereof, each bidder shall set forth below the name and the location of the place of business of each subcontractor who will perform work or labor or render service to the Contractor in or about the construction of the work or improvement, or to a subcontractor licensed by the State of California who, under subcontract to the Contractor, specially fabricates and installs a portion of the work or improvement according to detailed drawings contained in the drawings and specifications, to be performed under these specifications, in an amount in excess of one-half of 1 percent (0.5%) of the bidder's total bid, and the portion of the work which will be done by each subcontractor. An inadvertent error in listing a California contractor's license number shall not be grounds for filing a bid protest or for considering the bid nonresponsive if the bidder submits the corrected contractor's license number to the Owner within 24 hours after the bid opening, or any continuation thereof, so long as the corrected contractor's license number corresponds to the submitted name and location for that subcontractor.

For all projects over \$25,000: for any bid submitted and for any contract for public work entered into, an inadvertent error in listing a subcontractor who is not registered under Labor Code section 1725.5 shall not be grounds for filing a bid protest or grounds for considering the bid nonresponsive, provided that either: the subcontractor is registered prior to the bid opening; or the subcontractor is registered and has paid the penalty registration fee specified in Labor Code section 1725.5(a)(2)(E), if applicable, within 24 hours after the bid opening; or the subcontractor is replaced by another registered subcontractor under Public Contract Code section 4107. Failure of a listed subcontractor to be registered shall be grounds under Public Contract Code section 4107 for the Contractor, with the Owner's consent, to substitute a registered subcontractor for the unregistered subcontractor.

Failure to provide this information in a legible manner may result in the rejection of an otherwise acceptable bid.

If the Contractor fails to specify a subcontractor for any portion of the work to be performed under the Contract in excess of one-half of 1 percent (0.5%) of the Contractor's total bid, the Contractor shall be deemed to have agreed to perform such portion itself, and shall not be permitted to subcontract that portion of the work except under the conditions hereinafter set forth.

Subletting or subcontracting of any portion of the work as to which no subcontractor was designated in the original bid shall only be permitted in cases of public emergency or necessity, and then only after a finding reduced to writing as a public record of the legislative body of the Owner.

Within 24 hours of the Bid Date and Time and in accordance with Public Contract Code Section 4104, (a) (2) (A), the Contractor shall submit to the Owner further information regarding the Sub-Contractors. The Owner requires that each Sub-Contractor listed shall provide information as follows: Company Name, License Number and Expiration Date, complete Street Address and Zip Code Number (no P.O. Box Numbers), with Phone and FAX Numbers. If it is available, provide Web Page of the Company, and E-Mail Address of the Responsible Party for this Project also.

NOTE: Reproduce page two of this section for additional listings needed beyond the length of this form.

NAME OF BIDDER:			
PORTION OF WORK	NAME OF SUBCONTRACTOR	LOCATION OF SUBCONTRACTOR	LICENSE NO. AND DIR REGISTRAION NUMBER

NAME OF BIDDER: _____			
PORTION OF WORK	NAME OF SUBCONTRACTOR	LOCATION OF SUBCONTRACTOR	LICENSE NO. AND DIR REGISTRATION NUMBER

END OF SECTION

MENDOTA ELEMENTARY SCHOOL – SITEWORK FOR MODULAR CLASSROOM BUILDINGS

**MENDOTA UNIFIED SCHOOL DISTRICT
115 MCCABE AVE,
MENDOTA, CA 93640**

JOB REFERENCES

Bidders must submit a list of at least three (3) projects of similar dollar volume completed within the last 24 months for reference purposes.

NAME OF BIDDER:			
DATE	JOB SITE	CONTACT PERSON	PHONE NO.

END OF SECTION

IRAN CONTRACTING ACT VERIFICATION FORM
(Public Contract Code sections 2202-2208)

Prior to bidding on, submitting a proposal or executing a contract or renewal for a State of California contract for goods or services of \$1,000,000 or more, a vendor must either: a) certify it is not on the current list of persons engaged in investment activities in Iran created by the California Department of General Services (“DGS”) pursuant to Public Contract Code section 2203(b) and is not a financial institution extending twenty million dollars (\$20,000,000) or more in credit to another person, for 45 days or more, if that other person will use the credit to provide goods or services in the energy sector in Iran and is identified on the current list of persons engaged in investment activities in Iran created by DGS; or b) demonstrate it has been exempted from the certification requirement for that solicitation or contract pursuant to Public Contract Code section 2203(c) or (d). The DGS list of entities prohibited from contracting with public entities in California per the Iran Contracting Act, 2010, can be found at: Department of General Services Procurement Division Iran Contracting Act List (<https://www.dgs.ca.gov/-/media/Divisions/PD/PTCS/OPPL/Iran-Contracting-Act-List.pdf?la=en&hash=71776438AADF114D952082668B1D6A0AEED31C2B>)

To comply with this requirement, please insert your vendor or financial institution name and Federal ID Number (if available) and complete one of the options below. Please note: California law establishes penalties for providing false certifications, including civil penalties equal to the greater of \$250,000 or twice the amount of the contract for which the false certification was made; contract termination; and three- year ineligibility to bid on contracts. (Public Contract Code section 2205.)

(Continued on next page)

OPTION #1 - CERTIFICATION

I, the official named below, certify I am duly authorized to execute this certification on behalf of the vendor/financial institution identified below, and the vendor/financial institution identified below is not on the current list of persons engaged in investment activities in Iran created by DGS and is not a financial institution extending twenty million dollars (\$20,000,000) or more in credit to another person/vendor, for 45 days or more, if that other person/vendor will use the credit to provide goods or services in the energy sector in Iran and is identified on the current list of persons engaged in investment activities in Iran created by DGS.

Vendor Name/Financial Institution (Printed)	Federal ID Number (or n/a)
By (Authorized Signature)	
Printed Name and Title of Person Signing	
Date Executed	Executed in

OPTION #2 – EXEMPTION

Pursuant to Public Contract Code sections 2203(c) and (d), a public entity may permit a vendor/financial institution engaged in investment activities in Iran, on a case-by-case basis, to be eligible for, or to bid on, submit a proposal for, or enters into or renews, a contract for goods and services.

If you have obtained an exemption from the certification requirement under the Iran Contracting Act, please fill out the information below, and attach documentation demonstrating the exemption approval.

Vendor Name/Financial Institution (Printed)	Federal ID Number (or n/a)
By (Authorized Signature)	
Printed Name and Title of Person Signing	Date Executed

END OF SECTION

SUFFICIENT FUNDS DECLARATION

(Labor Code section 2810)

To Be Executed by Bidder and Submitted with Bid

Owner: Mendota Unified School District

Contract for: Mendota Elementary School – Sitework for Modular Classroom Buildings

I, _____, declare that I am the _____ of _____, the entity making and submitting the bid for the above Project that accompanies this Declaration, and that such bid includes sufficient funds to permit _____ (insert name of entity) to comply with all local, state, or federal labor laws or regulations during the performance of the Contract for the Project, including payment of prevailing wage, and that _____ (the entity) will comply with the provisions of Labor Code section 2810(d) if awarded the Contract.

I declare that under penalty of perjury under the laws of the State of California that the foregoing is true and correct and executed on _____ 20____, at _____ (city), _____ (state).

Date: _____

Signature

Print Name: _____

Print Title: _____

END OF SECTION

**PRIME BIDDER CERTIFICATION OF DISABLED VETERAN
BUSINESS ENTERPRISE PARTICIPATION**

To be completed by the Prime Bidder

PAGE 1 OF 2

PART I – IDENTIFICATION INFORMATION

BIDDER'S NAME	BUSINESS ADDRESS	TELEPHONE NUMBER
SCHOOL DISTRICT	COUNTY	APPLICATION NO.

PART II – METHOD OF COMPLIANCE WITH DVBE PARTICIPATION GOALS – Include this form and any other applicable documents listed in this table with your bid/proposal. Read the three columns in the table below as sentences from left to right. Check the appropriate box to indicate your method of committing the contract dollar amount.

NOTE: Architectural, engineering, environmental, land surveying or construction management firms must indicate their method of compliance by marking the appropriate box A, B, C, or D after selection by the District and before the contract is signed.

YOUR BUSINESS ENTERPRISE	AND YOU	AND YOU
A. ☐ is Disabled Veteran owned and your forces, will perform at least 3 percent of this contract	will include a copy of your DVBE letter from the Office of Small Business and Disabled Veteran Business Enterprise Services (OSDS).	
B. ☐ is Disabled Veteran owned but is unable to perform the 3 percent of this contract with your forces	will use DVBE subcontractors/suppliers to bring the contract participation to at least 3 percent	will include a copy of each DVBE's letter from OSDS (including yours, if applicable).
C. ☐ is not Disabled Veteran owned	will use DVBE subcontractors/suppliers for at least 3 percent of this contract	
D. ☐ is unable to meet the required participation goals	will complete a Good Faith Effort to obtain DVBE participation	will include the Prime Bidder's Good Faith Effort Worksheet.

Note: An Office of Small Business and Disabled Veteran Business Enterprise Services (OSDS) letter must be attached for each DVBE participating in the contract. The DVBE letter is obtained by application through the OSDS and must be provided at the time of bid opening. If the letter is not provided, the bid may be deemed nonresponsive and may be ineligible for award of the contract.

Continued on reverse side

PART III – DVBE DOLLAR PARTICIPATION OF BID/PROPOSAL – *Architectural, engineering, environmental, land surveying or construction management firms complete this part **after** selection by the district and before the contract is signed.*

Show deductive alternate(s) in parenthesis. For more alternates/base bids, use a separate page to show items.

- A. If your business enterprise is a DVBE, list in the appropriate column the total dollar amount of your bid to be performed by your own participation.
- B. List all your DVBE subcontractors/suppliers. Enter in the appropriate column the dollar amount for each of your subcontractors/suppliers.
- C. Enter the total of Lines A and B for each column.
- D. Enter the dollar amount of the bid/proposal to be performed by **non**-DVBE firms. Note: This line is the sum of the prime and subcontractor(s) **non**-DVBE dollar participation.
- E. Enter the sum of the column totals from Line C and Line D. Note: Please be aware that the final determination of DVBE compliance is made based on the contract amount resulting from the district's acceptance or rejection of alternates.

	BASE BID/PROPOSAL	ALTERNATE #1	ALTERNATE #2	ALTERNATE #3 OR BASE BID B	ALTERNATE #4 OR BASE BID C	ALTERNATE #5 (Modernization or Reconstruction Only)
A. Prime Bidder, if DVBE (own participation)	\$	\$	\$	\$	\$	\$
B. DVBE Subcontractor or Supplier						
1.						
2.						
3.						
4.						
C. Subtotal (A & B)						
D. Non-DVBE						
E. Total Bid						

PRIME BIDDER GOOD FAITH EFFORT WORKSHEET

This worksheet is to be used to assist the Prime Bidder in meeting the 3% DVBE participation goal

PAGE 1 OF 2

BIDDER'S NAME	BUSINESS ADDRESS	CONTACT PERSON
TELEPHONE NUMBER	OWNER	COUNTY

GENERAL INSTRUCTIONS:

This worksheet is to be used to assist you in meeting the 3 percent DVBE participation goal. If specific information is not provided for Parts I through III, you do not meet the test of the "Good Faith Effort" and cannot so certify. If you are qualifying based on a "Good Faith Effort" you must include this form with your bid/proposal to the Owner.

PART I – CONTACTS *To identify DVBE subcontractors/suppliers for participation in your bid/proposal, contact must be made with each of the following categories. It is recommended that you contact several DVBE organizations.*

CATEGORY	TELEPHONE NUMBER	DATE CONTACTED	PERSON CONTACTED
1. Owner			
2. Office of Small Business and Disabled Veteran Business Enterprise Services (OSDS). OSDS provides assistance locating DVBEs at https://www.dgs.ca.gov/PD-OSDS	(916) 375-4940		
3. DVBE Organizations (<i>List</i>):			
4. Write "recorded message" in this column, if applicable.			

PART II – ADVERTISEMENTS You must make at least two (2) advertisements, one (1) in a paper that focuses on DVBE and one (1) in a trade paper. Advertisements should be published at least 14 days prior to bid/proposal opening; if you cannot advertise 14 days prior, advertise as soon as possible and provide an explanation. (Advertisements must be published in time to allow for a reasonable response). Advertisements must include that your firm is seeking DVBE participation, the project name and location, your firm's name, your firm's contact person, and phone number.

Attach copies of advertisements to this form.

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

PART III – 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 the applicable dollar amount in Part III of the Form SAB 515PB	Include a copy of their DVBE letter from OSDs.
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 <i>This section must be completed</i>	NO RESPONSE
	YES	NO		

IMPORTANT NOTE:

Please be aware that certification of the "Good Faith Effort" may only be made if you fully complete Parts I, II, and III on both sides of this form. A copy of this form must be retained by you and may be subject to a future audit.

CERTIFICATION

I, _____ certify that I am the bidder's Chief Executive Officer and that I have made a diligent effort to ascertain the facts with regard to the representations made herein. In making this certification, I am aware of Section 12650 et seq. of the Government Code providing for the imposition of treble damages for making false claims.

SIGNATURE OF CHIEF EXECUTIVE OFFICER	DATE
--------------------------------------	------

DRUG-FREE WORKPLACE CERTIFICATION

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

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

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

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

- (1) The dangers of drug abuse in the workplace;
- (2) The person's or organization's policy of maintaining a drug-free workplace;
- (3) The availability of drug counseling, rehabilitation and employee-assistance programs;
- (4) The penalties that may be imposed upon employees for drug abuse Violations;

(c) Requiring that each employee engaged in the performance of the contract or grant be given a copy of the statement required by subdivision (a) 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 or grant 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 Owner 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 or grant awarded herein is subject to suspension of payments, termination, or both. I further understand that should I violate the terms of the Drug-Free Workplace Act of 1990, I may be subject to debarment in accordance with the requirements of Section 8350 *et seq.*

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

Name of Contractor

Signature

Print Name

Date

NONCOLLUSION DECLARATION

I, _____, declare that I am
(Name of Representative)

_____ of _____,
(Title of Representative) (Business Name of Bidder)

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

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

Executed this _____ day of _____, 20____ at _____, California.

Signature of Representative

[NOTE: A declaration does not have to be notarized.]

END OF SECTION

AGREEMENT FORM

THIS AGREEMENT, dated the _____ day of _____, 20____, in the County of **Fresno**, State of California, is by and between **MENDOTA UNIFIED SCHOOL DISTRICT** (hereinafter referred to as "DISTRICT"), and _____ (hereinafter referred to as "CONTRACTOR").

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

1. The complete contract includes all of the Project documents described in the General Conditions. The Project documents are complementary, and what is called for by any one shall be as binding as if called for by all.
2. CONTRACTOR shall perform within the time set forth in Paragraph 4 of this Agreement everything required to be performed, and shall provide and furnish all the labor, materials, necessary tools, expendable equipment, and all utility and transportation services as described in the complete contract and required for construction of

MENDOTA ELEMENTARY SCHOOL – SITEWORK FOR MODULAR CLASSROOM BUILDINGS

All of said work to be performed and materials to be furnished shall be completed in a good workmanlike manner in strict accordance with the plans, drawings, specifications and all provisions of the complete contract as hereinabove defined. The CONTRACTOR shall be liable to the DISTRICT for any damages arising as a result of a failure to fully comply with this obligation, and the CONTRACTOR shall not be excused with respect to any failure to so comply by any act or omission of the Architect, Engineer, Inspector, Division of State Architect, or representative of any of them, unless such act or omission actually prevents the CONTRACTOR from fully complying with the requirements of the Project documents, and unless the CONTRACTOR protests at the time of such alleged prevention that the act or omission is preventing the CONTRACTOR from fully complying with the Project documents. Such protest shall not be effective unless reduced to writing and filed with the DISTRICT within **three (3) working days** of the date of occurrence of the act or omission preventing the CONTRACTOR from fully complying with the Project documents.

3. DISTRICT shall pay to the CONTRACTOR, as full consideration for the faithful performance of the contract, after receipt of properly documented and submitted applications for payment, and subject to any additions or deductions as provided in the Project documents, the sum of _____ Dollars (\$_____).
4. The work shall be commenced on or before the _____ (____) day after receiving the DISTRICT's Notice to Proceed and shall be completed within **Three Hundred (300) consecutive calendar days** from the date specified in the Notice to Proceed.
5. Time is of the essence. If the work is not completed in accordance with Paragraph 4 above, it is understood that the DISTRICT will suffer damage. It being impractical and infeasible to determine the amount of actual damage, in accordance with Government Code Section 53069.85, it is agreed that CONTRACTOR shall pay to DISTRICT as fixed and liquidated damages, and not as a penalty, the sum of **Two Thousand Dollars (\$2,000.00)** for each consecutive calendar day of delay until work is completed and accepted. This amount shall be deducted from any payments due to or to become due to CONTRACTOR. CONTRACTOR and CONTRACTOR'S surety shall be liable for the amount thereof. Time extensions may be granted by the DISTRICT as provided in the General Conditions.
6. In the event CONTRACTOR for a period of **ten (10) calendar days** after receipt of written demand from DISTRICT to do so, fails to furnish tools, equipment, or labor in the necessary quantity or

quality, or to prosecute said work and all parts thereof in a diligent and workmanlike manner, or after commencing to do so within said **ten (10) calendar days**, fails to continue to do so, then the DISTRICT may exclude the CONTRACTOR from the premises, or any portion thereof, and take possession of said premises or any portion thereof, together with all material and equipment thereon, and may complete the work contemplated by this Agreement or any portion of said work, either by furnishing the tools, equipment, labor or material necessary, or by letting the unfinished portion of said work, or the portion taken over by the DISTRICT to another contractor, or by a combination of such methods. In any event, the procuring of the completion of said work, or the portion thereof taken over by the DISTRICT, shall be a charge against the CONTRACTOR, and may be deducted from any money due or to become due to CONTRACTOR from the DISTRICT, or the CONTRACTOR shall pay the DISTRICT the amount of said charge, or the portion thereof unsatisfied. The sureties provided for under this Agreement shall become liable for payment should CONTRACTOR fail to pay in full any said cost incurred by the DISTRICT.

7. The CONTRACTOR agrees to and does hereby indemnify and hold harmless the DISTRICT, its governing board, members of its governing board, officers, agents, and employees from every claim or demand made, and every liability, loss, damage, or expense, of any nature whatsoever, which may be incurred by reason of:

(a) Liability for damages for:

- (1) Death or bodily injury to persons.
- (2) Injury to, loss or theft of property.
- (3) Any other loss, damage or expense arising under either (1) or (2) above, sustained by the CONTRACTOR upon or in connection with the work called for in this Project, except for liability resulting from the sole active negligence, or willful misconduct of the DISTRICT.

(b) Any injury to or death of any person(s) or damage, loss or theft of any property caused by any act, neglect, default or omission of the CONTRACTOR, or any person, firm, or corporation employed by the CONTRACTOR, either directly or by independent contract, arising out of, or in any way connected with the work covered by this Agreement, whether said injury or damage occurs on or off District property.

The CONTRACTOR, at CONTRACTOR's own expense, cost, and risk shall defend any and all actions, suits, or other proceedings that may be brought or instituted against the DISTRICT, its governing board, members of its governing board, officers, agents or employees, on any such claim, demand or liability, and shall pay or satisfy any judgment that may be rendered against the DISTRICT, its governing board, members of its governing board, officers, agents or employees in any action, suit or other proceedings as a result thereof.

8. CONTRACTOR shall take out, prior to commencing the work, and maintain, during the life of this contract, and shall require all subcontractors, if any, whether primary or secondary, to take out and maintain:

(a) General Liability and Property Damage Insurance as defined in the General Conditions in the amount with a combined single limit of not less than **\$1,200,000 per occurrence**.

(c) Course of Construction / Builder's Risk Insurance will be provided by the CONTRACTOR.

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

- (1) Automotive and truck where operated in amounts as above

(2) Material hoist where used in amounts as above

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

In the alternative, under Section 22300, the CONTRACTOR may request DISTRICT to make payment of earned retentions directly to the escrow agent at the expense of the CONTRACTOR. Also at the CONTRACTOR's expense, the CONTRACTOR may direct investment of the payments in securities, and the CONTRACTOR shall receive interest earned on such investment upon the same conditions as provided for securities deposited by CONTRACTOR. Upon satisfactory completion of the contract, CONTRACTOR shall receive from the escrow agent all securities, interest and payments received by escrow agent from DISTRICT pursuant to the terms of Section 22300. If CONTRACTOR elects to receive interest on moneys withheld in retention by DISTRICT, CONTRACTOR shall, at the request of any subcontractor, make that option available to the subcontractor regarding any monies withheld in retention by the CONTRACTOR from the subcontractor. If the CONTRACTOR elects to receive any interest on any monies withheld in retention by the Owner, then the subcontractor shall receive the identical rate of interest received by the Contractor on any retention monies withheld from the subcontractor by the CONTRACTOR, less any actual pro rata costs associated with administering and calculating that interest. In the event the interest rate is a fluctuating rate, the rate for the subcontractor shall be determined by calculating the interest rate paid during the time that retentions were withheld from the subcontractor. If the CONTRACTOR elects to substitute securities in lieu of retention, then, by mutual consent of the CONTRACTOR and subcontractor, the subcontractor may substitute securities in exchange for the release of monies held in retention by CONTRACTOR. This shall apply only to those subcontractors performing more than five percent (5%) of the CONTRACTOR'S total bid. The CONTRACTOR shall not require any subcontractor to waive any provision of this section.

10. Each and every provision of law and clause required by law to be inserted in this Agreement shall be deemed to be inserted herein and the Agreement shall be read and enforced as though it were included herein, and if through mistake or otherwise any such provision is not inserted, or is not currently inserted, then upon application of either party the Agreement shall forthwith be physically amended to make such insertion or correction.
11. The complete contract as set forth in Paragraph 1 of this Agreement constitutes the entire Agreement of the parties. No other agreements, oral or written, pertaining to the work to be performed, exists between the parties. This Agreement can be modified only by an amendment in writing, signed by both parties and pursuant to action of the Governing Board of the District.
12. CONTRACTOR shall comply with those provisions of the Labor Code requiring payment of prevailing wages, keeping of certified payroll records, overtime pay, employment of apprentices, and workers' compensation coverage, as further set forth in the General Conditions, and shall file the required workers' compensation certificate before commencing work.
13. CONTRACTOR must comply with the applicable requirements of the Division of State Architect ("DSA") Construction Oversight Process ("DSA Oversight Process"), including but not limited to

(a) notifying the Owner's Inspector of Record/Project Inspector ("IOR") upon commencement and completion of each aspect of the work as required under DSA Form 156; (b) coordinating the work with the IOR's inspection duties and requirements; (c) submitting verified reports under DSA Form 6-C; and (d) coordinating with the Owner, Owner's Architect, any Construction Manager, any laboratories, and the IOR to meet the DSA Oversight Process requirements without delay or added costs to the work or project.

CONTRACTOR shall be responsible for any additional DSA fees related to review of proposed changes to the DSA-approved construction documents, to the extent the proposed changes were caused by CONTRACTOR's wrongful act or omissions. If inspected work is found to be in non-compliance with the DSA-approved construction documents or the DSA-approved testing and inspection program, then it must be removed and corrected. Any construction that covers unapproved or uninspected work is subject to removal and correction, at CONTRACTOR's expense, in order to permit inspection and approval of the covered work in accordance with the DSA Oversight Process.

14. SANCTIONS IN RESPONSE TO RUSSIAN AGGRESSION (*If State funds are being used for contract; otherwise delete*): Owner is using State of California funds for this contract, and therefore CONTRACTOR must comply with the Governor's March 4, 2022, Executive Order N-6-22 ("Order") relating to any existing sanctions imposed by the United States government and the State of California in response to Russia's actions in Ukraine, including additional requirements for contracts of \$5 million or more. Failure to comply may result in the termination of the contract.
15. USE OF FEDERAL FUNDS (*If federal funds are being used by Owner for contract; otherwise, delete*): Federal funds are being used by Owner for this contract, either in whole or in part, and thus the contract is subject to, and CONTRACTOR shall comply with, all applicable federal laws, rules, regulations, and other requirements, including but not limited to the federal regulations set forth in CFR Title 2, Part 200.
16. STUDENT SAFETY DECLARATION for Construction, Rehabilitation or Repair Contractors (Education Code section 45125.2).

I, _____, declare as follows:

- A. I am a representative of _____, and am authorized to make this declaration on its behalf;
- B. Pursuant to Education Code section 45125.2, I shall not permit any employee, agent or subcontractor to have more than limited contact with pupils without taking protective steps as set forth in that section and paragraphs 3(b) or 3(c) herein.
- C. I declare that I have taken one or more of the following protective measures pursuant to Education Code section 45125.2:
 - 1. Neither I, my employees, agents nor subcontractors will have more than limited contact with students.
 - 2. I have installed or will install a physical barrier at the worksite such that no employee, agent or subcontractor will have more than limited contact with students.
 - 3. An employee, agent or subcontractor will continually monitor and supervise all employee(s), agent(s) and subcontractor(s) who will have more than limited student contact. I have submitted fingerprints to the Department of Justice for the supervisory employee(s), agent(s) or subcontractor(s). I have received a response from the Department of Justice, and I certify that none of these supervisory employees, agents or subcontractors have been convicted of a felony as defined in Education Code section 45122.1. A list of these supervisors is attached hereto.
 - 4. I have arranged, with Owner's approval, for surveillance of my employees by Owner's personnel.

I know the above of my own personal knowledge and if called as a witness could competently testify thereto. I declare under penalty of perjury that the foregoing is true and correct and that this declaration was executed on _____, _____, at _____, California.

Name of Contractor

By: _____

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

DISTRICT

CONTRACTOR

By: _____
Signature

By: _____
Signature* (see next p.)

Print Name

Print Name

Title

Title

(Second signature required only for corporation)

By: _____
Signature** (see next p.)

Print Name

Title

(CORPORATE SEAL OF CONTRACTOR, if
corporation)

Contractor's License No.

Tax ID/Social Security No.

*If CONTRACTOR is a corporation, the first signature must be by one of the following officers of the corporation: Chairman of the Board, President, or any Vice President.

**If CONTRACTOR is a corporation, the second signature must be by a different person from the first signature and must be by one of the following officers of the corporation: Secretary, any Assistant Secretary, the Chief Financial Officer, or any Assistant Treasurer.

END OF SECTION

PERFORMANCE BOND

KNOW ALL MEN BY THESE PRESENTS that we _____

_____ as Principal, and

_____ as Surety, are

held and firmly bound unto **MENDOTA UNIFIED SCHOOL DISTRICT**, in the County of **Fresno**, State of California, hereinafter called the "Owner", acting on behalf of the State Allocation Board, State of California,

in the sum of _____ Dollars (\$ _____) for the

payment of which sum well and truly made, we bind ourselves, our heirs, executors, administrators, and successors, jointly and severally, firmly by these presents.

The condition of this obligation is such, that whereas the Principal entered into a certain contract with the

Owner, dated _____, 20 _____ for construction of

MENDOTA ELEMENTARY SCHOOL – SITEWORK FOR MODULAR CLASSROOM BUILDINGS

NOW, THEREFORE, if the Principal shall well and truly perform and fulfill all the undertakings, covenants, terms, conditions, and agreements of said contract during the original term of said contract and any extensions thereof that may be granted by the Owner, with or without notice to the Surety, and during the life of any guaranty or warranty required under the contract, and shall also well and truly perform and fulfill all the undertakings, covenants, terms, conditions, and agreements of any and all duly authorized modifications of said contract that may hereafter be made, then this obligation to be void, otherwise to remain in full force and virtue.

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

No further agreement between Surety and Owner shall be required as a prerequisite to the Surety performing its obligations under this bond. In the event that the Surety elects to complete the work of the contract after termination of the contract by Owner, the Surety shall not hire Principal, or any of Principal's owners, employees, or subcontractors to perform the work without the written consent of Owner, which consent Owner may grant or withhold in its sole discretion

IN WITNESS WHEREOF, the above-bounden parties have executed this instrument under their several seals this _____ day of _____, 20 _____ hereto affixed and these presents duly signed by its undersigned representative, pursuant to authority of its governing body.

(To be signed by _____)
 (Principal and Surety, _____)
 (and acknowledged and _____)
 (Notarial Seal attached _____)

(Affix Corporate Seal)

 (Individual Principal)

 (Business Address)

(Affix Corporate Seal)

(Corporate Principal)

(Business Address)

(Affix Corporate Seal)

(Corporate Surety)

(Business Address)

By: _____

The rate or premium on this bond is _____ per thousand.

The total amount of premium charged is _____.

The above must be filled in by Corporate Surety.

END OF SECTION

© Darden Architects, Inc.

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**PAYMENT BOND
(Labor and Material)**

KNOW ALL MEN BY THESE PRESENTS:

That **WHEREAS**,

_____ (the "Owner" of the project described herein)
and _____

Hereinafter designated as the "Principal", have entered into a contract for the furnishing of all materials and labor, services and transportation, necessary, convenient, and proper to construct

MENDOTA ELEMENTARY SCHOOL – SITEWORK FOR MODULAR CLASSROOM BUILDINGS

Which said agreement dated _____, 20 _____, and all of the contract documents attached to or forming a part of said agreement, are hereby referred to and made a part hereof; and

WHEREAS, the Principal is required, before entering upon the performance of the work, to file a good and sufficient bond with the body by whom the contract is awarded to secure the claims arising under said agreement .

NOW, THEREFORE, THESE PRESENTS WITNESSETH:

That the said Principal and the undersigned _____ ("Surety")

_____ are held and firmly bound unto all laborers, material men, and other persons referred to in said

statutes in the sum of _____ Dollars which sum well and truly be made, we bind ourselves, our heirs, executors, administrators, successors, or assigns, jointly and severally, by these presents.

The condition of this obligation is that if the said Principal or any of its subcontractors, or the heirs, executors, administrators, successors, or assigns of any, all or either of them, shall fail to pay for any materials, provisions, provender or other supplies, or teams, used in, upon, for, or about the performance of the work contracted to be done, or for any work or labor thereon of any kind or for amounts due under the Unemployment Insurance Act with respect to such work or labor, that said Surety will pay the same in an amount not exceeding the amount hereinabove set forth, and also in case suit is brought upon this bond, will pay a reasonable attorney's fee to be awarded and fixed by the Court, and to be taxed as costs and to be included in the judgement therein rendered.

It is hereby expressly stipulated and agreed that this bond shall inure to the benefit of any and all persons, companies, and corporations entitled to file claims so as to give a right of action to them or their assigns in any suit brought upon this bond.

Should the condition of this bond be fully performed, then this obligation shall become null and void, otherwise it shall be and remain in full force and effect.

And the said Surety, for value received, thereby stipulates and agrees that not change, extension of time, alteration, or addition to the terms of said contract or the specifications accompanying the same shall in any manner affect its obligations on this bond, and it does hereby waive notice of any such change, extension, alteration, or addition.

PAYMENT BOND

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IN WITNESS WHEREOF, this instrument has been duly executed by the Principal and Surety

this _____ day of _____, 20 _____

(To be signed by _____)
(Principal and Surety, _____)
(and acknowledged and _____)
(Notarial Seal attached _____)

Principal

Surety

By: _____
Attorney-in-Fact

The above bond is accepted and approved this _____ day of _____, 20 _____.

END OF SECTION

REV. 01/05/00

CARB COMPLIANCE DECLARATION

To Be Executed by Bidder and Submitted (including attachments) with Bid Form

Owner: Mendota Unified School District

Contract: _____

Project: _____

Site: _____

Background

CALIFORNIA AIR RESOURCES BOARD ("CARB") <https://ww2.arb.ca.gov/>

For any project awarded on or after January 1, 2024, Public Works Awarding Bodies are required to obtain valid **CARB Certificates of Reported Compliance ("CRC")** from all contractors and listed subcontractors before awarding the project. The Public Works Awarding Body will be required to retain CRCs for three years after the project is complete, and the CRCs are subject to CARB review upon five calendar days' notice.

The Regulations apply to all "Public Works Awarding Bodies," which phrase is broadly defined as "any public agency (state, county, city, school district, community college district, water district, sanitation district, transit district, etc.), or official thereof, in the state of California, that awards or enters into a contract for the erection, construction, alteration, repair, removal, or improvement of any public structure, building, road, or other public lands, property, or improvement of any kind."

The bidder must fully execute this document and submit it, including required attachments, with its bid for the above-captioned project. The bidder must attach the CRCs for the bidder and all of its subcontractors to this document.

The ARB Diesel Off-Road Online Reporting System (DOORS) reporting system is where the bidder and its subcontractors are able to obtain their CRCs: DOORS (ca.gov). There is also an additional website that provides them with more information on the regulation along with FAQs and user guides. The website for the Off-Road Zone is <https://ww2.arb.ca.gov/our-work/programs/truckstop-resources/road-zone>

If any questions, please call the DOORS Hotline at 877-593-6677 or email doors@arb.ca.gov. Please note that at this time DOORS staff has limited access to documents received via mail and fax is unavailable.

Fact Sheet: Contracting Requirements | California Air Resources Board
<https://ww2.arb.ca.gov/resources/fact-sheets/fact-sheet-contracting-requirements>

Fact Sheet: Renewable Diesel Fuel Requirements | California Air Resources Board
<https://ww2.arb.ca.gov/resources/fact-sheets/fact-sheet-renewable-diesel-fuel-requirements>

Fact Sheet: Added Vehicle Restrictions and Tier Phase-Out Requirements | California Air Resources Board
<https://ww2.arb.ca.gov/resources/fact-sheets/fact-sheet-added-vehicle-restrictions-and-tier-phase-out-requirements>

Declaration

I, _____ [name of declarant], declare that I am the _____ [title] of _____ [name of bidding contractor], the entity making and submitting a bid for the above Project; and that all CRCs required for _____ [name of bidding contractor] and its subcontractors on the above Project are attached to this declaration; that all of the attached CRCs are current and valid; and that the attached CRCs will allow the Owner to comply with the applicable CARB requirements in connection with the Project.

I declare under penalty of perjury under the laws of the State of California that the foregoing is true and correct and executed on _____, 20__, at _____ [city], _____ [state].

Date: _____

Signature

Print Name: _____

Print Title: _____

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GENERAL CONDITIONS**ARTICLE 1. DEFINITIONS**

- (a) **Action of the Governing Board** is a vote of a majority of the membership in a lawful meeting.
- (b) **Addenda** are the changes in plans specifications, drawings, and Project documents which have been authorized in writing by the DISTRICT or ARCHITECT, and which alter, explain, or clarify the Project documents prior to the bid deadline. The Plan Review Agency responsible for plan review and approval will also review and approve the Addenda.
- (c) **Approval** means written authorization by ARCHITECT or DISTRICT for specific applications. Approvals required by the Plan Review Agency shall mean written authorization by that agency.
- (d) **ARCHITECT** – The individual, or the assigned representative, who was retained by DISTRICT to prepare the bid documents: i.e., the construction plans and specifications. As used in these General Conditions, ARCHITECT may be a licensed Architect, Mechanical Engineer, Electrical Engineer, Civil Engineer or any other design professional in the State of California to provide design services.
- (e) **As shown, as indicated, and as detailed** refer to drawings accompanying the specification.
- (f) **As Directed, Accepted, Rejected, Approved** or others of similar meaning which authorize any exercise of judgment shall be distinctly understood to mean that such power to direct, accept, reject, and approve shall be vested only in DISTRICT and/or the ARCHITECT.
- (g) **Building** – Includes all structures, drives, and walks, steps, approaches and site.
- (h) **Called For** – As called for, shown, noted, and/or indicated in the specifications and/or drawings.
- (i) **Contract Sum** – The value of the Project as defined in the Agreement. Can also be referred to as the Contract Cost.
- (j) **Contract Time** – The duration of the Project as defined in the Agreement.
- (k) **CONTRACTOR** or **DISTRICT** are those mentioned as such in the Agreement. They are treated throughout the Project documents as if they are of singular number and neuter gender.
- (l) **Days** – Days shall be considered calendar days.
- (m) **Deferred Approvals** – Deferred Approvals are items identified in the drawings and/or specifications that require the CONTRACTOR to prepare drawings and/or calculations and other data for submission to the Plan Review Agency for formal review and approval into the Contract Documents. For Deferred Approvals requiring a structural engineer's stamp and calculations, a structural engineer licensed in the State of California shall be utilized in the submittal process. The CONTRACTOR shall pay all costs associated with the preparation and approval of the deferred approvals.
- (n) **Delay Days** – Delay Days shall be considered working days. Assuming a 5-day workweek, delay days shall be converted into calendar days by a factor of 1.4. Hence 10 Delay Days =

14 Calendar Days. Delay Days will be evaluated and identified as one of the three categories listed below. Excusable delays will create adjustments in the contract time. Compensable delays will create adjustments in both the contract sum and contract time. In the event of concurrent delays, no delay damages are recoverable by either the DISTRICT or the CONTRACTOR, but an extension in time shall be granted for each contemporaneous delay day occurring on the critical path. Contemporaneous delays shall be evaluated using a schedule fragnet(s), schedule updates, daily reports, notices, and any other records of delaying events. In the event of a delay, the CONTRACTOR shall provide a "Notice of Delay" within 24 hours of the event, and submit a schedule fragnet depicting the delay with all substantiating documentation within **fourteen (14) days** of the event.

<u>Excusable & Compensable</u>	<u>Excusable & Non-Compensable</u>	<u>Inexcusable</u>
Delays caused by the DISTRICT, the ARCHITECT, or the DISTRICTS separate contractors(s)	1. Unusual weather 2. Strikes or labor shortages 3. Acts of God 4. Fires, war, Acts of government & pestilence 5. Unusual and unanticipated delays in manufacturing and/or deliveries of materials and/or equipment. 6. Concurrent Delays	Delays caused by the CONTRACTOR, Subcontractor(s), materialmen or suppliers.

(1) **Concurrent Delay** – Delays caused by both the Contractor and the Owner and occurring at the same time; existing together.

(2) **Contemporaneous Delay** – Delays existing or happening in the same period of time.

(o) **DISTRICT or Owner** – As indicated in the Bid Form, Notice to Contractors and the AGREEMENT.

(p) **Equipment and/or Furnishing Modifiers:**

F.B.O. – Where the indication "F.B.O." is noted on the drawings or listed in the specifications, such item(s) are shown or listed for information and will be "Furnished by DISTRICT" and installed by CONTRACTOR. The CONTRACTOR shall verify all dimensions and details necessary for the proper installation.

N.I.C. – Where the indication "N.I.C." is noted on the drawings or listed in the specifications, such item(s) are shown or listed for the purpose of general information and is "Not in Contract". Installation and connection to services for such work are not in the contract, however coordination is required by CONTRACTOR for utility service locations and/or connection types.

I.C. – "IN CONTRACT": All item(s) shown or listed in the drawings and specifications are in the Contract and are part of the Work. The naming of any item(s) shall mean to provide the item(s), that is furnishing (including all incidental and accessory items thereto) and installing (including all labor necessary to achieve full and complete functioning of the item(s) according to the best practices of the trades involved). When and if the indication "I.C." is noted on the drawings or listed in the specifications, such a designation is listed only for clarity, in order to set the item(s) apart from the "F.B.O." and "N.I.C." item(s).

- (q) **Fragnet** – Refer to the Specification Section entitled CONSTRUCTION SCHEDULES for the definition of a fragnet and the requirements thereof. A Fragnet will be required for time impact analysis and time extensions. CONTRACTORS failure to provide a “Notice of Delay” within 24-hours, and submit a Fragnet for time impact analysis and time extension(s) on or within **fourteen (14) days** of the delaying event, the CONTRACTOR shall forfeit and invalidate all considerations for time and/or payment: Refer to the definition of “Delay Days” for additional information. The costs to prepare Fragnets and schedule updates resulting from approved Fragnets are part of the Work, regardless of number and difficulty. The Architect and/or the Architect’s Scheduling Consultant will provide a response to the Fragnet on or within 14-Days.
- (r) **Locality** in which the work is performed means the county in which the public work is done.
- (s) **Materials** – Materials incorporated in the project or used or consumed in the performance of the work.
- (t) **Plan Review Agency** is the agency responsible for the review and approval of the Plans, Specifications, Addendum, Substitution Requests (if appropriate), Change Orders and the alike.
- (u) **Project** is the planned undertaking as provided for in the Project documents by DISTRICT and CONTRACTOR.
- (v) **Project Documents** includes collectively, to wit: Notice Calling for Bids/Notice to Contractors, Instructions to Bidders, Bid Form, Designation of Subcontractors, Workers' Compensation Certificate, Change Orders, Shop Drawing Transmittals, Information Required of CONTRACTOR, all pre-qualification forms submitted pursuant to Public Contract Code Section 20111.5, Non-collusion Declaration, Faithful Performance Bond, Payment Bond, Insurance Certificates, Guarantees, CONTRACTOR’s Certificate Regarding Non-Asbestos Containing Materials, General Conditions, Special Conditions, Plans, Drawings, Specifications, the Agreement and all modifications, addenda, and amendments thereto.
- (w) **Provide** shall include "provide complete in place," that is, "furnish and install."
- (x) **Safety Orders** are those issued by the Division of Industrial Safety and OSHA safety and health standards for construction.
- (y) **Shop Drawings and Submittals** - They are generally treated throughout the Project documents as if they are one in the same.
- (z) **Similar** – Shall be taken in its general sense and not meaning identical, and all details of such work shall be in proper relation to the location and connection of other parts of the work.
- (aa) **Standards, Rules, and Regulations** referred to are recognized printed standards and shall be considered as one and a part of these specifications within limits specified.
- (bb) **Subcontractor**, as used herein, includes those having a direct contractual relationship with CONTRACTOR and one who furnishes material worked to a special design according to plans, drawings, and specifications of this work, but does not include one who merely furnishes material not so worked.
- (cc) **Surety** is the person, firm, or corporation that executes as surety the CONTRACTOR’s Bid Security, faithful performance bond and/or payment bond.

- (dd) **Work** of the CONTRACTOR or Subcontractor includes labor or materials (including, without limitation, equipment and appliances) or both, incorporated in, or to be incorporated in the construction covered by the complete contract.
- (ee) **Workers** includes laborers, workers, and mechanics.
- (ff) **CONSTRUCTION ADMINISTRATION DOCUMENTS: Terms, uses and protocols.** Notwithstanding any other provisions in the General Conditions, the following terms and definitions shall be used.
 - (1) **RFI** – The term “RFI” shall mean Request for Information. An RFI is a written instrument prepared by the CONTRACTOR and submitted to the ARCHITECT. An RFI shall be considered a tool for requesting additional information, above and beyond that which is not available in the Contract Documents and all reference standards, and fulfilling the Contract coordination requirements for which CONTRACTOR is obligated to perform. The RFI shall not be used for requesting design and/or material substitutions.

Prior to issuing an RFI the CONTRACTOR, Subcontractor, material suppliers and the like shall thoroughly review the contract documents and refer to all reference standards for the information sought.

When submitting an RFI, the document shall specify the date issued and the date the information is needed by. However the contractual response time shall be **fourteen 14 days** from the date the ARCHITECT receives the RFI. The CONTRACTOR shall plan its work and submit questions in sufficient time to accommodate the response time. For those contracts requiring a CPM schedule, the CONTRACTOR shall include in the RFI the CPM Activity Number and the originating Subcontractor.

The CONTRACTOR shall make efforts to coordinate the work in a timely fashion, so as to alleviate priority RFI's. If the RFI is considered a priority, the CONTRACTOR shall state the word “Priority” on the document, and the CONTRACTOR shall provide weekly RFI Priority Schedules. The CONTRACTOR shall issue and maintain weekly RFI Priority Schedules.

The RFI priority schedule shall include a listing of pending requests, including the most current request, which ranks the RFI's in order of priority. The ARCHITECT shall endeavor to respect the CONTRACTOR's requested order of priorities and requested response dates.

The ARCHITECT and/or Engineer's response to the RFI shall be considered a Supplemental Instruction (SI) in which the contract sum and/or time is not altered. If the RFI response alters the contract sum and/or time, a Construction Change Directive (CCD) or a Request for Proposal (RFP) may be issued for the changed condition(s).

Should the CONTRACTOR determine the response to the RFI creates changes in the contract sum and/or time, the CONTRACTOR shall submit a change order request (COR) to the ARCHITECT for review and decision, along with a fragnet (if required)

- (2) **SI** – The term “SI” shall mean Supplemental Instruction. The SI is a written instrument prepared by the ARCHITECT and submitted to the CONTRACTOR. The SI can order changes in the Work that do not affect the contract sum and/or time. Supplemental Instructions can also be made in a RFI response by issuing a formal SI document or by written letter from the ARCHITECT'S office.
- (3) **RFP** – The term “RFP” shall mean Request for Proposal. The RFP is a written instrument prepared by the ARCHITECT and submitted to the CONTRACTOR. The RFP is a request

for changes in the contract sum and/or time, for the proposal to potential changed contract conditions, for which the contract sum and/or time may or may not be affected. As appropriate, the CONTRACTOR shall provide the full and complete terms of the request in a Change Order Request (COR) within **fourteen (14) days**: If the RFP results in added time the CONTRACTOR shall provide a Fragnet Submittal within the same **fourteen (14) days**. If the DISTRICT accepts the full terms of the RFP, the RFP shall be incorporated into a Construction Change Directive (CCD) and/or a Change Order (CO), and the approved Fragnet, if any, shall become incorporated into the next monthly schedule update to reflect the time impact(s).

- (4) **CCD** – The term “CCD” shall mean Construction Change Directive. The CCD is a written instrument prepared by the ARCHITECT and submitted to the CONTRACTOR. The CCD is a written order directing a change in the Work and stating the required pricing method, if any, in the contract sum, and the Contract Time adjusted to reflect a previously approved Fragnet, if any. The CCD, without invalidating the Contract, may order changes in the Work within the general scope of the Contract, consisting of additions, deletions, or other revisions within. The CCD shall become effective when both the ARCHITECT and the DISTRICT have signed the CCD: CONTRACTOR signature is not required. If the CCD results in additional time, the CONTRACTOR shall provide a Fragnet Submittal within **fourteen (14) days**. If the Fragnet Submittal is approved, the Contract Time adjustment shall be incorporated into originating CCD, or incorporated into a separate CCD and/or a Change Order (CO). The approved Fragnet, if any, shall become incorporated into the next monthly schedule update to reflect the time impact(s).
- (5) **COR** – The term “COR” shall mean Change Order Request. The COR is a written instrument prepared by the CONTRACTOR and submitted to the ARCHITECT. The COR is the CONTRACTOR’s method for requesting the full and complete terms for changes in the contract sum and/or time, if any. All of the terms of the COR need to be identified, and without reservations, so that the DISTRICT and/or ARCHITECT can consider the full impact of the COR. The provisions and format of the request are identified under Article entitled **CHANGES AND EXTRA WORK**. ARCHITECT shall endeavor to response to the COR on or within **twenty-one (21) days** of receipt.
- (6) **CO** – The term “CO” shall mean Change Order. The Change Order shall state the change in Work and the contract sum and/or time adjustments, if any. RFP’s and/or CCD’s shall be incorporated into a Change Order, after any adjustments in the contract sum and/or time have been reviewed and accepted by the DISTRICT and ARCHITECT. The Change Order, and items contained therein, cannot be incorporated into the progress payments until the Change Order has been fully executed and accepted the Governing Board. Upon the Governing Board’s approval, the ARCHITECT will issue the fully executed Change Order to the Plan Review Agency responsible for plan review and approval for written approval of the Change Order.

ARTICLE 2. STATUS OF CONTRACTOR

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

DISTRICT shall be permitted to monitor the activities of the CONTRACTOR to determine compliance with the terms of the Project documents.

- (b) CONTRACTOR's are required by law to be licensed and regulated by the Contractors' State License Board. Any CONTRACTOR not so licensed is subject to penalties under the law, and the contract will be considered void pursuant to Section 7028.7 of the Business and Professions Code. Any questions concerning a CONTRACTOR may be referred to the Registrar, Contractors' State License Board, 3132 Bradshaw Road, P. O. Box 2600, Sacramento, CA 95826.

ARTICLE 3. CHANGE IN NAME AND NATURE OF CONTRACTOR'S LEGAL ENTITY

Before CONTRACTOR makes any change in the name or legal nature of the CONTRACTOR's entity, CONTRACTOR shall first notify the DISTRICT in writing and cooperate with DISTRICT in making such changes as the DISTRICT may request in the Project documents.

ARTICLE 4. CONTRACTOR'S SUPERVISION, PROSECUTION AND PROGRESS

- (a) During progress of the work, CONTRACTOR shall keep on the work site a competent superintendent satisfactory to DISTRICT. Before commencing the work herein, CONTRACTOR shall give written notice to DISTRICT and ARCHITECT of the name, qualifications and experience of such superintendent. If the Superintendent is found unsatisfactory by DISTRICT, CONTRACTOR shall replace the Superintendent with one acceptable to the DISTRICT. Superintendent shall not be changed or removed from the project except with written consent of DISTRICT, unless a superintendent proves to be unsatisfactory to CONTRACTOR and ceases to be in its employ, in which case, CONTRACTOR shall notify DISTRICT and ARCHITECT in writing and replace said Superintendent with one acceptable to the DISTRICT. Superintendent shall represent CONTRACTOR and all directions given to Superintendent shall be as binding as if given to CONTRACTOR.
- (b) CONTRACTOR shall supervise and direct the work competently and efficiently, devoting such attention thereto and applying such skills as may be necessary to perform the work in accordance with the Project documents. CONTRACTOR shall carefully study and compare all plans, drawings, specifications, and other instructions and shall at once report to ARCHITECT any error, inconsistency or omission which CONTRACTOR or its employees may discover. The CONTRACTOR represents itself to DISTRICT as a skilled, knowledgeable, and experienced CONTRACTOR. The CONTRACTOR shall carefully study and compare the Project documents with each other, and shall at once report to the ARCHITECT any errors, inconsistencies, or omissions discovered. The CONTRACTOR shall be liable to the DISTRICT for damage resulting from errors, inconsistencies, or omissions in the Project documents that the CONTRACTOR recognized and which CONTRACTOR knowingly failed to report and which a similarly skilled, knowledgeable, and experienced CONTRACTOR would have discovered.
- (c) The CONTRACTOR shall verify all indicated dimensions before ordering materials or equipment, or before performing work. The CONTRACTOR shall take field measurements, verify field conditions, and shall carefully compare such field measurements and conditions and other information known to the CONTRACTOR with the Project documents before commencing work. Errors, inconsistencies or omissions discovered shall be reported to the DISTRICT at once. Upon commencement of any item of work, the CONTRACTOR shall be responsible for dimensions related to such item of work and shall make any corrections necessary to make work properly fit at no additional cost to DISTRICT. This responsibility

for verification of dimensions is a non-delegable duty and may not be delegated to Subcontractors or agents.

- (d) Omissions from the plans, drawings or specifications, or the mis-description of customary and usual details of work which are manifestly necessary to carry out the intent of the plans, drawings and specifications, or which are customarily performed, shall not relieve the CONTRACTOR from performing such omitted or mis-described work, but they shall be performed as if fully and correctly set forth and described in the plans, drawings and specifications.
- (e) The CONTRACTOR shall be solely responsible for the means, methods, techniques, sequences, and procedures of construction. The CONTRACTOR shall be responsible to see that the finished work complies accurately with the Project documents.
- (f) Pursuant to Public Contract Code section 6109, no CONTRACTOR may perform work on a public works project with a subcontractor who is ineligible to perform work on the project pursuant to sections 1777.1 or 1777.7 of the Labor Code.

ARTICLE 5. SUBCONTRACTORS

- (a) CONTRACTOR agrees to bind every Subcontractor by terms of the Project documents as far as such terms are applicable to Subcontractor's work. If CONTRACTOR shall subcontract any part of the work, CONTRACTOR shall be as fully responsible to DISTRICT for acts and omissions of any Subcontractor and of persons either directly or indirectly employed by any Subcontractor, as it is for acts and omissions of persons directly employed by CONTRACTOR. Nothing contained in Project documents shall create any contractual relation between any Subcontractor and DISTRICT, nor shall the contract documents be construed to be for the benefit of any Subcontractor.
- (b) DISTRICT's consent to any Subcontractor shall not in any way relieve CONTRACTOR of any obligations under the Project documents and no such consent shall be deemed to waive any provision of any Project document.
- (c) CONTRACTOR must submit with its bid, a Designation of Subcontractors pursuant to the Subletting and Subcontracting Fair Practices Act. If CONTRACTOR specifies more than one Subcontractor for the same portion of work or fails to specify a Subcontractor, and such portion of the work exceeds one-half of one percent of the total bid, CONTRACTOR agrees that it is fully qualified to perform and shall perform such work itself, unless CONTRACTOR provides for substitution or addition of Subcontractors. Substitution or addition of Subcontractors shall be permitted only as authorized under the Subletting and Subcontracting Fair Practices Act, California Public Contract Code Section 4100, et. seq.
- (d) In accordance with California Business and Professions Code Section 7059, if CONTRACTOR is designated as a "specialty CONTRACTOR" (as defined in Section 7058 of the Public Contract Code), all of the work to be performed outside of the CONTRACTOR's license specialty shall be performed by a licensed Subcontractor in compliance with the Subletting and Subcontracting Fair Practices Act, California Public Contract Code Section 4100, et seq.
- (e) A copy of each subcontract, if in writing, or, if not in writing, then a written statement signed by the CONTRACTOR giving the name of the Subcontractor and the terms and conditions of such subcontract, shall be filed with the DISTRICT before the Subcontractor begins work. Each subcontract shall contain a reference to the Agreement between the DISTRICT and the CONTRACTOR and the terms of that Agreement and all parts of the Project documents shall be made a part of such subcontract insofar as applicable to the work covered thereby. Each subcontract will provide for termination in accordance with Article entitled

DISTRICT'S RIGHT TO TERMINATE AGREEMENT of these General Conditions. Each subcontract shall provide for its annulment by the CONTRACTOR at the order of the ARCHITECT if in the ARCHITECT's opinion the Subcontractor fails to comply with the requirements of the Project documents insofar as the same may be applicable to this work. Nothing herein contained shall relieve the CONTRACTOR of any liability or obligation hereunder.

- (f) The CONTRACTOR agrees that the State and DISTRICT have the right to review, obtain and copy all records pertaining to performance of the contract. The CONTRACTOR agrees to provide the State or the DISTRICT with any relevant information requested and shall permit the State or the DISTRICT access to its premises upon reasonable notice for purposes of interviewing employees and inspecting records. The CONTRACTOR agrees to maintain such records for a period of three years after final payment under the contract.

ARTICLE 6. PROHIBITED INTERESTS

No official of DISTRICT who is authorized in such capacity and on behalf of DISTRICT to negotiate, make, accept, or approve, or to take part in negotiating, making, accepting or approving any architectural, engineering, inspection, construction or material supply contract or any subcontract in connection with construction of the Project, shall become directly or indirectly interested financially in this Project or in any part thereof. No officer, employee, ARCHITECT, attorney, engineer or inspector of or for DISTRICT who is authorized in such capacity and on behalf of DISTRICT to exercise any executive, supervisory or other similar functions in connection with construction of Project shall become directly or indirectly interested financially in this Project or in any part thereof. CONTRACTOR shall receive no compensation and shall repay DISTRICT for any compensation received by CONTRACTOR hereunder, should CONTRACTOR aid, abet or knowingly participate in violation of this Article.

ARTICLE 7. DISTRICT's INSPECTOR

- (a) One Project Inspector, including Special and/or Assistant Inspector(s), as required, will be employed by DISTRICT in accordance with the requirements of Title 24, Part 1 of the California Code of Regulations and will be assigned to the Project. Duties of a Project Inspector are specifically defined in Section 4-342 of Title 24.
- (b) No work shall be performed by the CONTRACTOR solely upon the instructions or comments by the Project Inspector. The Project Inspector has no authority to interpret the Project documents or order extra work and any extra work performed without the written instruction of the DISTRICT shall be at CONTRACTOR's sole cost and expense and there will be no delay damages incurred by DISTRICT for such work.
- (c) No work shall be carried on except with the knowledge and under the inspection of the Project Inspector, including Special and/or Assistant Inspector(s), as required. The Project Inspector shall have free access to any or all parts of work at any time. CONTRACTOR shall furnish Project Inspector reasonable opportunities for obtaining such information as may be necessary to keep Project Inspector fully informed respecting progress and manner of work and character of materials. Inspection of work shall not relieve CONTRACTOR from any obligation to fulfill the Project documents. Project Inspector or ARCHITECT shall have authority to stop work whenever provisions of Project documents are not being complied with and such noncompliance is discovered. CONTRACTOR shall instruct its employees accordingly.

ARTICLE 8. ARCHITECT's STATUS

- (a) The ARCHITECT shall be the DISTRICT's representative during construction and shall observe the progress and quality of the work on behalf of the DISTRICT. ARCHITECT

shall have the authority to act on behalf of DISTRICT only to the extent expressly provided in the Project documents. ARCHITECT shall have authority to stop work whenever such stoppage may be necessary in ARCHITECT's reasonable opinion to insure the proper execution of the Project documents.

- (b) The ARCHITECT shall be, in the first instance, the judge of the performance of the work. ARCHITECT shall exercise authority under the Project documents to enforce CONTRACTOR's faithful performance.
- (c) The ARCHITECT shall have all authority and responsibility established by law, including Title 24 of the California Code of Regulations. The ARCHITECT has the authority to enforce compliance with the Project documents and the CONTRACTOR shall promptly comply with instructions from the ARCHITECT or an authorized representative of the ARCHITECT.
- (d) On all questions related to the quantities, the acceptability of material, equipment or workmanship, the execution, progress or sequence of work, the interpretation of plans, specifications or drawings, and the acceptable performance of the CONTRACTOR, the decision of the ARCHITECT shall govern and shall be precedent to any payment unless otherwise ordered by the Governing Board. The progress and completion of the work shall not be impaired or delayed by virtue of any question or dispute arising out of or related to the foregoing matters and the instructions of the ARCHITECT relating thereto.
- (e) General supervision and direction of the work by the ARCHITECT shall in no way imply that the ARCHITECT or its representatives are in any way responsible for the safety of the CONTRACTOR or its employees or that the ARCHITECT or its representatives will maintain supervision over the CONTRACTOR's construction methods or personnel other than to ensure that the quality of the finished work is in accordance with the Project documents.

ARTICLE 9. NOTICE OF TAXABLE POSSESSORY INTEREST

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

ARTICLE 10. ASSIGNMENT OF ANTITRUST ACTIONS

Public Contract Code Section 7103.5 provides:

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

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

ARTICLE 11. OTHER CONTRACTS

- (a) CONTRACTOR is aware that this Project site may be split into several phases, and or separate contracts. DISTRICT reserves the right to let other contracts in connection with this work, and it shall be the duty of the CONTRACTOR to actively schedule and coordinate its work with the DISTRICT's forces, DISTRICT's Contractor(s) and or other multiple prime contracts. No extra costs or delays shall be considered as a result of any such scheduling, coordination and cooperation. CONTRACTOR shall afford other contractors reasonable opportunity for introduction and storage of their materials and execution of their work and shall properly connect and coordinate its work with such other contractors.
- (b) If any part of CONTRACTOR's work depends for proper execution or results upon work of any other Contractor, the CONTRACTOR shall inspect and promptly report to ARCHITECT in writing any defects in such work that render it unsuitable for such proper execution and results. CONTRACTOR will be held accountable for damages to DISTRICT for that work which it failed to inspect or should have inspected. CONTRACTOR's failure to inspect and report shall constitute its acceptance of other CONTRACTOR's work as fit and proper for reception of its work, except as to defects which may develop in other CONTRACTORS' work after execution of CONTRACTOR's work.
- (c) To insure proper execution of its subsequent work, CONTRACTOR shall measure and inspect work already in place and shall at once report to the ARCHITECT in writing any discrepancy between executed work and Project documents.
- (d) It is the obligation of CONTRACTOR to ascertain to its own satisfaction the scope of the Project and nature of any other contracts that have been or may be awarded by DISTRICT in prosecution of the Project to the end that CONTRACTOR may perform this Agreement in the light of such other contracts, if any.
- (e) Nothing herein contained shall be interpreted as granting to CONTRACTOR exclusive occupancy at the site of the Project. CONTRACTOR shall not cause any unnecessary hindrance or delay to any other contractor working on the Project. If simultaneous execution of any contract for the Project is likely to cause interference with performance of some other contract or contracts, DISTRICT shall decide which contractor shall cease work temporarily and which contractor shall continue or whether work can be coordinated so that contractors may proceed simultaneously.
- (f) If the Project is split into phases then CONTRACTOR has made allowances for any delays or damages which may arise from coordination with contractors for other phases. If any delays should arise from a contractor working on a different phase, CONTRACTOR's sole remedy for damages, including delay damages, shall be against the contractor who caused such damage and not the DISTRICT. CONTRACTOR shall provide access to contractors for other phases as necessary to prevent delays and damages to contractors working on other phases of construction.

ARTICLE 12. OCCUPANCY

DISTRICT reserves the right to occupy buildings and/or portions of the site at any time before completion, and such occupancy shall not constitute final acceptance of any part of work covered by this Agreement, nor shall such occupancy extend the date specified for completion of the work.

ARTICLE 13. DISTRICT'S RIGHT TO TERMINATE AGREEMENT

- (a) If the CONTRACTOR refuses or fails to complete the work or any separable part thereof with such diligence as will insure its completion within the time specified or any extension thereof, or fails to complete said work within such time, or if the CONTRACTOR should

file a petition for relief as a debtor, or should relief be ordered against CONTRACTOR as a debtor under Title 11 of the United States Code, or if CONTRACTOR should make a general assignment for the benefit of its creditors, or if a receiver should be appointed on account of its insolvency, or if it should refuse or should fail to supply enough properly skilled workers or proper materials to complete the work in the time specified, or if CONTRACTOR should fail to make prompt payment to Subcontractors for materials or labor, or disregard laws or ordinances or instructions of DISTRICT, or if CONTRACTOR or its Subcontractors should otherwise be guilty of a violation of any provision of this Agreement, then DISTRICT may, without prejudice to any other right or remedy, serve written notice upon CONTRACTOR and its surety of DISTRICT's intention to terminate this agreement. Such notice shall contain the reasons for such intention to terminate. Unless within **ten (10) days** after the service of such notice such condition shall cease or such violation shall cease and arrangements satisfactory to DISTRICT for the correction thereof have been made, this Agreement shall cease and terminate. In such case, CONTRACTOR shall not be entitled to receive any further payment until the work is finished to DISTRICT's satisfaction.

- (b) In the event of any such termination, DISTRICT shall immediately serve written notice thereof upon surety and CONTRACTOR, and surety shall have the right to take over and perform this Agreement, provided, however, that if surety within **seven (7) days** after service upon it of notice of termination does not give DISTRICT written notice of its intention to take over and perform this Agreement, or does not commence performance thereof within **fifteen (15) days** after service of the notice of termination by DISTRICT on surety, DISTRICT may take over the work and prosecute it to completion by Agreement or by any other method it may deem advisable for the account and at the expense of CONTRACTOR, and CONTRACTOR and its surety shall be liable to DISTRICT for any excess cost or other damages occasioned by the DISTRICT thereby. Time is of the essence in this Agreement. If the DISTRICT takes over the work as hereinabove provided, the DISTRICT may, without liability for so doing, take possession of and utilize in completing the work such materials, supplies, equipment and other property belonging to the CONTRACTOR as may be on the site of the work and necessary therefor.
- (c) If the expense of finishing the work, including compensation for additional architectural, managerial, and administrative services, shall exceed the unpaid balance of the Agreement, CONTRACTOR shall pay the difference to DISTRICT. Expense incurred by DISTRICT as herein provided, and damage incurred through CONTRACTOR's default, shall be certified to DISTRICT by ARCHITECT. If the unpaid balance under the Agreement shall exceed the expense of finishing the work, including compensation for additional architectural, managerial, and administrative services, such excess shall be paid to CONTRACTOR.
- (d) In the event that sufficient funds are not appropriated to complete the Project or the DISTRICT determines that sufficient funds are not available to complete the Project, DISTRICT may terminate or suspend the completion of the Project at any time by giving written notice to the CONTRACTOR. In the event that the DISTRICT exercises this option, the DISTRICT shall pay for any and all work and materials completed or delivered onto the site, and the value of any and all work then in progress and orders actually placed which cannot be canceled up to the date of notice of termination. The value of work and materials paid for shall include a factor of 15% for the CONTRACTOR's overhead and profit and there shall be no other costs or expenses paid to CONTRACTOR. All work, materials and orders paid for pursuant to this provision shall become the property of the DISTRICT. DISTRICT may, without cause, order CONTRACTOR in writing to suspend, delay or interrupt the Project in whole or in part for such period of time as DISTRICT may determine. Adjustment shall be made for increases in the cost of performance of the Agreement caused by suspense, delay or interruption.

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

ARTICLE 14. BONDS

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

ARTICLE 15. SUBSTITUTION OF SECURITIES

- (a) Pursuant to the requirements of Public Contract Code Section 22300, upon CONTRACTOR's request, DISTRICT will make payment to CONTRACTOR of any earned retention funds withheld from payments under this Agreement if CONTRACTOR deposits with the DISTRICT or in escrow with a California or federally chartered bank acceptable to DISTRICT, securities eligible for the investment pursuant to Government Code Section 16430 or bank or savings and loan certificates of deposit, upon the following conditions:
- (1) CONTRACTOR shall be the beneficial owner of any securities substituted for monies withheld and shall receive any interest thereon.
 - (2) All expenses relating to the substitution of securities under Section 22300 and under this Article, including, but not limited to DISTRICT's overhead and administrative expenses, and expenses of the escrow agent shall be the responsibility of the CONTRACTOR.
 - (3) If CONTRACTOR shall choose to enter into an escrow agreement, such agreement shall be satisfactory to DISTRICT, which agreement shall be in the form attached hereto as part of the Project documents and which shall allow for the conversion to cash to provide funds to meet defaults by the CONTRACTOR including, but not limited to, termination of the CONTRACTOR's control over the work, stop notices filed pursuant to law, assessment of liquidated damages or amounts to be kept or retained under the provisions of the Project documents.
 - (4) Securities, if any, shall be returned to CONTRACTOR only upon satisfactory completion of the Agreement.
- (b) To minimize the expense caused by such substitution of securities, CONTRACTOR shall, prior to or at the time CONTRACTOR requests to substitute security, deposit sufficient security to cover the entire amount to be then withheld and to be withheld under the General Conditions of this Agreement. Should the value of such substituted security at any time fall below the amount for which it was substituted, or any other amount which the DISTRICT determines to withhold, CONTRACTOR shall immediately and at CONTRACTOR's expense deposit additional security qualifying under Section 22300 until the total security deposited is no less than equivalent to the amount subject to withholding under the Agreement.
- (c) In the alternative, under Section 22300, the CONTRACTOR may request DISTRICT to make payment of earned retentions directly to the escrow agent at the expense of the CONTRACTOR. Also at the CONTRACTOR's expense, the CONTRACTOR may direct investment of the payments in securities, and the CONTRACTOR shall receive interest earned on such investment upon the same conditions as provided for securities deposited by CONTRACTOR. Upon satisfactory completion of the contract, CONTRACTOR shall

receive from the escrow agent all securities, interest and payments received by escrow agent from DISTRICT pursuant to the terms of Section 22300. If CONTRACTOR elects to receive interest on moneys withheld in retention by DISTRICT, CONTRACTOR shall, at the request of any subcontractor, make that option available to the subcontractor regarding any monies withheld in retention by the CONTRACTOR from the subcontractor. If the CONTRACTOR elects to receive any interest on any monies withheld in retention by the Owner, then the subcontractor shall receive the identical rate of interest received by the Contractor on any retention monies withheld from the subcontractor by the CONTRACTOR, less any actual pro rata costs associated with administering and calculating that interest. In the event the interest rate is a fluctuating rate, the rate for the subcontractor shall be determined by calculating the interest rate paid during the time that retentions were withheld from the subcontractor. If the CONTRACTOR elects to substitute securities in lieu of retention, then, by mutual consent of the CONTRACTOR and subcontractor, the subcontractor may substitute securities in exchange for the release of monies held in retention by CONTRACTOR. This shall apply only to those subcontractors performing more than five percent (5%) of the CONTRACTOR'S total bid. The CONTRACTOR shall not require any subcontractor to waive any provision of this section.

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

ARTICLE 16. LIABILITY, PROPERTY, FIRE, BUILDER'S RISK AND OTHER INSURANCE REQUIREMENTS

- (a) **Liability and Property Insurance.** Before the commencement of the Work and within limits acceptable to the Owner, the CONTRACTOR shall purchase from and maintain such commercial general liability insurance per occurrence for bodily injury, personal injury and property damage as set forth in the Agreement and automobile liability insurance per accident for bodily injury and property damage combined single limit as set forth in the Agreement as will protect the CONTRACTOR from claims set forth below, which may arise out of or result from the CONTRACTOR's operations under the Contract and for which the CONTRACTOR may be legally liable, whether such operations are by the CONTRACTOR, by a Subcontractor, by Sub-subcontractor, by anyone directly or indirectly employed by any of them, or by anyone for whose acts any of them may be liable:
 - (1) Claims for damages because of bodily injury (including emotional distress), sickness, disease, or death of any person other than the CONTRACTOR's employees. This coverage shall be provided in a form at least as broad as Insurance Services Office (ISO) Form CG 0001 11188;
 - (2) claims for damages arising from personal or advertising injury in a form at least as broad as ISO Form CG 0001 11188;
 - (3) claims for damages because of injury or destruction of tangible property, including loss of use resulting therefrom, arising from operations under the Contract Documents; and
 - (4) claims for damages because of bodily injury, death of a person, or property damage arising out of the ownership, maintenance, or use of a motor vehicle, all mobile equipment, and vehicles moving under their own power and engaged in the Work; and
 - (5) claims involving blanket contractual liability applicable to the CONTRACTOR's obligations under the Contract Documents, including liability assumed by and the

indemnity and defense obligations of the CONTRACTOR and the Subcontractors;
and

- (6) claims involving Operations/Premises and Completed Operations/Products, Independent CONTRACTORS' coverage, and Broad Form property damage, without any exclusions for collapse, explosion, demolition, underground coverage, and excavating. Coverage for completed operations must be at least as broad as CG 2010 11/85.

If commercial general liability insurance or another insurance form with a general aggregate limit is used, either the general aggregate limit shall apply separately to the project location (with the ISO CG 2501 or insurer's equivalent endorsement provided to the DISTRICT) or the general aggregate limit shall be twice the required occurrence limit.

Any deductible or self-insured retention must be declared to and approved by the DISTRICT. At the option of the DISTRICT, either the insurer shall reduce or eliminate such deductibles or self-insured retentions as respects the DISTRICT, its Board of Trustees, members of its Board of Trustees, officers, employees, agents and volunteers; or the CONTRACTOR shall procure a bond guaranteeing payment of losses and related investigations, claim administration and defense expenses.

- (b) **Additional Insured Endorsement.** The CONTRACTOR shall name, on any policy of insurance, the DISTRICT and the ARCHITECT as additional insureds. Subcontractors shall name the CONTRACTOR, the DISTRICT and the ARCHITECT as additional insureds. The Additional Insured Endorsement included on all such insurance policies shall state that coverage is afforded the additional insured with respect to claims arising out of operations performed by or on behalf of the insured. If the additional insureds have other insurance, which is applicable to the loss, such other insurance shall be excess to any policy of insurance required herein. The amount of the insurer's liability shall not be reduced by the existence of such other insurance
- (c) **Consent of Insurer.** Partial occupancy or use in accordance with the Contract Documents shall not commence until the DISTRICT's insurance company providing property insurance has consented to such partial occupancy or use by endorsement or otherwise. The DISTRICT and the CONTRACTOR shall take reasonable steps to obtain consent of the insurance company and shall, without mutual consent, take no action with respect to partial occupancy or use that would cause cancellation, lapse, or reduction of the insurance.
- (d) **Fire Insurance.** Before the commencement of the Work, the CONTRACTOR shall procure, maintain, and cause to be maintained at the CONTRACTOR's expense, fire insurance on all Work subject to loss or damage by fire and the entire structure on which the work of this Contract is to be done to the insurable value thereof. The amount of fire insurance shall be subject to approval by the DISTRICT and shall be sufficient to protect the Project against loss or damage in full until the Work is accepted by the DISTRICT. Should the work being constructed be damaged by fire or other causes during construction, it shall be replaced in accordance with the requirements of the drawings and specifications without additional expense to the DISTRICT.
- (e) **Other Insurance.** The CONTRACTOR shall provide all other insurance required to be maintained under applicable laws, ordinances, rules, and regulations.
- (f) **Compliance.** In the event of the failure of any CONTRACTOR to furnish and maintain any insurance required by this Article, the CONTRACTOR shall be in default under the Contract. Compliance by CONTRACTOR with the requirement to carry insurance and furnish certificates, policies, Additional Insured Endorsement and Declarations Page evidencing the same shall not relieve the CONTRACTOR from liability assumed under any

provision of the Contract Documents, including, without limitation, the obligation to defend and indemnify the DISTRICT and the ARCHITECT

- (g) **Builder's Risk / "All Risk" Insurance.** The Contractor, during the progress of the Work and until final acceptance of the Work by Owner upon completion of the entire Contract, shall maintain Builder's Risk/"All Risk," course-of-construction insurance satisfactory to Owner issued on a completed value basis on all insurable Work included under the Contract Documents. Coverage is to provide extended coverage and insurance against vandalism, theft, malicious mischief, perils of fire, sprinkler leakage, civil authority, sonic boom, earthquake, collapse, flood, wind, lightning, smoke, riot, debris removal (including demolition), and reasonable compensation for the Architect's services and expenses required as a result of such insured loss upon the entire Work which is the subject of the Contract Documents, including completed Work and Work in progress to the full insurable value thereof. Such insurance shall include the Owner and the Architect as an additional named insured and any other person with an insurable interest designated by the Owner as an additional named insured.

ARTICLE 17. – not used –

ARTICLE 18. WORKERS' COMPENSATION INSURANCE

- (a) In accordance with the provisions of Section 3700 of the California Labor Code, the CONTRACTOR and every Subcontractor shall be required to secure the payment of compensation to its employees.
- (b) The CONTRACTOR shall provide, during the life of the Agreement, workers' compensation insurance for all of its employees engaged in work under this Agreement, on or at the site of the Project, and, in case any of its work is sublet, the CONTRACTOR shall require the Subcontractor similarly to provide workers' compensation insurance for all the latter's employees. Any class of employee or employees not covered by a Subcontractor's insurance shall be covered by the CONTRACTOR's insurance. In case any class of employees engaged in work under this Agreement, on or at the site of the Project, is not protected under the workers' compensation statute, the CONTRACTOR shall provide or shall cause a Subcontractor to provide, adequate insurance coverage for the protection of such employees not otherwise protected before the Subcontractor commences work. The CONTRACTOR shall file with the DISTRICT certificates of its insurance protecting workers and a **thirty (30) day** notice shall be provided to DISTRICT before the cancellation or reduction of any policy of CONTRACTOR or Subcontractor. CONTRACTOR shall submit proof of insurance and shall provide endorsements on the forms provided by the DISTRICT or on forms approved by the DISTRICT. Such endorsements shall be submitted concurrently with the Project documents.
- (c) Prior to commencing work, the CONTRACTOR shall sign and file with the DISTRICT the certificate required by the Labor Code section 1861, acknowledging the requirement to insure against liability for workers' compensation and promising to comply with this requirement before commencing work under the contract. The form of this certificate is included below.

ARTICLE 18 (d) – Workers’ Compensation Certificate**WORKERS' COMPENSATION CERTIFICATE**

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

Date

Name of Contractor

By: _____
Signature

Print Name

Title

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

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ARTICLE 19. PROOF OF CARRIAGE INSURANCE

- (a) CONTRACTOR shall not commence work nor shall it allow any Subcontractor to commence work under this Agreement until all required insurance certificates and endorsements have been obtained and delivered in duplicate to and approved by DISTRICT. Such insurance shall be with an insurance company with a minimum rating of "A-VIII", as rated by the current edition of Best's Key Rating Guide, published by A.M. Best Co., Oldwick, New Jersey 08858 and admitted or qualified to do business in California.
- (b) Certificates and insurance policies shall include the following:
 - (1) A clause stating:

"This policy shall not be canceled or reduced in required limits of liability or amount of insurance until notice has been mailed to DISTRICT stating date of cancellation or reduction. Date of cancellation or reduction may not be less than **thirty (30) days** after date of mailing notice."
 - (2) Language stating in particular those insured, extent of insurance, location and operation to which insurance applies, expiration date, to whom cancellation and reduction notice will be sent, and length of notice period.
 - (3) Statement that the DISTRICT is a named additional insured under the policy described and that such insurance policy shall be primary to any insurance or self-insurance maintained by the DISTRICT.
- (c) In case of CONTRACTOR's failure to provide insurance as required by the Agreement, the DISTRICT may, at DISTRICT's option, take out and maintain at the expense of the CONTRACTOR, such insurance in the name of CONTRACTOR, or Subcontractor, as the DISTRICT may deem proper and may deduct the cost of taking out and maintaining such insurance from any sums which are due or to become due to the CONTRACTOR under this Agreement.

ARTICLE 20. DRAWINGS AND SPECIFICATIONS

- (a) Drawings and Specifications are intended to delineate and describe the Project and its component parts to such a degree as will enable a skilled and competent CONTRACTOR to intelligently bid upon the work, coordinate the work and to carry out the work to a successful conclusion. If, as and to the extent that Public Contract Code section 1104 is deemed to apply after the Award of Contract, CONTRACTOR shall not be required to assume responsibility for the completeness and accuracy of architectural or engineering plans and specifications, notwithstanding any other provision in the Project Documents, except to the extent that CONTRACTOR discovered or should have discovered and reported any errors and omissions to the ARCHITECT or DISTRICT, including but not limited to as the result of any review of the plans and specifications by CONTRACTOR required by the Instructions to Bidders or other Project Documents, whether or not actually performed by CONTRACTOR.
- (b) Drawings and Specifications are intended to comply with all laws, ordinances, rules and regulations of constituted authorities having jurisdiction, and where referred to in the Project documents, these laws, ordinances, rules and regulations shall be considered as a part of the Agreement within the limits specified. The CONTRACTOR shall bear all expenses of correcting work done contrary to applicable laws, ordinances, rules and regulations and if the CONTRACTOR performed the work (1) without first consulting the ARCHITECT for further instructions regarding the work, or (2) disregarded the ARCHITECT's instructions regarding the work.

- (c) Questions regarding interpretation of drawings and specifications shall be clarified by the ARCHITECT; provided, however, that in the event ARCHITECT determines that CONTRACTORS requests for information (RFI's) are not justified or do not reflect adequate competent supervision, coordination, and / or knowledge by the CONTRACTOR or his/her Subcontractors, CONTRACTOR shall be required to pay ARCHITECT'S reasonable and customary fees in processing and responding to such requests. Should the CONTRACTOR commence work or any part thereof without seeking clarification, and/or performing its own coordination obligations, the CONTRACTOR waives any claim for extra work or damages as a result of any ambiguity, conflict or lack of information.
- (d) Figured dimensions on drawings shall govern, but work not dimensioned or mis-described shall be as directed. Work not particularly shown, mis-described or specified shall be the same as similar parts that are shown or specified. Large scale drawings shall take precedence over smaller scale drawings as to shape and details of construction. Specifications shall govern as to materials, workmanship, and installation procedures. Drawings and specifications are intended to be fully cooperative and to agree. If through the process of contract required coordination, CONTRACTOR observes that drawings and specifications are in conflict, CONTRACTOR shall promptly notify the ARCHITECT in writing, and any necessary changes shall be adjusted as provided in the Article entitled **Changes and Extra Work**; provided, however, that the specification calling for the higher quality material or workmanship shall prevail without additional cost to DISTRICT.
- (e) Materials or work described in words, which so applied, have a well known technical or trade meaning shall be deemed to refer to such recognized standards.
- (f) It is not the intention of the Agreement to go into detailed descriptions of any materials and/or methods commonly known to the trade under "trade name" or "trade term." The mere mention or notation of such "trade name" or "trade term" shall be considered a sufficient notice to CONTRACTOR that it will be required to complete the work so named with all its incidental and accessory items according to the best practices of the trade.
- (g) The naming of any material and/or equipment shall mean furnishing and installing, including all incidental and accessory items thereto and/or labor necessary to achieve full and complete functioning of the material and/or equipment according to the best practices of the trade(s) involved, unless specifically noted otherwise.

ARTICLE 21. OWNERSHIP OF DRAWINGS

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

ARTICLE 22. DETAIL DRAWINGS AND INSTRUCTIONS

- (a) In case of ambiguity, conflict, or lack of information, ARCHITECT shall furnish additional instructions by means of drawings or otherwise, as necessary for proper execution of the work. All such drawings and instructions shall be consistent with Project documents, true developments thereof, and reasonably inferable therefrom. Such additional instructions shall be furnished with reasonable promptness, provided that CONTRACTOR informs the ARCHITECT of the relationship of the request to the critical path of construction. Refer to the term, use and protocol of an RFI defined in the Article entitled "Definitions".

- (b) Work shall be executed in conformity therewith and CONTRACTOR shall do no work without proper drawings and instructions.
- (c) The ARCHITECT will furnish necessary additional details to more fully explain the work, which details shall be considered as part of the Project documents.
- (d) Should any details be more elaborate, in the opinion of the CONTRACTOR, than scale drawings and specifications warrant, CONTRACTOR shall give written notice thereof to the ARCHITECT within **twenty-one (21) days** of receipt. In case no notice is given to the ARCHITECT within **twenty-one (21) days**, it will be assumed the details are reasonable development of the scale drawings. In case notice is given, then it will be considered, and if found justified, the ARCHITECT will either modify the drawings or shall recommend to DISTRICT a change order for the extra work involved.
- (e) All parts of the described and shown construction shall be of the best quality of their respective kinds and the CONTRACTOR is hereby advised to use all diligence to become fully involved as to the required construction and finish, and in no case to proceed with the different parts of the work without obtaining first from the ARCHITECT such directions and/or drawings as may be necessary for the proper performance of the work.
- (f) If it is found at any time, before or after completion of the work, that the CONTRACTOR has varied from the drawings and/or specifications, in materials, quality, form or finish, or in the amount or value of the materials and labor used, the ARCHITECT shall make a recommendation:
 - (1) that all such improper work should be removed, remade and replaced, and all work disturbed by these changes be made good at the CONTRACTOR's expense; or
 - (2) that the DISTRICT deduct from any amount due CONTRACTOR, the sum of money equivalent to the difference in value between the work performed and that called for by the drawings and specifications. ARCHITECT shall determine such difference in value. The DISTRICT, at its option, may pursue either recommendation made by the ARCHITECT.

ARTICLE 23. SHOP DRAWINGS

- (a) Commensurate with the requirements of the project schedule, the CONTRACTOR shall check and verify all field measurements and shall submit to ARCHITECT six (6) copies, checked, coordinated and approved by CONTRACTOR, of all shop or setting list drawings, schedules, and materials list required for the work of various trades: If this project consists of any remodel / modernization work, field dimensions require verification prior to the preparation of the Shop Drawings. ARCHITECT shall review such drawings, schedules and materials list only for conformance with the design concept of Project and compliance with information given in Project documents, and return as approved or disapproved with guidance as to required corrections within **thirty (30) days**. CONTRACTOR shall make any corrections required by ARCHITECT, file three (3) corrected copies with ARCHITECT, and furnish such other copies as may be needed for construction within **thirty (30) days**. ARCHITECT's approval of such drawings, schedules, or materials list shall not relieve CONTRACTOR from responsibility for deviations unless CONTRACTOR has in writing called ARCHITECT's attention to such deviations at time of submission and secured ARCHITECT's written approval, nor shall it relieve CONTRACTOR from responsibility for errors in shop drawings or schedules.
 - (1) The Architect is entitled to additional review time. The additional review time may be required to review complex and difficult submittals, including but not limited to structural steel shop drawings, mechanical equipment, electrical equipment, and special

system components and parts. The Contractor shall breakout critical submittals into separate packages so as to expedite the review process of an individual item. The coordination of the overall submittal packages shall be the responsibility of the Contractor.

- (2) Shop Drawings requiring “**Deferred Approval**” require a substantial amount of time for agency review and approval. Deferred Approvals generally require re-submittal to the approving Plan Review Agency. The Contractor shall apply its skill and knowledge to expedite the Deferred Approval(s) from preparation to approval. The Contractor shall schedule the project activities to avoid critical path delays as a result of the Deferred Approval process. Notwithstanding anything to the contrary herein, the CONTRACTOR shall make submittals of all Deferred Approvals to the ARCHITECT within one hundred twenty (120) days of the Award of Contract. ARCHITECT shall review such Deferred Approval submittals, shall endeavor to obtain review by the Plan Review Agency, and shall return as approved or disapproved with guidance as to the required corrections within sixty (60) days. If resubmittals are required, ARCHITECT shall endeavor to review and return the resubmittal within sixty (60) days. CONTRACTOR shall allow sufficient time in its scheduling for corrections and resubmittals of Deferred Approval items in conformance with these requirements.
- (b) All submittals of shop drawings, catalog cuts, data sheets, schedules and material lists shall be complete and shall conform to contract drawings and specifications. The Contractor shall prepare layout and coordination drawings to demonstrate the accuracy and fit of the materials and work.
- (c) The term "shop drawing" as used herein shall be understood to include, but not be limited to, coordination efforts by CONTRACTOR, detail design calculations for the development of the shop drawing, fabrication and installation drawings, lists, graphs and operating instructions.
- (d) Shop drawings shall be submitted at a time sufficiently early to allow review of same by the Plan Review Agency (if required), and the ARCHITECT, and to accommodate the rate of construction progress required under the Project documents. CONTRACTOR will be required to pay ARCHITECT's reasonable and customary fees in order to expedite review of shop drawings which are not submitted in a timely fashion.
- (e) All shop drawing submittals shall be accompanied by an accurately completed transmittal form using the format bound herein, or as approved by the DISTRICT. Any shop drawing submittal not accompanied by such a form, or where all applicable items on the form are not completed, will be returned for resubmittal. The CONTRACTOR may authorize a material or equipment supplier to deal directly with the ARCHITECT with regard to shop drawings. However, ultimate responsibility for the accuracy and completeness of the information contained in the submittal shall remain with the CONTRACTOR.
- (f) Normally, a separate transmittal form shall be used for each specific item, scheduled activity task, or class of material or equipment for which a submittal is required. However, due to the critical nature of a submittal, a submittal can be broken into separate sub-submittals in order to obtain the review of a more critical portion(s) of a submittal prior to the review of other sub-submittals. The transmittal form shall include the CPM Activity / Submittal Task Number, Early Start (ES), Early Finish (EF), Late Finish (LF) and the float for the activity. Transmittal of shop drawings on various items using a single transmittal form will be permitted only when the items taken together constitute a manufacturer's "package" or are so functionally related that expediency indicates review of the group or package as a whole. At its option, the CONTRACTOR or Supplier may obtain from the ARCHITECT quantities of the shop drawing transmittal form at reproduction cost.

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

"The CONTRACTOR has reviewed and approved not only the field dimensions but the construction criteria and has also made written notation regarding any information in the shop drawings or submittal that does not conform to the Project documents. This shop drawing or submittal has been coordinated with all other shop drawings and submittals received to date by CONTRACTOR and this duty of coordination has not been delegated to Subcontractors, material suppliers, the ARCHITECT, or the engineers on this project. The Contractor also indicates that it has not relied upon the dimensions shown on the drawings, specifications and schedules, and that the Contractor has double-checked all dimensions for accuracy and fit.

Signature of CONTRACTOR"

- (h) Within **thirty (30) days** after receipt of shop drawings, the ARCHITECT will endeavor to return one or more prints of each drawing to CONTRACTOR with ARCHITECTS comments noted thereon. The CONTRACTOR shall make a complete and acceptable submittal to the ARCHITECT by the second submission of drawings. The DISTRICT shall withhold funds due the CONTRACTOR to cover additional costs of the ARCHITECTS review beyond the second submission and any other costs incurred by DISTRICT.
- (i) If prints of the shop drawing are returned to the CONTRACTOR marked "**NO EXCEPTIONS TAKEN**," formal revision of said drawing will not be required. If prints of the drawing are returned to the CONTRACTOR marked "**MAKE CORRECTIONS NOTED**," formal resubmittal of said drawings will not be required. If prints of the drawing are returned to the CONTRACTOR marked "**REVISE AND RESUBMIT**," the CONTRACTOR shall revise said drawing and shall resubmit six (6) copies of the revised drawing to the ARCHITECT. If prints of the drawing are returned to the CONTRACTOR marked "**REJECTED RESUBMIT**," the CONTRACTOR shall resubmit six (6) new copies of the drawing to the ARCHITECT. Submittals being resubmitted for revisions or submitted due to previous rejection, the CONTRACTOR shall provide a written response indicating the nature of the correction(s) and/or cloud the revised item(s).
- (j) Fabrication of an item shall not be commenced before the ARCHITECT has reviewed the pertinent shop drawings and returned copies to the CONTRACTOR marked with "NO EXCEPTIONS TAKEN," or "MAKE CORRECTIONS NOTED." Revisions indicated on shop drawings shall be considered as changes necessary to meet the requirements of the Project documents and shall not be taken as the basis of claims for extra work. The review of such drawings by the ARCHITECT will be limited to checking for general agreement with the Project documents, and shall in no way relieve the CONTRACTOR of responsibility for errors or omissions contained therein, nor shall such review operate to waive or modify any provision contained in the Project documents. Fabricating dimensions, quantities of material, applicable code requirements, and other contract requirements shall be the CONTRACTOR's responsibility.
- (k) No work represented by required shop drawings shall be purchased or commenced until the applicable submittal has been approved. The work shall conform to the approved shop drawings and all other requirements of the Project documents. The CONTRACTOR shall not proceed with any related work which may be affected by the work covered under shop drawings until the applicable shop drawings have been approved, particularly where piping, machinery, and equipment and the required arrangements and clearances are involved.
- (l) Except where the preparation of a shop drawing is dependent upon the approval of a prior shop drawing, all shop drawings pertaining to the same class or portion of the work shall be submitted simultaneously.

- (m) Calculations of a structural nature must be approved by the Plan Review Agency.
- (n) THE CONTRACTOR SHALL HAVE NO CLAIM FOR DAMAGES OR EXTENSION OF TIME DUE TO ANY DELAY RESULTING FROM THE CONTRACTOR HAVING TO MAKE THE REQUIRED REVISIONS TO SHOP DRAWINGS UNLESS REVIEW BY THE ARCHITECT IS DELAYED BEYOND THE TIME PROVIDED HEREIN AND THE CONTRACTOR CAN ESTABLISH THAT THE ARCHITECT'S DELAY IN REVIEW ACTUALLY RESULTED IN A DELAY IN THE CONTRACTOR CONSTRUCTION SCHEDULE. CONTRACTOR SHALL NOT BE ENTITLED TO ANY CLAIM FOR DAMAGES RESULTING FROM THE *PLAN REVIEW AGENCY* REVIEW. HOWEVER, DISTRICT MAY CONSIDER AN EXTENSION OF TIME DUE TO ANY DELAY CAUSED BY THE *PLAN REVIEW AGENCY* REVIEW.

ARTICLE 24. LAYOUT AND FIELD ENGINEERING

All field engineering required for laying out of this work and establishing grades for earthwork operations shall be furnished by CONTRACTOR at its expense. Such work shall be done by a California Licensed Land Surveyor, or a Civil Engineer approved by the Architect. "Record Drawings" of site development shall be prepared by the California Licensed Land Surveyor or a Civil Engineer, indicating that the as-built building and/or pipeline locations, including but not limited to building slab elevations and drainage system flowlines have been constructed in accordance with the Contract Documents.

ARTICLE 25 – SOILS INVESTIGATION REPORT & CLAIMS FOR CONCEALED OR UNKNOWN CONDITIONS

- (a) When a soils investigation report has been obtained from test holes at the site, such report is available for the CONTRACTOR's use in preparing its bid and work under this Agreement. Any information obtained from such report or any information given on drawings as to surface and subsurface soil condition or to elevations of existing grades or elevations of underlying rock is approximate only. If, during the course of work under this Agreement, CONTRACTOR encounters subsurface or latent conditions that differ materially from those indicated in the soils investigation report, then CONTRACTOR shall notify the DISTRICT within five (5) working days of discovery of the condition.
- (b) If, during the course of work under this Agreement, CONTRACTOR encounters subsurface or otherwise concealed physical conditions, that differ materially from those indicated in the Contract Documents, or unknown physical conditions of an unusual nature, which differ materially from those ordinarily found to exist and generally recognized as inherent in contract activities of the character provided for in the Contract Documents, then CONTRACTOR shall notify the DISTRICT of the discovery of the condition before the condition is materially changed, disturbed and/or covered. In no event shall CONTRACTOR submit a claim for additional time and/or cost, later than **fourteen (14) days** after the first observance of the conditions.
- (c) WARNING: DISTRICT DOES NOT WARRANT THE SOILS AT THE PROJECT SITE. SOILS INVESTIGATION REPORT IS PROVIDED FOR CONTRACTOR'S INFORMATION ONLY. DISTRICT DOES NOT WARRANT THE SOILS CONDITIONS OF THE SITE AND CONTRACTOR IS FULLY RESPONSIBLE TO ASCERTAIN SITE CONDITIONS FOR THE PURPOSES OF DETERMINING CONSTRUCTION MEANS AND METHODS PRIOR TO COMMENCING CONSTRUCTION.

ARTICLE 26. TESTS AND INSPECTIONS

- (a) Tests and inspections will comply with California Code of Regulations Title 24, Part 1, Section 4-335.
- (b) If the Agreement, DISTRICT's instructions, laws, ordinances, or any public authority require any work to be specially tested or approved, CONTRACTOR shall give notice in accordance with such authority of its readiness for observation or inspection at least **two (2) working days** prior to being tested or covered up. If inspection is by authority other than DISTRICT, CONTRACTOR shall inform the DISTRICT's Inspector of the date fixed for such inspection. Required certificates of inspection shall be secured by CONTRACTOR. Observations by DISTRICT's Inspector shall be promptly made, and where practicable, at source of supply. If any work should be covered up without approval or consent of DISTRICT's Inspector, it must be uncovered for examination and satisfactorily reconstructed at CONTRACTOR's expense in compliance with the Agreement. Costs of tests, inspections and any materials found to be not in compliance with the Agreement shall be paid for by the District and deducted from the Contract. Other costs for test and inspection shall be paid by the DISTRICT.

ARTICLE 27. TRENCHES

- (a) CONTRACTOR shall provide adequate sheeting, shoring, and bracing, or equivalent method, for the protection of life and limb in trenches and open excavation that conform to applicable safety standards.
- (b) If this Agreement involves the excavation of any trench or trenches five feet or more in depth, the CONTRACTOR shall, in advance of excavation, submit to the DISTRICT or to whomever DISTRICT designates a detailed plan showing the design or shoring, bracing, sloping or other provisions to be made for worker protection from the hazard of caving ground during the excavation of such trench or trenches. If such plan varies from the Shoring System Standards established by the Construction Safety Orders of the Division of Industrial Safety, the plan shall be prepared by a registered civil or structural engineer employed by the CONTRACTOR, and all costs therefor shall be included in the price named in the Agreement for completion of the work as set forth in the Project documents. In no case shall such plan be less effective than that required by the Construction Safety Orders. No excavation of such trench or trenches shall be commenced until said plan has been accepted by CAL-OSHA and a CAL-OSHA permit for such plan delivered to the DISTRICT. Labor Code Section 6500; Health and Safety Code Section 17922.5).
- (c) If this Agreement involves the digging of trenches or excavations that extend deeper than four feet below the surface, the following shall apply:
 - (1) The CONTRACTOR shall promptly, and before the following conditions are disturbed, notify the DISTRICT, in writing, of any:
 - (A) Material that the CONTRACTOR believes may be material that is hazardous waste, as defined in Section 25117 of the Health and Safety Code, that is required to be removed to a Class I, Class II, or Class III disposal site in accordance with provisions of existing law.
 - (B) Subsurface or latent physical conditions at the site different from those indicated.
 - (C) Unknown physical conditions at the site of any unusual nature, different materially from those ordinarily encountered and generally recognized as inherent in work of the character provided for in the contract.

- (2) The DISTRICT shall promptly investigate the conditions, and if it finds that the conditions do materially so differ, or do involve hazardous waste, and cause a decrease or increase in the CONTRACTOR's cost of, or the time required for, performance of any part of the work shall issue a change order under the procedures described in the Project documents.
- (3) In the event a dispute arises between the DISTRICT and the CONTRACTOR, whether the conditions materially differ or involve hazardous waste, or cause a decrease or increase in the CONTRACTOR's cost of, or time required for, performance of any part of the work, the CONTRACTOR shall not be excused from any scheduled completion date provided for by the Project documents, but shall proceed with all the work to be performed under the Project documents. The CONTRACTOR shall retain any and all rights provided either by contract or by law which pertain to the resolution of disputes and protests between the contracting parties (Public Contract Code section 7104).

ARTICLE 28. DOCUMENTS ON WORK

CONTRACTOR shall keep on the job site at all times one legible copy of all Project documents, including addenda and change orders, and Titles 19 and 24 of the California Code of Regulations, and all approved drawings, plans, schedules and specifications. Said documents shall be kept in good order and available to ARCHITECT, ARCHITECTS representatives, and all authorities having jurisdiction. CONTRACTOR shall be acquainted with and comply with the provisions of said regulations as they relate to this Project. (See particularly the duties of CONTRACTOR, 24 Cal. Code of Regulations Sec. 4-343.) CONTRACTOR shall also be acquainted with and comply with all California Code of Regulations provisions relating to conditions on this Project, particularly Titles 8 and 17.

ARTICLE 29. STATE AUDIT

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

ARTICLE 30. SUBSTITUTIONS

- (a) CONTRACTOR shall follow all instructions and requirements set forth in **INSTRUCTIONS TO BIDDERS**, for compliance with this Article. All substitution requests related to structural items, fire safety issues, life safety issues and accessibility compliance issues shall be reviewed and approved by the Plan Review Agency.
- (b) Whenever in specifications any materials, process, service or equipment is indicated or specified by brand name, trade name, proprietary name or by name of manufacturer, such specification shall be deemed to be used for the purpose of facilitating description of material, process, service or equipment desired and shall be deemed to be followed by the words "or equal," and CONTRACTOR may, unless otherwise stated, offer any material, process, service, or equipment which shall be substantially equal or better in every respect to that so indicated or specified subject to DISTRICT or ARCHITECT approval.
- (c) If material, process, service, or equipment offered by CONTRACTOR is not, in the opinion of ARCHITECT, or DISTRICT, equal or better in every respect to that specified, then CONTRACTOR shall furnish the material, process, service, or equipment specified. The

burden of proof as to equality of any material, process, service, or equipment shall rest with CONTRACTOR. This provision authorizing submission of "or equal" substantiating data shall not in any way authorize an extension of time for performance of this Agreement.

- (1) "Or equal" requests and substantiating data must be submitted for consideration no later than fourteen (14) work days prior to the bid date.
 - (2) If a timely substitution request is not provided (fourteen (14) work days prior to the bid date), and an "or equal" substitution is requested prior to the Award of Contract, the DISTRICT may consider the substitution if the product specified is no longer commercially available.
 - (3) If a CONTRACTOR initiated material substitution occurs after the Award of Contract, CONTRACTOR must establish that the specified material is no longer being manufactured or available, and that the substituted material is the best possible material substitution for that which is no longer available.
 - (4) If the DISTRICT allows the substitution to be proposed pursuant to such an untimely request, the CONTRACTOR will be responsible for reasonable and customary fees incurred by the ARCHITECT or Architect's consultants in reviewing the proposed substitution which fees may be deducted from progress payments to CONTRACTOR.
- (d) In the event CONTRACTOR furnishes material, process, service, or equipment more expensive than that specified, any difference in cost of such material, process, service, or equipment so furnished shall be borne by CONTRACTOR. Any engineering, design fees, or approval agencies' fees required to make adjustments in material or work of all trades directly or indirectly affected by the approved substituted items shall be borne entirely by CONTRACTOR. Any difference in cost between an approved substitution that is lower in cost than the originally specified item shall be refunded by CONTRACTOR to DISTRICT.
- (e) Price, fitness and quality being equal with regard to supplies, the DISTRICT may prefer supplies grown, manufactured, or produced in California and next prefer supplies partially manufactured grown, or produced in California, provided the bids of said suppliers or the prices quoted by them do not exceed by more than 5% of the lowest bids/prices quoted by out of state suppliers, the major portion of the manufacture of the supplies is not done outside of California, and the public good will be served thereby. (Government Code section 4330-4334).

ARTICLE 31. SAMPLES

- (a) Consistent with the specification entitled **CONSTRUCTION SCHEDULES** and within **sixty (60) days** following the award the Contract, CONTRACTOR shall furnish for approval, all samples as required in specifications together with catalogs and supporting data required by ARCHITECT. This provision shall not authorize any extension of time for performance of the work. ARCHITECT shall review such samples as to conformance with design concept of work and for compliance with information given in the Project documents and shall approve or disapprove them within **fourteen (14) days** from receipt.
- (b) Unless specified otherwise, sampling, preparation of samples and tests shall be in accordance with the latest standards of the American Society for Testing and Materials.
- (c) Samples shall, upon demand of ARCHITECT or DISTRICT, be submitted for tests or examinations and considered before incorporation into the work. CONTRACTOR shall be solely responsible for delays due to samples not being submitted in time to allow for tests. Acceptance or rejection will be expressed in writing. Work shall be equal to approved

samples in every respect. Samples that are of value after testing will remain the property of the CONTRACTOR.

ARTICLE 32. CONSTRUCTION SCHEDULES

- (a) Consistent with the specification entitled **CONSTRUCTION SCHEDULES** and after being awarded the Contract, CONTRACTOR shall submit project scheduling information for DISTRICT'S approval, including but not limited to the following:
- (1) **PPS:** A Preliminary Project Schedule (PPS) within **twenty-one (21) days** after receiving the Notice to Proceed (NTP). The PPS shall include a detailed plan for the Work to be completed in the first **ninety (90) days** of the Contract.
 - (2) **BPS:** A Baseline Project Schedule (BPS) within **sixty (60) days** after receiving the NTP and a "cost-loaded" BPS within **seventy-five (75) days** after receiving the NTP. The BPS shall not show more than 10% of the total activities as critical, and no activity shall have a duration longer than **fifteen (15) days**. The BPS shall indicate the beginning and completion dates of all phases of construction and shall use the "critical path method" (commonly called CPM) for the cost loaded value reporting, planning and scheduling, of all work required under the Project documents. The schedule will separately identify those milestones or events that must be completed before other portions of the work can be accomplished. The BPS shall incorporate and schedule float for inclement weather and resulting muddy site conditions due to rain. Scheduled float for non-working rain related days and resulting muddy site conditions shall be based upon the latest and nearest available data from NOAA (or acceptable data issued from the National Weather Service).
 - (3) **MSU:** Monthly Schedule Updates (MSU) of the updated schedule that accurately indicates the actual progress of the Work for the prior month, and the remaining planned completion of the work. The "data date" for the MSU shall comport with the cost-loaded billing percentages, and shall be submitted to ARCHITECT no later than **five (5) days** after the billing percentages have approved.
 - (4) **SIS:** Short Interval Schedules (SIS) shall be provided at weekly scheduled meetings, and include the Construction Schedule activity numbers. The SIS shall be a **three (3) week** schedule, based upon the most recent MSU. The SIS shall include a **one (1) week** look-back, the current weeks work, and **one (1) week** thereafter. The information on the SIS shall be of sufficient detail to evaluate inspection requests.
 - (5) **FRAGNET:** CONTRACTOR shall submit a Fragnet Submittal within **fourteen (14) days** of a delaying event. Failure by CONTRACTOR to submit such a Fragnet Submittal will result in CONTRACTOR waiving its right to obtain any extension of time. The Fragnet Submittal shall be submitted on a form provided by ARCHITECT, or as otherwise approved for use on this Project. ARCHITECT will review, make comments, approve, or reject the Fragnet Submittal within **fifteen (15) days** after receipt. Approved Fragnet Submittals shall become incorporated into the next MSU. No delay events that are subject of a float consumption request, or a time request, shall be incorporated into the project schedule until approved by ARCHITECT.
- (b) The scheduling, and cost loading thereof, is necessary for the DISTRICT'S adequate monitoring of the progress of the work and it is to be used in the preparation of the Progress Payment Applications. The DISTRICT may disapprove such a schedule and require modification to it if, in the opinion of the ARCHITECT or DISTRICT, adherence to the progress schedule will cause the work not to be completed in accordance with the **Agreement**. CONTRACTOR shall adhere to any such modifications required by the

DISTRICT. Between the Monthly Schedule Updates (MSU's), it is the obligation of the CONTRACTOR to monitor the progress of the Work against the current MSU Construction Schedule activities, and to notify the Architect and OWNER in writing of all changed activity start dates and finish dates.

- (c) CONTRACTOR will exchange scheduling information with Subcontractors and suppliers. CONTRACTOR will order work, equipment and materials with sufficient lead time to avoid interruption of the work.
- (d) The CONTRACTOR shall also, if requested by the ARCHITECT or DISTRICT, provide revised schedules within **fifteen (15) days** if, at any time, the ARCHITECT or DISTRICT considers the completion date to be in jeopardy. The revised schedule shall be designed to show how the CONTRACTOR intends to accomplish the work to meet the original completion date. The form and method employed by the CONTRACTOR shall be the same as for the original progress schedule. The CONTRACTOR shall modify any portions of the schedule that become infeasible because of "activities behind schedule" or for any other valid reason. CONTRACTOR will provide documents and justification for any schedule changes. An activity that cannot be completed by its original completion date shall be deemed to be behind schedule.
- (e) IF CONTRACTOR SUBMITS A REVISED SCHEDULE SHOWING AN EARLIER COMPLETION DATE FOR THE PROJECT, DISTRICT'S ACCEPTANCE OF THIS REVISED SCHEDULE SHALL NOT ENTITLE CONTRACTOR TO ANY DELAY CLAIM OR DAMAGES DUE TO ANY SUCH REVISED SCHEDULE.

ARTICLE 33. MATERIALS AND WORK

- (a) Except as otherwise specifically stated in this Agreement, CONTRACTOR shall provide and pay for all materials, supplies, tools, equipment, labor, transportation, superintendence, temporary constructions of every nature, and all other services and facilities of every nature whatsoever necessary to execute and complete the Project within the specified time.
- (b) Unless otherwise specified, all materials shall be new and the best of their respective kinds and grades as noted or specified, and workmanship shall be of good quality.
- (c) Materials shall be furnished in ample quantities and at such times as to insure uninterrupted progress of work and shall be stored properly and protected as required.
- (d) CONTRACTOR shall, after issuance of the Notice to Proceed by DISTRICT, place orders for materials and/or equipment as specified so that delivery may be made without delays to the work. CONTRACTOR shall, upon demand by the ARCHITECT, furnish to the ARCHITECT documentary evidence showing that orders have been placed.
- (e) DISTRICT reserves the right, due to any neglect in not complying with the above instructions, to place orders for such materials and/or equipment as it may deem advisable in order that the work may be completed by the date specified in the Agreement, and all expenses incidental to the procuring of these materials and/or equipment shall be paid for by the CONTRACTOR.
- (f) No materials, supplies, or equipment for work under this Agreement shall be purchased subject to any chattel mortgage or under a conditional sale or other agreement by which an interest therein or in any part thereof is retained by the seller or supplier. CONTRACTOR warrants good title to all material, supplies, and equipment installed or incorporated in the work and agrees upon completion of all work to deliver the premises, together with all improvements and appurtenances constructed or placed thereon by it, to DISTRICT free from any claims, liens, or charges. CONTRACTOR further agrees that neither it nor any

person, firm, or corporation furnishing any materials or labor for any work covered by this Agreement shall have any right to any lien upon the premises or any improvement or appurtenance thereon, except that CONTRACTOR may install metering devices or other equipment of utility companies or of political subdivisions, title to which is commonly retained by the utility company or political subdivision. In the event of installation of any such metering device or equipment, CONTRACTOR shall advise DISTRICT as to the owner thereof.

- (g) Nothing contained in this Article, however, shall defeat or impair the rights of persons furnishing material or labor under any bond given by CONTRACTOR for their protection or any rights under any law permitting such persons to look to funds due CONTRACTOR in the hand of DISTRICT, and this provision shall be inserted in all subcontracts and material contracts and notice of its provisions shall be given to all persons furnishing materials or labor when no formal contract is entered into for such materials or labor.
- (g) Materials and/or equipment and the attendant liability for its protection and safety shall remain in the CONTRACTOR until incorporated in the work and accepted by the DISTRICT; no part of the materials and/or equipment shall be removed from its place of storage except for immediate installation in the work; and CONTRACTOR shall keep an accurate inventory of all materials and/or equipment in a manner satisfactory to the DISTRICT or its authorized representative. Refer to the Article entitled SCHEDULE OF VALUES AND PROGRESS PAYMENT APPLICATIONS for material title.

ARTICLE 34. INTEGRATION OF WORK

- (a) CONTRACTOR shall do all cutting, fitting, patching, and preparation of work as required to make its several parts come together properly, and fit it to receive or be received by work of other contractors; including both the CONTRACTOR's and DISTRICT's forces. In the event of clarifications, the CONTRACTOR shall follow all Supplemental Instructions (SI's) given by the ARCHITECT.
- (b) All costs caused by defective or ill-timed work shall be borne by CONTRACTOR.
- (c) CONTRACTOR shall not endanger any work by cutting, excavating, or otherwise altering work and shall not cut or alter work of any other CONTRACTOR without the written consent of the ARCHITECT. CONTRACTOR shall be solely responsible for protecting existing work on adjacent properties and shall obtain all required permits for shoring and excavations near property lines.
- (d) When modifying existing work or installing new work adjacent to existing work, CONTRACTOR shall match, as closely as conditions of the site and materials will allow, the finishes, textures, and colors of the original work, refinishing existing work as required, at no additional cost to DISTRICT.

ARTICLE 35. OBTAINING OF PERMITS, LICENSES AND EASEMENTS

- (a) Permits, licenses, and certificates necessary for prosecution of work, shall be secured and paid for by CONTRACTOR, unless otherwise specified. All such permits, licenses, and certificates shall be delivered to the ARCHITECT before demand is made for the certificate of final payment. CONTRACTOR shall, and shall require Subcontractors to, maintain CONTRACTOR's licenses in effect as required by law.
- (b) Easements for permanent structures or permanent changes in existing facilities shall be secured and paid for by DISTRICT, unless otherwise specified.

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

ARTICLE 36. SURVEYS

Surveys to determine location of property lines and corners will be supplied by DISTRICT. Surveys to determine locations of construction, grading, and site work, shall be provided by CONTRACTOR. CONTRACTOR shall notify DISTRICT of the requested survey information, no less than seven (7) days before the requested information is required for the continuation of CONTRACTOR's work.

ARTICLE 37. EXISTING UTILITY LINES; REMOVAL, RESTORATION

- (a) Pursuant to Government Code Section 4215, the DISTRICT assumes the responsibility for removal, relocation, and protection of utilities located on the construction site at the time of commencement of construction under this Agreement with respect to any such utility facilities which are not identified in the plans and specifications. The CONTRACTOR shall not be assessed for liquidated damages for delay in completion of the Project caused by failure of the DISTRICT to provide for removal or relocation of such utility facilities. If the CONTRACTOR, while performing work under this Agreement, discovers utility facilities not identified by the DISTRICT in the plans or specifications, CONTRACTOR shall immediately notify the DISTRICT and the utility in writing. CONTRACTOR shall be compensated according to the provisions governing changes in the work.
- (b) This Article shall not be construed to preclude assessment against the CONTRACTOR for any other delays in completion of the work. Nothing in this Article shall be deemed to require the DISTRICT to indicate the presence of existing service laterals or appurtenances whenever the presence of such utilities on the construction site can be inferred from the presence of other visible facilities, such as buildings, meter junction boxes, on or adjacent to the site of the construction.
- (c) As part of the work to be performed, CONTRACTOR shall provide the notices and proceed in accordance with Government Code Sections 4216.2, 4216.3 and 4216.4 (available at <http://www.Digalert.com>), and shall pay all fees charged pursuant to Government Code Section 4216, et seq.
- (d) Prior to any underground excavation and/or trenching within the CONTRACTOR's scope of Work, the CONTRACTOR shall provide the DISTRICT with a two (2) working day notice. The DISTRICT shall identify underground services to within a 5'-0" +/- tolerance of the said service. Should the DISTRICT not identify a service, and the CONTRACTOR damage such a service CONTRACTOR shall provide both the DISTRICT and the ARCHITECT with notice. The DISTRICT shall have the authority to repair the damaged service, or the DISTRICT and/or ARCHITECT can direct CONTRACTOR to repair the damaged service according to the provisions governing changes in the work. In the event CONTRACTOR damages a service(s) that have been identified by the DISTRICT, CONTRACTOR shall repair service at no cost to the DISTRICT. CONTRACTOR is required to schedule, notify and coordinate with "U.S.A. Locates" for the location(s) of all off-site services and or service connections.

ARTICLE 38. WORK TO COMPLY WITH APPLICABLE LAWS AND REGULATIONS

- (a) CONTRACTOR shall give all notices and comply with all laws, ordinances, rules, and regulations applicable to the work as indicated and specified. All work shall be performed in conformance to the requirements of CCR, Title 24, Parts 1 through 5, Part 7, Part 9 and Title 19.

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

ARTICLE 39. ACCESS TO WORK

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

ARTICLE 40. TIMELY PAYMENTS BY CONTRACTOR

CONTRACTOR shall pay:

- (a) For all transportation and utility services not later than the 20th day of the calendar month following that in which such services are rendered;
- (b) For all materials, tools, and other expendable equipment to the extent of ninety percent (90%) of cost thereof, not later than the 20th day of the calendar month following that in which such materials, tools, and equipment are delivered at the site of the Project, and the balance of the cost thereof not later than the 30th day following completion of that part of the work in or on which such materials, tools, and equipment are incorporated or used; and
- (c) To each of its subcontractors, not later than the 5th day following each payment to CONTRACTOR by DISTRICT the respective amounts allowed CONTRACTOR on account of work performed by the respective subcontractor's to the extent of such subcontractor's interest therein.

ARTICLE 41. INSPECTOR'S FIELD OFFICE

CONTRACTOR shall provide for the exclusive use of the Project Inspector, including Special and/or Assistant Inspector(s), as required, a temporary field office of not less than 300 square feet in size; to be located as directed by Project Inspector and to be maintained until removal is authorized by DISTRICT. The Project Inspector's field office shall be delivered on or within ten (10) working days after the Notice to Proceed is issued. The office shall be of substantial waterproof construction with adequate natural light and ventilation by means of stock design windows. Door shall have a key-type lock and a padlock hasp (provide all keys to the Project Inspector and/or ARCHITECT). A desk, a table satisfactory for study of plans, two chairs, 4-drawer standard file cabinet (lockable), and wood shelves as needed, shall be provided by CONTRACTOR. CONTRACTOR shall also provide and pay for adequate electric lights, two (2) telephone service lines, telephone (not a pay phone), telephone answering machine, plain paper facsimile machine, and a ducted heater/air-conditioner. Provide a plain paper copier. In the event the copier is purchased, the DISTRICT will take possession of the copier upon removal of the Project Inspector's trailer.

ARTICLE 42. UTILITIES

- (a) All utilities, including but not limited to electricity, water, gas, and telephone used on the work shall be furnished and paid for by CONTRACTOR. CONTRACTOR shall furnish and install necessary temporary distribution systems, including meters, if necessary, from

distribution points to all points on the site where the utility is necessary to carry on the work. Upon completion of the work, CONTRACTOR shall remove all temporary distribution systems.

- (d) If this Contract is for a modernization, reconstruction and or an addition to existing building(s),
 - (1) CONTRACTOR may, with written permission of DISTRICT, use DISTRICT's existing utilities by making prearranged payments to DISTRICT for utilities used by CONTRACTOR for construction.
 - (2) CONTRACTOR shall arrange, schedule and pay for all temporary utilities to the entire facility and/or portion(s) of the facility, including but limited to electrical power, water and gas. The entire facility and/or portion of the facility shall be any area that is affected by a utility disruption and/or effects the function and use of the facility.

ARTICLE 43. SANITARY FACILITIES

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

ARTICLE 44. CLEANING UP

CONTRACTOR shall at all times keep work site free from CONTRACTOR generated debris such as waste, rubbish, and excess materials and equipment caused by this work, at the least on a daily basis. CONTRACTOR shall not leave debris under, in, or about the work site. Upon completion of CONTRACTOR work, CONTRACTOR shall clean all interior and exterior materials installed by CONTRACTOR, and in addition to, all buildings, including fixtures, equipment, walls, floors, ceilings, roofs, window sills and ledges, horizontal projections, and any areas where debris has collected as a direct or indirect result of the CONTRACTOR work. Such cleaning shall consist of polishing all glass, plumbing fixtures, and finish hardware and similar finish surfaces and equipment. If the project consists of any street improvements (paving / gutter and/or sidewalk surfaces), drain inlets and any pipeline facilities, such work shall also be free of any debris and sediments. CONTRACTOR shall be responsible for removing all hazardous waste from the job-site in containers provided by CONTRACTOR.

ARTICLE 45. PATENTS, ROYALTIES, AND INDEMNITIES

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

ARTICLE 46. GUARANTEE

- (a) CONTRACTOR warrants that the work (which includes any equipment furnished by CONTRACTOR as part of the materials) shall:
 - (1) Be free from defects in workmanship and material; Be free from defects in any design performed by CONTRACTOR;

- (2) Be new, and conform and perform to the requirements stated in the specifications and where detail requirements are not so stated, shall conform to applicable industry standards; and
 - (3) Be suitable for the use stated in the specifications.
- (b) The warranty period for discovery of defective work shall commence on the date stamped on the Notice of Completion verifying County recordation and continue for the period set forth in the specifications or for one year if not so specified. If, during the warranty period, the work is not available for use due to defective work, such time of unavailability shall not be counted as part of the warranty period. The warranty period for corrected defective work shall continue for a duration equivalent to the original warranty period.
- (c) DISTRICT shall give CONTRACTOR prompt written notice after discovery of any defective work. CONTRACTOR shall correct any such defective work, as well as any damage to any other part of the work resulting from such defective work, and shall provide repair, replacement, or reimbursement, at its sole expense, in a manner approved by the DISTRICT and with due diligence and dispatch as required to make the work ready for use by DISTRICT, ordinary wear and tear, unusual abuse or neglect excepted. Such corrections shall include, but not be limited to, any necessary adjustments, modifications, changes of design (unless of DISTRICT's design), removal, repair, replacement or reinstallation, and shall include all necessary parts, materials, tools, equipment, transportation charges and labor as may be necessary, and cost of removal and replacement of work shall be performed at a time and in such a manner so as to minimize the disruption to DISTRICT's use of the work.
- (d) In the event of failure of CONTRACTOR or Surety to commence and pursue with diligence any such repairs or replacements within **ten (10) days** after being notified in writing, DISTRICT is hereby authorized to proceed to have defects repaired or replaced and made good at the expense of the CONTRACTOR and the Surety who hereby agree to pay any costs and charges therefor immediately on demand.
- (e) If, in the opinion of the DISTRICT, defective work creates a dangerous condition or requires immediate correction or attention to prevent further loss to the DISTRICT or to prevent interruption of operations of the DISTRICT, the DISTRICT will attempt to give the written notice required by this Article. If the CONTRACTOR or Surety cannot be contacted or neither complies with the DISTRICT's requirements for correction within a reasonable time as determined by the DISTRICT, the DISTRICT may, notwithstanding the provisions of this Article, proceed to make such correction or provide such attention and the costs of such correction or attention shall be charged against the CONTRACTOR and Surety. Such action by the DISTRICT will not relieve the CONTRACTOR and Surety of the guarantees provided in this Article or elsewhere in the Project documents.
- (f) This Article does not in any way limit the guarantees on any items for which a longer guarantee is specified or on any items for which a manufacturer gives a guarantee for a longer period. CONTRACTOR shall furnish to DISTRICT all appropriate guarantee or warranty certificates upon completion of the Project or upon request by DISTRICT.
- (g) All guarantees required under this Article shall be in writing on the Guarantee form included in the Project documents, or as furnished by the DISTRICT.
- (h) CONTRACTOR shall provide to DISTRICT instruction manuals for all items which require same.
- (i) Nothing herein shall limit any other rights or remedies available to DISTRICT.

ARTICLE 47. DUTY TO PROVIDE FIT WORKERS

- (a) CONTRACTOR and Subcontractors shall at all times enforce strict discipline and good order among their employees and shall not employ on the work any unfit person or anyone not skilled in the work assigned to such person. It shall be the responsibility of CONTRACTOR to ensure compliance with this Article.
- (b) Any person in the employ of the CONTRACTOR or Subcontractors whom DISTRICT or ARCHITECT may deem incompetent, unfit, troublesome or otherwise undesirable shall be excluded from the work site and shall not again be employed on it except with the written consent of DISTRICT.

ARTICLE 48. WAGE RATES

- (a) Pursuant to the provisions of Article 2 (commencing at Section 1770), Chapter 1, Part 7, Division 2 of the Labor Code, the governing board of DISTRICT has obtained the general prevailing rate of per diem wages and the general prevailing rate for holiday and overtime work in the locality in which this public work is to be performed for each craft, classification or type of worker needed for this Project from the Director of the Department of Industrial Relations ("Director.") These rates are on file at the DISTRICT's business office and copies will be made available to any interested party on request. CONTRACTOR shall post a copy of such wage rates at the work site.
- (b) Holiday and overtime work, when permitted by law, shall be paid for at a rate of at least one and one-half times the above specified rate of per diem wages, unless otherwise specified. Holidays shall be defined in the Collective Bargaining Agreement applicable to each particular craft, classification or type of worker employed.
- (c) CONTRACTOR shall pay and shall cause to be paid each worker engaged in work on the Project not less than the general prevailing rate of per diem wages determined by the Director, regardless of any contractual relationship which may be alleged to exist between the CONTRACTOR or any Subcontractor and such workers.
- (d) If during the period this bid is required to remain open, the Director of Industrial Relations determines that there has been a change in any prevailing rate of per diem wages in the locality in which this public work is to be performed, such change shall not alter the wage rates in the Notice Calling for Bids or the contract subsequently awarded.
- (e) Pursuant to Labor Code Section 1775, CONTRACTOR and any subcontractor shall as a penalty to the DISTRICT, forfeit two hundred dollars (\$200) for each calendar day, or portion thereof, for each worker paid less than the prevailing rate of per diem wages, determined by the Director, for such craft or classification in which such worker is employed for any public work done under the Agreement by CONTRACTOR or by any Subcontractor under it. The amount of the penalty shall be determined by the Labor Commission and shall be based on consideration of the CONTRACTOR's or subcontractor's mistake, inadvertence or neglect in failing to pay the correct prevailing rate of per diem wage, or the previous record of the CONTRACTOR in meeting his or her prevailing rate of per diem wage obligations, or the CONTRACTOR's or subcontractor's willful failure to pay the correct prevailing rate of per diem wages. A mistake, inadvertence or neglect in failing to pay the correct prevailing rate of per diem wage is not excusable if the CONTRACTOR or subcontractor had knowledge of his or her obligations under this part. The difference between such prevailing rate of per diem wage and the amount paid to each worker for each calendar day or portion thereof for which each worker was paid less than the prevailing rate of per diem wage shall be paid to each worker by the CONTRACTOR or subcontractor.

- (f) Any workers employed to perform work on the Project, which work is not covered by any craft or classification listed in the general prevailing rate of per diem wages determined by the Director shall be paid not less than the minimum rate of wages specified therein for the craft or classification which most nearly corresponds to work to be performed by them, and such minimum wage rate shall be retroactive to time of initial employment of such persons in such craft or classification.
- (g) Pursuant to Labor Code Section 1773.1, per diem wages are deemed to include employer payments for health and welfare, pension, and vacation pay.
- (h) CONTRACTOR shall post at appropriate conspicuous points on the site of the Project, a schedule showing all determined minimum wage rates and all authorized deductions, if any, from unpaid wages actually earned.

ARTICLE 49. HOURS OF WORK

- (a) As provided in Article 3 (commencing at Section 1810), Chapter 1, Part 7, Division 2 of the Labor Code, eight (8) hours of labor shall constitute a legal day's work. The time of service of any worker employed at any time by the CONTRACTOR or by any Subcontractor on any subcontract under this Agreement upon the work or upon any part of the work contemplated by this Agreement shall be limited and restricted by the Agreement to eight (8) hours per day, and forty (40) hours during any one week, except as hereinafter provided. Notwithstanding the provisions hereinabove set forth, work performed by employees of CONTRACTOR in excess of eight (8) hours per day and forty (40) hours during any one week, shall be permitted upon this public work upon compensation for all hours worked in excess of eight (8) hours per day at not less than one and one-half times the basic rate of pay.
- (b) The CONTRACTOR shall keep and shall cause each Subcontractor to keep an accurate record showing the name of and actual hours worked each calendar day and each calendar week by each worker employed by CONTRACTOR in connection with the work or any part of the work contemplated by this Agreement. The record shall be kept open at all reasonable hours to the inspection of the DISTRICT and to the Division of Labor Standards Enforcement, Department of Industrial Relations.
- (c) Pursuant to Labor Code Section 1813, the CONTRACTOR or subcontractor shall pay to the DISTRICT a penalty of twenty-five Dollars (\$25) for each worker employed in the execution of this Contract by the CONTRACTOR or by any Subcontractor for each calendar day during which such worker is required or permitted to work more than eight (8) hours in any one calendar day and 40 hours in any one calendar week in violation of the provisions of Article 3 (commencing at Section 1810), Chapter 1, Part 7, Division 2 of the Labor Code.
- (d) Any work necessary to be performed after regular working hours, or on Sundays or other holidays shall be performed without additional expense to DISTRICT.

ARTICLE 50. PAYROLL RECORDS

- (a) Pursuant to the provisions of Labor Code Section 1776, the CONTRACTOR shall keep and shall cause each Subcontractor performing any portion of the work under this Agreement to keep an accurate payroll record, showing the name, address, social security number, work classification, straight time and overtime hours worked each day and week, and the actual per diem wages paid to each journeyman, apprentice, worker, or other employee employed by CONTRACTOR in connection with the work. Each payroll record shall contain or be verified by a written declaration that is made under penalty of perjury, stating both of the following:
 - (1) The information contained in the payroll record is true and correct.

- (2) The employer has complied with the requirements of sections 1771, 1811 and 1815 for any work performed by his or her employees on the public works project.
- (b) The payroll records enumerated under subdivision (a) shall be certified and shall be available for inspection at all reasonable hours at the principal office of the CONTRACTOR on the following basis:
- (1) A certified copy of an employee's payroll record shall be made available for inspection or furnished to the employee or his or her authorized representative on request.
 - (2) A certified copy of all payroll records enumerated in subdivision (a) shall be made available for inspection or furnished upon request to a representative of the DISTRICT, the Division of Labor Standards Enforcement, and the Division of Apprenticeship Standards of the Department of Industrial Relations.
 - (3) A certified copy of all payroll records enumerated in subdivision (a) shall be made available for inspection upon request by the public or copies thereof made; provided, however, that a request by the public shall be made through either the DISTRICT, the Division of Apprenticeship Standards, or the Division of Labor Standards Enforcement. If the requested payroll records have not been provided pursuant to paragraph (2), the requesting party shall, prior to being provided the records, reimburse the costs of preparation by the CONTRACTOR, Subcontractors, and the entity through which the request was made. The public shall not be given access to the records at the principal office of the CONTRACTOR.
 - (4) The form of certification shall be as follows:

I, _____ (Name-print), the undersigned,
 am _____ (position in business) with the authority to act for and on
 behalf of _____ (Name of business and/or
 CONTRACTOR), certify under penalty of perjury that the records or copies thereof
 submitted and consisting of _____
 _____ (description, number of
 pages) are the originals or true, full and correct copies of the originals which depict
 the payroll record(s) of the actual disbursements by way of cash, check, or whatever
 form to the individual or individuals named.

Dated: _____
 Signature: _____
- (c) CONTRACTOR or subcontractor shall file a certified copy of the payroll records enumerated in subdivision (a) with the entity that requested the records within ten (10) days after receipt of a written request. In the event that the CONTRACTOR or subcontractor fails to comply within the 10-day period, the CONTRACTOR or subcontractor shall, as a penalty to the DISTRICT, forfeit twenty-five Dollars (\$25) for each calendar day, or portion thereof, for each worker, until strict compliance is effectuated. Upon the request of the Division of Apprenticeship Standards or the Division of Labor Standards Enforcement, these penalties shall be withheld from progress payments then due. Contractor is not subject to a penalty assessment pursuant to this provision due to the failure of a subcontractor to comply.
- (d) Any copy of payroll records made available for inspection as copies and furnished upon request to the public by the DISTRICT, the Division of Apprenticeship Standards, or the Division of Labor Standards Enforcement shall be marked or obliterated in such a manner as

to prevent disclosure of an individual's name, address, and social security number. The name and address of the CONTRACTOR shall not be marked or obliterated.

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

ARTICLE 51. APPRENTICES

- (a) The CONTRACTOR acknowledges and agrees that, if this Agreement involves a dollar amount greater than or a number of working days greater than that specified in Labor Code Section 1777.5, this Agreement is governed by the provisions of Labor Code Section 1777.5. It shall be the responsibility of the CONTRACTOR to ensure compliance with this Article and with Labor Code Section 1777.5 for all apprenticing occupations.
- (b) Apprentices of any crafts or trades may be employed and, when required by Labor Code Section 1777.5, shall be employed provided they are properly registered in full compliance with the provisions of the Labor Code.
- (c) Every such apprentice shall be paid the standard wage paid to apprentices under the regulations of the craft or trade at which he or she is employed, and shall be employed only at the work of the craft or trade to which he or she is registered.
- (d) Only apprentices, as defined in Section 3077, who are in training under apprenticeship standards and written apprentice agreements under Chapter 4 (commencing at Section 3070), Division 3 of the Labor Code, are eligible to be employed on public works. The employment and training of each apprenticeship shall be in accordance with the provisions of the apprenticeship standards and apprentice agreements under which he or she is training.
- (e) Pursuant to Labor Code Section 1777.5, the CONTRACTOR and any Subcontractors employing workers in any apprenticeship craft or trade in performing any work under this Agreement shall apply to the applicable joint apprenticeship committee for a certificate approving the CONTRACTOR or Subcontractor under the applicable apprenticeship standards for the employment and training of apprentices.
- (f) Every CONTRACTOR and Subcontractor shall submit contract award information to the applicable joint apprenticeship committee which shall include an estimate of journeyman hours to be performed under the Agreement, the number of apprentices to be employed and the approximate dates the apprentices will be employed.
- (g) If the CONTRACTOR or Subcontractor willfully fails to comply with Labor Code Section 1777.5, then, upon a determination of noncompliance by the Administrator of Apprenticeship, it shall:
 - (1) be denied the right to bid on any subsequent project for one year from the date of such determination; and
 - (2) forfeit as a penalty to the DISTRICT fifty dollars (\$50) per day for each calendar day of noncompliance, which shall be withheld from any payment due or to become due under the terms of this Agreement. Interpretation and enforcement of these provisions shall be in accordance with the rules and procedures of the California Apprenticeship Council.
- (h) The CONTRACTOR and all Subcontractors shall comply with Labor Code Section 1777.6, which section forbids certain discriminatory practices in the employment of apprentices.

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

ARTICLE 52. LABOR - FIRST AID

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

ARTICLE 53. PROTECTION OF PERSONS AND PROPERTY

- (a) The CONTRACTOR shall be responsible for all damages to persons or property that occur as a result of its fault or negligence in connection with the prosecution of this Agreement and shall take all necessary measures and be responsible for the proper care and protection of all materials delivered and work performed until completion and final acceptance by the DISTRICT. The CONTRACTOR shall remove all mud, water, or other elements as may be required for the proper protection and prosecution of its work, including the placement of gravel beds and gravel roads for access to and around the work. CONTRACTOR shall provide such heat, covering, and enclosures as are necessary to protect all work, materials, equipment, appliances, and tools against damage by weather conditions. All work shall be solely at the CONTRACTOR's risk with the exception of damage to the work caused by "acts of God" as defined in Public Contract Code Section 7105.
- (b) CONTRACTOR shall take, and require Subcontractors to take, all necessary precautions for the safety of workers and shall comply with all applicable federal, state, local and other safety laws, standards, orders, rules, regulations, and building codes to prevent accidents or injury to persons on, about, or adjacent to the work site and to provide a safe and healthful place of employment. CONTRACTOR shall furnish, erect and properly maintain at all times, as directed by DISTRICT or ARCHITECT or as required by the conditions and progress of work, all necessary safety devices, safeguards, construction canopies, signs, audible devices for protection of the blind, safety rails, belts and nets, barriers, lights, and watchmen for protection of workers and the public and shall post danger signs warning against hazards created by such features in the course of construction. CONTRACTOR shall designate a responsible employee, whose duty shall be to post information regarding protection and obligations of workers and other notices required under occupational safety and health laws, to comply with reporting and other occupational safety requirements, and to protect the life, safety and health of workers. The name and position of the person so designated shall be reported in writing to DISTRICT by CONTRACTOR. CONTRACTOR shall correct any violations of safety laws, standards, orders, rules, or regulations. Upon the issuance of a citation or notice of violation by the Division of Occupational Safety and Health, such violation shall be corrected immediately by the CONTRACTOR at CONTRACTOR's expense.
- (c) In an emergency affecting safety of person or of work or of adjoining property, CONTRACTOR, without special instruction or authorization from ARCHITECT or DISTRICT, is hereby permitted to act, at its discretion, to prevent such threatened loss or injury; and CONTRACTOR shall so act if so authorized or instructed by ARCHITECT or DISTRICT. Any compensation claimed by CONTRACTOR on account of emergency work shall be determined by written agreement with the DISTRICT.

- (d) CONTRACTOR shall take adequate precautions to protect existing roads, sidewalks, curbs, pavements, utilities, adjoining property and structures (including, without limitation, protection from settlement or loss of lateral support), and to avoid damage thereto, and repair any damage thereto caused by construction operations.
- (e) CONTRACTOR shall (unless waived by the DISTRICT in writing):
 - (1) When performing new construction on existing sites, become informed and take into specific account the maturity of the students on the site; and perform work which may interfere with school routine before or after school hours; enclose working area with a substantial barricade; and arrange work to cause a minimum amount of inconvenience and danger to students and faculty in their regular school activities.
 - (2) Provide substantial barricades around any shrubs or trees indicated to be preserved.
 - (3) Deliver materials to the building area over the route designated by ARCHITECT.
 - (4) When directed by DISTRICT, take preventive measures to eliminate objectionable dust.
 - (5) Enforce all instructions of DISTRICT and ARCHITECT regarding signs, advertising, fires, and smoking and require that all workers comply with all regulations while on construction site.
 - (6) Take care to prevent disturbing or covering any survey markers, monuments, or other devices marking property boundaries or corners. If such markers are disturbed by accident, they shall be replaced by an approved civil engineer at no cost to the DISTRICT.

ARTICLE 54. NON-DISCRIMINATION

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

ARTICLE 55. SCHEDULE OF VALUES AND PROGRESS PAYMENT APPLICATIONS

- (a) CONTRACTOR shall furnish on a form approved by DISTRICT:
 - (1) Within **ten (10) days** of award of the contract and commensurate with the specification section entitled **CONSTRUCTION SCHEDULES**, provide a detailed preliminary estimate giving a complete breakdown of contract price for each area of the project and/or site, which shall include all Subcontractor/supplier agreements showing the dollar amounts of these agreements to justify the schedule of values, and showing separate line items for the material cost(s) and installation cost(s).
 - (2) A periodical itemized estimate of work done for purpose of making partial payments thereon, that is until the cost loaded PBS construction schedule has been developed.
 - (3) Within **ten (10) days** of a request by DISTRICT, a schedule of estimated monthly payments which shall be due CONTRACTOR under the **Agreement**.
- (b) Values employed in making up any of these schedules are subject to the ARCHITECT's written approval and will be used only for determining the basis of partial payments and will not be considered as fixing a basis for additions to or deductions from contract price.

- (1) Unless otherwise agreed in writing, payment for CONTRACTOR's mobilization costs shall be cost loaded as follows:

Project Completion Percentage	Payment for Mobilization Percentage
When 5% of the Project Sum is billed, then...	50% of mobilization cost can be billed.
When 10% of the Project Sum is billed, then...	25% of mobilization cost can be billed.
When 20% of the Project Sum is billed, then...	20% of mobilization cost can be billed.
When 50% of the Project Sum is billed, then...	5% of mobilization cost can be billed.

- (c) Materials included in the progress payments shall be stored properly and protected as required to prevent damage, including but not limited to, rust, dents, scratches, and decay. Materials stored on-site and subject to payment, shall be gated and secured to prevent theft and/or vandalism. When the CONTRACTOR requests payment for materials not incorporated in the Work, the following terms and conditions shall apply:
- (1) For permanent materials delivered to the project site, or stored in an approved location off-site, an allowance of one-hundred percent (100%) of the material costs plus freight charges as invoiced may be made. The allowance will be based upon validated invoices or bills for such materials, including freight charges, and a copy thereof shall be made a part of the documented records for the project. All permanent materials approved for payment will have been tested by the DISTRICT for compliance with the requirements of the Contract Documents. Payment will only be made for permanent materials that conform to the requirements of the Contract Documents.
 - (2) No allowance shall be made for fuels, form lumber, falsework, temporary structures or other materials of any kind that will not become an integral part of the finished contraction.
 - (3) All permanent materials, for which an allowance is requested, shall be stored in an approved manner where damage is not likely to occur. If any of the stored materials are lost or become damaged in any manner, CONTRACTOR shall be responsible for repairing or replacement of such damaged materials. The value of the lost or damaged materials permanent materials shall be deducted from the CONTRACTOR's subsequent progress payments until replacement has been accomplished.
 - (4) Permanent materials, for which payment has been made, either wholly or partially, shall not be removed from the approved location until such time that it is incorporated into the Work, unless approved by the DISTRICT and/or the ARCHITECT.
 - (5) The following must accompany the written request for payment of stored materials:
 - (A) Consent of the Surety specifying the material type and the bid items in which the material is to be used.
 - (B) Validating invoices showing that payment for the material has been made.
 - (C) A notarized statement from CONTRACTOR attesting that the invoices, as submitted do not include charges and/or fees for placing, handling, erecting or any other charges and/or markups other than the actual material cost, sales tax(es) if applicable, and freight charges.
 - (D) Bill of lading showing delivery of the material.
 - (E) Inspection test reports, and certifications if required by the Contract Documents.
 - (F) CONTRACTOR shall obtain a negotiable warehouse receipt, endorsed over to DISTRICT for materials and/or equipment stored in an off-site warehouse.

- (G) Certificate of insurance clearly indicating that the materials or equipment if fully insured against theft, fire, vandalism, malicious mischief, as well as other coverage required under the Contract Documents.
- (6) Nothing in these General Conditions shall be interpreted as requiring DISTRICT to pay for stored materials. DISTRICT shall decide on a case-by-case basis whether stored materials can be paid for. Some factors DISTRICT will consider are: CONTRACTOR's ability to meet the Project Schedule and milestones, the effectiveness of CONTRACTOR's quality control plan, how record drawings are being maintained and kept up, the status of the material submittals, and the on-going cleanliness of the Project and the Project Site. No payment will be made for stored materials that have not been submitted and accepted.
- (7) If the permanent materials are stored off-site, CONTRACTOR must pay DISTRICT's representative's transportation and lodging to see the permanent materials.
- (8) Full title to the materials and/or equipment shall vest with DISTRICT at the time of delivery to the site, warehouse or other storage location.
- (d) Commensurate with the Article entitled PAYMENTS and other requirements of the contract, and upon receipt of the ARCHITECT's approval of the Request for Payment, the DISTRICT will subtract a sum equal to ten percent (10%) of the value of the work performed up to the last day of the previous month, less the aggregate of previous payments. The value of the Work completed shall be an estimate only. No inaccuracy or error in said estimate shall operate to release the CONTRACTOR, or any surety, from damages arising from such Work or from enforcing each and every provision of this Contract, and the DISTRICT shall have the right subsequently to correct any error made in any estimate for payment. The CONTRACTOR shall not be entitled to have any payment requests processed, or be entitled to have any payment made for work performed, so long as any lawful or proper direction given by the DISTRICT concerning the Work, or any portion thereof, remains uncompleted with. At any time after the retention held by the DISTRICT totals five percent (5%) of the value of the contract and the DISTRICT, in its sole discretion, finds that satisfactory progress is being made, the DISTRICT may choose not to subtract the retention from remaining payment requests, and upon receipt of the CONTRACTOR'S bonding company letter of approval for such.

ARTICLE 56. CONTRACTOR CLAIMS

If the CONTRACTOR shall claim compensation for any damage sustained by reason of the acts of the DISTRICT or its agents, or if the CONTRACTOR disagrees with the DISTRICT's or Architect's decisions regarding a CONTRACTOR's Change Order Request (COR), the CONTRACTOR shall provide written "Notice" to the DISTRICT **within five (5) days** after sustaining of such damage, or being notified of an adverse decision, and provide within **fourteen (14) days** of the event the factual basis supporting the claim (unless otherwise specified). The written "Notice" shall state the summary points for which the factual bases will support the claim and cite in detail the Project documents (including plans and specifications) upon which the claim is to be based. CONTRACTOR's failure to notify the DISTRICT within such a period shall be deemed a waiver and relinquishment of such a claim. If such notice is given within the specified time, the procedure for its consideration shall be as stated above in these General Conditions. Refer to the Articles entitled, "**DEFINITIONS**", "**DISPUTES - ARCHITECT'S DECISIONS**", "**CHANGES AND EXTRA WORK**", "**NOTICE**" and "**WAIVER AND RELEASE FORMS**" for related Contract requirements. The claim, once submitted, shall be a "Certified Claim".

In addition, on or before the end of the month for which the claim has been filed, the CONTRACTOR shall also file with the DISTRICT the **WAIVER AND RELEASE FORMS**, for which the claim and the amount of the claim is identified. If the claim is not indicated on the

WAIVER AND RELEASE FORMS, CONTRACTOR's claim shall be forfeited and invalidated and it shall not be entitled to consideration for time or payment on account of any such claim.

ARTICLE 57. DISPUTES - ARCHITECT's DECISIONS

- (a) The ARCHITECT shall, within a reasonable time, make decisions on all claims of the DISTRICT or CONTRACTOR and on all other matters relating to the execution and progress of the work. The decisions of the ARCHITECT shall not be binding, but shall be advisory only.
- (b) Except for tort claims, all claims by the CONTRACTOR for a time extension, payment of money or damages arising from work done by, or on behalf of, the CONTRACTOR pursuant to the **Agreement** and payment of which is not otherwise expressly provided for or the claimant is not otherwise entitled to, or as to the amount of payment which is disputed by the DISTRICT of Three Hundred Seventy Five Thousand Dollars (\$375,000) or less shall be subject to the settlement and arbitration provisions procedures set forth in Public Contract Code Section 20104, et seq. Those sections require that the claim be in writing, include the documents necessary to substantiate the claim, and be filed on or before the final date of payment, subject to all time limits and notice requirements for filing claims under this Agreement.
 - (1) For claims less than Fifty Thousand Dollars (\$50,000) the DISTRICT shall respond in writing within **forty-five (45) days** of receipt of the claim or may request in writing within **thirty (30) days** additional documentation which, if required, shall be provided upon mutual agreement of the DISTRICT and the CONTRACTOR. The DISTRICT's written response to the claim shall be within **fifteen (15) days** after receipt of the further documentation or within a time period equivalent to that taken by the CONTRACTOR to provide the additional documentation, whichever is greater.
 - (2) For claims over Fifty Thousand Dollars (\$50,000) and less than or equal to Three Hundred Seventy Five Thousand Dollars (\$375,000), the DISTRICT shall respond in writing within **sixty (60) days** of receipt of the claim or may request in writing within **thirty (30) days** any additional documentation. If such additional documentation is required, it shall be provided upon mutual agreement of the DISTRICT and the CONTRACTOR. The DISTRICT's written response to the claim shall be submitted to the CONTRACTOR within **thirty (30) days** after receipt of further documentation or within a period of time no greater than that taken by the CONTRACTOR in producing the additional documentation, whichever is greater. If the CONTRACTOR disputes the DISTRICT's written response or the DISTRICT fails to respond within a timely fashion, the CONTRACTOR within **fifteen (15) days** after the response or failure to respond may demand in writing an informal conference to meet and confer for settlement of the issues in dispute, which conference shall be scheduled within **thirty (30) days** for settlement of the dispute. If the claim or any portion of the claim remains in dispute, the CONTRACTOR 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 his or her written claim until the time that the claim is denied as a result of the meet and confer process. Further, should legal action be pursued, the provisions relating to mediation and arbitration contained in Public Contract Code section 20104.4 shall be followed.
- (c) In the event of a dispute between the parties as to performance of the work, the interpretation of this Agreement or payment or nonpayment for work performed or not performed, the parties shall attempt to resolve the dispute. Pending resolution of the dispute, CONTRACTOR agrees to continue the work and/or disputed work diligently to completion.

If the dispute is not resolved, CONTRACTOR agrees it will neither rescind the Agreement nor stop the progress of the work and/or the disputed work, but CONTRACTOR's sole remedy shall be to submit such controversy to determination by a court of the State of California, in Fresno County, having competent jurisdiction of the dispute, after the Project has been completed, and not before.

- (d) All meetings and correspondence relative to disputes and claims, which involve offers of good faith and negotiations, are subject to the Evidence Code 1152 exclusions.

ARTICLE 58. PAYMENTS

- (a) Unless otherwise specified in writing, each month within **thirty (30) days** after receipt by the DISTRICT of the monthly progress schedule and the certification of application for payment by the ARCHITECT, there shall be paid to CONTRACTOR a sum equal to ninety percent (90%) of value of work performed and of materials delivered subject to or under the control of the DISTRICT and unused up to the last day of the previous month, less aggregate previous payments. Payments for Change Order items can be included into the monthly progress payments, that is after the Change Order has been fully executed and approved by the DISTRICT Governing Board and/or authorized representative. Monthly payments shall be made only on the basis of monthly estimates, which shall be prepared by CONTRACTOR on a form approved by DISTRICT and filed with ARCHITECT on or before the twenty-fifth (25th) day of the month, during which payment is to be made; ARCHITECT will endeavor to provide DISTRICT with signed copies of the payment application on or before seven (7) days of receipt from CONTRACTOR. Work completed as estimated shall be an estimate only and no inaccuracy or error in said estimate shall operate to release CONTRACTOR or Surety from any damages arising from such work or from enforcing each and every provision of this Agreement, and DISTRICT shall have the right subsequently to correct any error made in any estimate for payment. CONTRACTOR SHALL NOT BE ENTITLED TO HAVE ANY PAYMENT ESTIMATES PROCESSED OR BE ENTITLED TO HAVE ANY PAYMENT FOR WORK PERFORMED SO LONG AS ANY LAWFUL OR PROPER DIRECTION CONCERNING WORK, OR ANY PORTION THEREOF, GIVEN BY THE DISTRICT OR ARCHITECT SHALL REMAIN UNCOMPLIED WITH BY THE CONTRACTOR.
- (b) DISTRICT has discretion to require from the CONTRACTOR any of the following information with the application for payment:
 - (1) certified payroll covering the period of the prior application for payment;
 - (2) unconditional waivers and releases from all Subcontractors/suppliers for which payment was requested under the prior application for payment;
 - (3) receipts or bills of sale for any items.
 - (4) Signature of the Inspector, confirming that the maintenance of the Record Drawings is being kept up-to-date, and that the Record Drawings are not being used as a construction set.
- (c) Before payment is made hereunder, a certificate in writing shall be signed by the Project Inspector stating the project documents have been adhered to and to confirm the estimates in the certification of application for payment, then submitted to the ARCHITECT. The ARCHITECT shall state the work for which the payment is claimed has been performed in general conformance with the terms of the Project documents and that the amount stated in the certificate is due under the terms of the Project documents, in which the certificate shall be attached to and made a part of the application made and filed with the DISTRICT, provided that if the ARCHITECT or the Project Inspector shall, within **three (3) days** after written demand therefore, fail to deliver such certificate to the DISTRICT, the CONTRACTOR may file its application with the DISTRICT without said certificate, but together with such application shall file a statement that demand was made for such certificate and that the same was refused. Thereupon, the DISTRICT will either allow said

application as presented or shall, by an order entered on the minutes of said DISTRICT state the reasons for refusing to allow said application. It is understood, moreover, that the certificate of the ARCHITECT shall not be conclusive upon the DISTRICT, but shall be advisory only.

- (d) NO PAYMENT BY DISTRICT HEREUNDER SHALL BE INTERPRETED SO AS TO IMPLY THAT DISTRICT HAS INSPECTED, APPROVED, OR ACCEPTED ANY PART OF THE WORK. The final payment of ten percent (10%) of the value of the work done under this Agreement, if unencumbered, shall be made **thirty-five (35) days** after recording by the DISTRICT of the Notice of Completion. ACCEPTANCE WILL BE MADE ONLY BY ACTION OF THE GOVERNING BOARD OF DISTRICT.
- (e) Unless otherwise provided, on or before making request for final payment of the undisputed amount due under the Agreement, CONTRACTOR shall submit to DISTRICT, in writing a summary of all claims for compensation under or arising out of this Agreement which were timely filed. The acceptance by CONTRACTOR of the payment of the final amount shall constitute a waiver of all claims against DISTRICT under or arising out of this Agreement, except those previously made, in a timely manner and in writing, and identified by CONTRACTOR as unsettled at the time of CONTRACTOR's final request for payment.

ARTICLE 59. CHANGES AND EXTRA WORK

- (a) DISTRICT may, as provided by law and without affecting the validity of this Agreement, order changes, modifications, deletions and extra work by issuance of written change orders from time to time during the progress of the Project, with the contract sum and time being adjusted accordingly. All such work shall be executed under conditions of the original Agreement. DISTRICT has discretion to order changes on a "Unit Price", "Negotiated Sum", or "Time and Material" basis with adjustments to time made after CONTRACTOR has justified the impact on the critical path of the Project. The following records shall also be kept by CONTRACTOR:
 - (1) CONTRACTOR shall maintain its records in such a manner as to provide a clear distinction between the direct costs of any extra work and/or deductive work and the original Contract work. This requirement pertains to the costs for wholly or partially approved Change Order Requests (COR's), Construction Change Directives (CCD's), Change Orders (CO's) and work CONTRACTOR considered to be potential Change Orders.
 - (2) CONTRACTOR shall furnish within seven (7) days after the Notice to Proceed, a certified statement and detailed calculation from its accountant establishing the job site and pro rata home office overhead rates for CONTRACTOR and major Subcontractors, as determined by DISTRICT. Such shall be updated quarterly and filed with DISTRICT.
 - (3) CONTRACTOR shall furnish within seven (7) days after the Notice to Proceed, a complete listing of CONTRACTORS and Subcontractors hourly labor rates, indicating the direct hourly wage rate, payroll taxes and insurance costs.
- (b) Notwithstanding any other provision in the Project documents, the adjustment in the contract sum, if any, and the adjustment in the contract time, if any, set out in a change order shall constitute the entire compensation and/or adjustment in the contract time due CONTRACTOR arising out of the change in the work covered by the change order unless otherwise provided in the change order. The amount of the compensation due CONTRACTOR shall be calculated pursuant to **subparagraph (e)** of this Article. The entire compensation shall not include any additional charges not set forth in **subparagraph (e)** and shall not include delay damages (due to processing of a change order, refusal to sign a

change order) indirect, consequential, and incidental costs including any project management costs, extended home office and field office overhead, administrative costs and profit other than those amounts authorized under **subparagraph (e)** of this Article .

- (c) In giving instructions, ARCHITECT shall have authority to make minor changes in the work, not involving a change in cost, and not inconsistent with the purposes of the Project. The DISTRICT's authorized representative may authorize changes in work involving a change in cost and/or time. Except in an emergency endangering life or property, no extra work or change shall be made unless pursuant to a written order from DISTRICT, authorized by action of a subcommittee, and no claim for addition to contract sum shall be valid unless so ordered.
- (d) If the ARCHITECT determines that work required to be done constitutes extra work outside the scope of the Agreement, the ARCHITECT shall issue a request for a detailed proposal (RFP) or issue a Construction Change Directive (CCD) to the CONTRACTOR. CONTRACTOR will respond with a detailed proposal (COR) upon receipt of the RFP or CCD within fourteen (14) days of receipt of such documents. If the work is to be performed by a Subcontractor, CONTRACTOR must include a detailed bid from the Subcontractor.
- (e) Value of any such extra work, change, or deduction shall be determined at the discretion of DISTRICT in one or more of the following ways:
 - (1) By "**Unit Prices**" contained in CONTRACTOR's original bid and incorporated in the Project documents or fixed by subsequent "**Negotiated Sum**" agreement between DISTRICT and CONTRACTOR.
 - (2) By cost of labor and material and percentage for overhead and profit ("**time and material**"). If the value is determined by this method the following requirements shall apply:
 - (A) Daily Reports by CONTRACTOR.
 - (i) General. At the close of each working day, the CONTRACTOR shall submit a daily report to the Inspector, on forms approved by the DISTRICT, together with applicable delivery tickets, listing all labor, materials, and equipment involved for that day, and for other services and expenditures when authorized concerning extra work items. An attempt shall be made to reconcile the report daily, and the Inspector and the CONTRACTOR shall sign it. In the event of disagreement, pertinent notes shall be entered by each party to explain points that cannot be resolved immediately. Each party shall retain a signed copy of the report. Reports by Subcontractors or others shall be submitted through the CONTRACTOR. The CONTRACTOR shall organize and forward copies of the CONTRACTOR's and Inspector's reports to the ARCHITECT upon the completion of each "Time and Material" activity.
 - (ii) Labor. The report shall show names of workers, classifications, and hours worked and hourly rate. Project Superintendent expenses are not allowed.
 - (iii) Tool and Equipment Rental. No payment will be made for the use of tools which have a replacement value of **\$250** or less or where an invoice is not provided.

Regardless of ownership, the rates to be used in determining equipment rental costs shall not exceed listed rates prevailing locally at equipment rental sources, or distributors, at the time the work is performed. The rental

rates paid shall include the cost of fuel, oil, lubrication, supplies, small tools, necessary attachments, repairs and maintenance of any kind, depreciation, storage, insurance, and all incidentals. Necessary loading and transportation costs for equipment used on the extra work shall be included.

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

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

- (iv) Equipment. The report shall show type of equipment, size, identification number, and hours of operation, including loading and transportation, if applicable, and hourly/daily cost.
- (v) Other Services and Expenditures. Other services and expenditures shall be described in such detail as the DISTRICT may require.

(B) Basis for Establishing Costs

- (i) Labor. The costs of labor will be the actual cost for wages prevailing locally for each craft classification or type of workers at the time the extra work is done, plus employer payments of payroll taxes and insurance, health and welfare, pension, vacation, apprenticeship funds, and other direct costs resulting from federal, state or local laws, as well as assessments or benefits required by lawful collective bargaining agreements. The use of labor classifications, which would increase the extra work cost, will not be permitted unless the CONTRACTOR establishes the necessity for such additional costs. Labor costs for equipment operators and helpers shall be reported only when such costs are not included in the invoice for equipment rental.
- (ii) Materials. The cost of materials reported shall be at invoice or lowest current price at which such materials are locally available and delivered to the work site in the quantities involved, plus sales tax, freight and delivery. The DISTRICT reserves the right to approve materials and sources of supply, or to supply materials to the CONTRACTOR if necessary for the progress of the work. No markup shall be applied to any material provided by the DISTRICT.
- (iii) Tool and Equipment Rental. No payment will be made for the use of tools which have a replacement value of \$250 or less or where an invoice is not provided.
Regardless of ownership, the rates to be used in determining equipment rental costs shall not exceed listed rates prevailing locally at equipment rental source, or distributors, at the time the work is performed. The rental rates paid shall include the cost of fuel, oil, lubrication, supplies, small tools, necessary attachments, repairs and maintenance of any kind, depreciation, storage, insurance, and all incidentals. Necessary loading and transportation costs for equipment used on the extra work shall be

included. If equipment is used intermittently and, when not in use, could be returned to its rental source at less expense to the DISTRICT than holding it at the work site, it shall be returned, unless the CONTRACTOR elects to keep it at the work site at no expense to the DISTRICT. All equipment shall be acceptable to the ARCHITECT, in good working condition, and suitable for the purpose for which it is to be used. Manufacturer's ratings and manufacturer's approved modifications shall be used to classify equipment and it shall be powered by a unit of at least the minimum rating recommended by the manufacturer.

- (iv) Other Items. The DISTRICT may authorize other items, which may be required on the extra work. Such items include labor, services, material and equipment which are different in their nature from those required by the work and which are of a type not ordinarily available from the CONTRACTOR or any of the Subcontractors. Invoices covering all such items in detail shall be submitted with the request for payment.
 - (v) Invoices. Vendors' invoices for material, equipment rental, and other expenditures shall be submitted with the request for payment. If the request for payment is not substantiated by invoices or other documentation, the DISTRICT may establish the cost of the item involved at the lowest price, which was current at the time of the report.
- (3) The following form for "EXTRA WORK and/or DEDUCTIVE WORK" and the "OVERHEAD & PROFIT (O&P) PERCENTAGE SCHEDULE" shall be used as applicable by the DISTRICT and CONTRACTOR to communicate proposed additions and deductions to the Agreement. State and City sales taxes and payroll taxes and insurance shall be shown separately and will allowed on Extra Work and shall be credited on Deductive Work. No mark-up for overhead and profit will be allowed on taxes and insurance.

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FORM FOR EXTRA WORK AND/OR DEDUCTIVE WORK

SUBCONTRACTOR WORK (list each if more than one) **ADDITIVE** **DEDUCTIVE**

1	SUBCONTRACTOR LABOR TOTAL ①	\$ _____	\$ _____
2	SUBCONTRACTOR MATERIAL TOTAL ①,②	\$ _____	\$ _____
3	SUBCONTRACTOR EQUIPMENT TOTAL ①,②	\$ _____	\$ _____
4	SUBTOTAL #1 (LINES 1, 2 & 3)	\$ _____	\$ _____
5	SUBCONTRACTOR'S OVERHEAD AND PROFIT FOR SUBTOTAL #1 (LINE 4) ⑥	\$ _____	\$ _____
6	SUBTOTAL #2 (LINES 4 & 5) ⑥	\$ _____	\$ _____

CONTRACTORS WORK **ADDITIVE** **DEDUCTIVE**

7	CONTRACTOR LABOR TOTAL ①	\$ _____	\$ _____
8	CONTRACTOR MATERIAL TOTAL ①,②	\$ _____	\$ _____
9	CONTRACTOR EQUIPMENT TOTAL ①,②	\$ _____	\$ _____
10	SUBTOTAL #3 (LINES 7, 8 & 9)	\$ _____	\$ _____
11	CONTRACTOR'S OVERHEAD AND PROFIT FOR SUBTOTAL #3 (LINE 10) ⑥	\$ _____	\$ _____
12	CONTRACTOR'S OVERHEAD AND PROFIT FOR SUBTOTAL #1 (LINE 4) ⑥	\$ _____	\$ _____
13	SUBTOTAL #4 (LINES 10, 11 & 12)	\$ _____	\$ _____

ADDITIONAL COSTS **ADDITIVE** **DEDUCTIVE**

14	TAXES ④	\$ _____	\$ _____
15	CONTRACTOR'S BOND AND LIABILITY INSURANCE ⑤	\$ _____	\$ _____
16	GRAND TOTAL	\$ _____	\$ _____
17	NET TOTAL FOR C.O.R. ⑥	\$ _____	

①: Attach itemized list(s) indicating hours, rates, material quantity, material costs, and unit costs

②: Exclude the cost for taxes and place them in line 14.

⑥: Refer to the Overhead and Profit Schedule

④: ALL Taxes including but not limited to State/City Sales taxes, payroll taxes and all other insurance

⑤: Contractor's bond and liability insurance premium, if in fact actual bonds and insurance are to be purchased. Total costs shall not exceed 1% of the Net Total (line 17). Refer to the O&P Schedule.

⑥: Includes all direct and indirect costs, including but not limited to, acceleration, cumulative affect of the change(s), expediting the work, Fragnets, etc.

OVERHEAD & PROFIT (O&P) PERCENTAGE SCHEDULE

- (i) Refer to the O&P Schedule below. The term “Work” shall be considered the cost of the work, and does not include the overhead and profit mark-up’s.
- (ii) For work exceeding \$2,500, the CONTRACTOR’s Bond and Liability Insurance Premium shall be included in the CONTRACTOR’s Overhead mark-up.
- (iii) For work less than or equal to \$2,500, the CONTRACTOR’s Bond and Liability Insurance Premium may be excluded from the CONTRACTOR’s Overhead mark-up, and added in onto the “Form for EXTRA WORK and/or DEDUCTIVE WORK”.
- (iv) The O&P Schedule shall be used for “Negotiated Sum” and/or “Time and Materials” work. Unit Price work shall not have the overhead and profit mark-up applied to the work, on the basis that the Unit Price includes overhead and profit margins.

	Work by Subcontractor less than or equal to \$2,500	Work by Subcontractor more than \$2,500	Work by CONTRACTOR less than or equal to \$2,500	Work by CONTRACTOR more than \$2,500
Subcontractor Overhead & Profit	20%	15%		
CONTRACTOR Overhead & Profit	15% Excluding Bond Premium	10% Including Bond Premium	20% Excluding Bond Premium	15% Including Bond Premium
Total Overhead and Profit, not to exceed:	35%	25%	20%	15%

- (4) For “Negotiated Sum” and “Time and Material” pricing methods, the specified overhead and profit figures are defined and are agreed to include, but not limited to, the following:
 - (A) Home office administration costs
 - (B) Job site administration costs
 - (C) Small tools (Less than \$250 capital cost per item)
 - (D) Project staff and company vehicles
 - (E) Change Order preparation, procurement and set-up (including all payroll costs and fringe benefits), estimating, supervising, expediting, drafting and clerical/secretarial services.
 - (F) As-Built Drawing maintenance
 - (G) Supervising the work
 - (H) Time & Material documentation procedures
 - (I) The handling, transportation and warehousing of materials other than direct identifiable cost of specific deliveries, or as included in the price of the material.
 - (J) CPM Schedule Updates and Fragnets
- (5) IT IS EXPRESSLY UNDERSTOOD THAT THE VALUE OF SUCH EXTRA WORK OR CHANGES, AS DETERMINED BY ANY OF THE AFOREMENTIONED METHODS, EXPRESSLY INCLUDES ANY AND ALL OF CONTRACTOR’S COSTS AND EXPENSES, BOTH DIRECT AND INDIRECT, RESULTING FROM ADDITIONAL TIME REQUIRED ON THE PROJECT, OR RESULTING FROM DELAYS TO THE PROJECT, INCLUDING BUT NOT LIMITED TO ACCELERATION, CUMULATIVE AFFECT OF THE CHANGE(S), EXPEDITING THE WORK, FRAGNETS, ETC.

- (f) If the CONTRACTOR should claim that any instruction, request, drawing, specification, action, condition, omission, default, or other situation obligates the DISTRICT to pay additional compensation to CONTRACTOR or to grant an extension of time, or constitutes a waiver of any provision in the Agreement, the CONTRACTOR shall provide written "Notice" to the DISTRICT **within five (5) days** after sustaining of such damage, or being notified of an adverse decision, and provide within **fourteen (14) days** of the event the factual basis supporting the claim (unless otherwise specified). The written "Notice" shall state the summary points for which the factual bases will support the claim and cite in detail the Project documents (including plans and specifications) upon which the claim is to be based. CONTRACTOR's failure to notify the DISTRICT within such a period shall be deemed a waiver and relinquishment of such a claim. If such notice is given within the specified time, the procedure for its consideration shall be as stated above in these General Conditions. Refer to the Articles entitled, "**DEFINITIONS**", "**CONTRACTOR CLAIMS**", "**DISPUTES - ARCHITECT'S DECISIONS**", "**NOTICE**" and "**WAIVER AND RELEASE FORMS**" for related Contract requirements. The claim, once submitted, shall be a "Certified Claim".

In addition, on or before the end of the month for which the claim has been filed, the CONTRACTOR shall also file with the DISTRICT the **WAIVER AND RELEASE FORMS**, for which the claim and the amount of the claim is identified. If the claim is not indicated on the **WAIVER AND RELEASE FORMS**, CONTRACTOR's claim shall be forfeited and invalidated and it shall not be entitled to consideration for time or payment on account of any such claim.

- (g) If DISTRICT and CONTRACTOR fail to agree to the quantification of costs and/or time to be placed into a Bilateral Change Order, the DISTRICT at its own discretion may issue a Unilateral Change Order for those costs and/or time impacts that is deemed appropriate for the changed work conditions. Notwithstanding the issuance, execution, and approval of a Change Order, the CONTRACTOR shall proceed immediately with the changed work upon receipt of a Construction Change Directive (CCD). If CONTRACTOR disputes the Unilateral Change Order, CONTRACTOR may make a claim as stipulated in the Contract. Payment for Change Order items can be made, as defined in the Article entitled "**PAYMENTS**".

ARTICLE 60. COMPLETION

- (a) The DISTRICT shall accept completion of the Agreement and have the Notice of Completion recorded when the entire work including CONTRACTOR's punch list(s) and ARCHITECT's final review comments shall have been completed to the satisfaction of the DISTRICT. The work may only be accepted as complete by action of the DISTRICT's Governing Board.
- (b) However, the DISTRICT, at its sole option, may accept completion of the Agreement and have the Notice of Completion recorded when the entire work including individual portions of the work shall have been completed to the satisfaction of the DISTRICT, except for minor corrective items, as distinguished from incomplete items.
- (c) A final walk through of the Project to determine completion of the Agreement and to record the Notice of Completion shall occur only upon a valid claim by CONTRACTOR that the Project is complete except for minor corrective items. Any erroneous claims of completion by CONTRACTOR resulting in a premature walk through shall be at CONTRACTOR's sole cost and expense and DISTRICT shall make adjustments to the contract price by reducing the amount thereof to pay for any costs incurred by the DISTRICT due to the erroneous claims by the CONTRACTOR that the Project is complete. Minor corrective items shall be identified in the final walk through of the Project.

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

ARTICLE 61. ADJUSTMENTS TO CONTRACT PRICE

- (a) If CONTRACTOR defaults or neglects to carry out the work in accordance with the Project documents or fails to perform any provision thereof, DISTRICT may, after **ten (10) days** written notice to the CONTRACTOR and without prejudice to any other remedy it may have, make good such deficiencies.
- (b) The DISTRICT shall adjust the total contract price by reducing the amount thereof by the cost of making good such deficiencies. If DISTRICT deems it inexpedient to correct work not done in accordance with the Project documents, an equitable reduction in the contract price shall be made therefore.

ARTICLE 62. CORRECTION OF WORK

- (a) CONTRACTOR shall promptly remove all work identified by DISTRICT as failing to conform to the Project documents, whether incorporated or not. CONTRACTOR shall promptly replace and re-execute its own work to comply with Project Documents without additional expense to DISTRICT and shall bear the expense of making good all work of other contractors destroyed or damaged by such removal or replacement.
- (b) If CONTRACTOR does not remove such work within a reasonable time, fixed by written notice, DISTRICT may remove it and may store the material at CONTRACTOR's expense. If CONTRACTOR does not pay expenses of such removal within **ten (10) days'** time thereafter, DISTRICT may, upon **ten (10) days** written notice, sell such materials at auction or at private sale and shall account for net proceeds thereof, after deducting all costs and expenses that should have been borne by CONTRACTOR.

ARTICLE 63. EXTENSION OF TIME - LIQUIDATED DAMAGES

- (a) The CONTRACTOR and DISTRICT hereby agree that the exact amount of damages for failure to complete the work within the time specified is extremely difficult or impossible to determine. CONTRACTOR shall be assessed the sum as set forth in the **Agreement**, as liquidated damages for each and every day the work required under the Project documents remains unfinished past the time for completion, as set forth in the **Agreement**, and any extensions of time granted by the DISTRICT to the CONTRACTOR under the terms of the Project documents. The CONTRACTOR will pay to the DISTRICT or DISTRICT may retain from amounts otherwise payable to the CONTRACTOR, said amount for each day after failure to meet the requirements of the contract completion as scheduled in the Agreement. For purposes of this article, the work shall be considered "complete" in accordance with the provisions of Article entitled "**COMPLETION**", except that the work may be considered complete without formal acceptance by the DISTRICT Governing Board so long as the Governing Board, at its next regularly scheduled meeting, accepts the work.
- (b) CONTRACTOR shall not be charged for liquidated damages, as set forth above, because of any delays in completion of work which are not the fault or negligence of CONTRACTOR, including but not restricted to acts of God. As soon as CONTRACTOR become aware of

the delay and no later than **fourteen (14) days** from the commencement of the delay, CONTRACTOR shall notify DISTRICT in writing of causes of delay in accordance with the contract scheduling specifications. CONTRACTOR shall provide documentation and justification to substantiate the delay and its relation to the Project's critical path. Extension of time shall apply only to that portion of work affected by the delay, and shall not apply to other portions of work not so affected.

ARTICLE 64. PAYMENTS WITHHELD

- (a) In addition to any amount which DISTRICT may retain under the Article entitled "**COMPLETION**" and the Article entitled "**PAYMENTS**," DISTRICT may withhold a sufficient amount or amounts of any payment or payments otherwise due to CONTRACTOR, as in its judgment may be necessary to cover:
- (1) Payments which may be past due and payable for just claims against CONTRACTOR or any Subcontractors, or against and about the performance of work on the Project, including, without limitation, payments made pursuant to the Article entitled "**TIMELY PAYMENTS BY CONTRACTOR**."
 - (2) The cost of defective work which CONTRACTOR has not remedied.
 - (3) Liquidated damages assessed against CONTRACTOR.
 - (4) Penalties for violation of labor laws.
 - (5) The cost of materials ordered by the DISTRICT pursuant to the Article entitled "**MATERIALS AND WORK**."
 - (6) The cost of completion of this Agreement if there exists a reasonable doubt that this Agreement can be completed for the balance then unpaid to CONTRACTOR.
 - (7) Damage caused by CONTRACTOR to another contractor.
 - (8) Site clean-up as provided in the Article entitled "**CLEANING UP**."
 - (9) Payments to indemnify, defend, or hold harmless the DISTRICT.
 - (10) Any payments due to the DISTRICT including but not limited to payments for failed tests, utilities or imperfections.
 - (11) Extra services for ARCHITECT, including but not limited to, services rendered in the evaluation of CONTRACTOR substitution requests, Requests For Information (RFI's), Change Order Requests (COR's) and Claims.
 - (12) Extra services for the INSPECTOR including but not limited to re-inspection required due to CONTRACTOR's failed tests or installation of unapproved or defective materials and CONTRACTOR's requests for inspection and CONTRACTOR's failure to attend the inspection.
- (b) If the above grounds are in the opinion of the DISTRICT removed by or at the expense of CONTRACTOR, payment shall be made for amounts withheld because of them.
- (c) DISTRICT may apply such withheld amount or amounts to payment of such claims or obligations at its discretion. In so doing, DISTRICT shall make such payments on behalf of CONTRACTOR. If any payment is so made by DISTRICT, then such amount shall be considered as a payment made under contract by DISTRICT to CONTRACTOR and

DISTRICT shall not be liable to CONTRACTOR for such payments made in good faith. Such payments may be made without prior judicial determination of claim or obligations. DISTRICT will render CONTRACTOR an accounting of such funds disbursed on behalf of CONTRACTOR.

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

ARTICLE 65. EXCISE TAXES

If under federal excise tax law any transaction hereunder constitutes a sale on which a federal excise tax is imposed and the sale is exempt from such excise tax because it is a sale to a state or local government for its exclusive use, the DISTRICT, upon request, will execute documents necessary to show:

- (1) that the DISTRICT is a political subdivision of the State for the purposes of such exemption and
- (2) that the sale is for the exclusive use of the DISTRICT. No excise tax for such materials shall be included in any bid price.

ARTICLE 66. NO ASSIGNMENT

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

ARTICLE 67. NOTICE

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

- (a) If notice is given to DISTRICT, by personal delivery thereof to DISTRICT or by deposit in the United States mail, enclosed in a sealed envelope addressed to DISTRICT, and sent by registered or certified mail with postage prepaid;
- (b) If notice is given to CONTRACTOR, by personal delivery thereof to said CONTRACTOR or to CONTRACTOR's superintendent at the site of the Project, or by deposit in the United States mail, enclosed in a sealed envelope addressed to said CONTRACTOR at its regular place of business or at such address as may have been established for the conduct of work under this Agreement, and sent by registered or certified mail with postage prepaid;
- (c) If notice is given to the surety or other persons, by personal delivery to such surety or other person or by deposit in the United States mail, enclosed in a sealed envelope, addressed to such surety or person at the address of such surety or person last communicated by the surety or other person to the party giving notice, and sent by registered or certified mail with postage prepaid.

ARTICLE 68. NO WAIVER

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

ARTICLE 69. NON-UTILIZATION OF ASBESTOS MATERIAL

- (a) The CONTRACTOR will be required to execute and submit a Certificate regarding Non-Asbestos Containing Materials.
- (b) Should asbestos containing materials be installed by the CONTRACTOR in violation of this certification, or if removal of asbestos containing materials is part of the Project, decontamination and removal will meet the following criteria:
 - (1) Decontamination and removal of work found to contain asbestos or work installed with asbestos containing equipment shall be done only under the supervision of a qualified consultant, knowledgeable in the field of asbestos abatement and accredited by the Environmental Protection Agency (EPA).
 - (2) The asbestos removal CONTRACTOR shall be an EPA accredited CONTRACTOR qualified in the removal of asbestos and shall be chosen and approved by the asbestos consultant who shall have sole discretion and final determination in this matter.
 - (3) The asbestos consultant shall be chosen and approved by the DISTRICT who shall have sole discretion and final determination in this matter.
 - (4) The work will not be accepted until asbestos contamination is reduced to levels deemed acceptable by the asbestos consultant.
- (c) Cost of all asbestos removal, including, but not necessarily limited to the cost of the asbestos removal CONTRACTOR, the cost of the asbestos consultant, analytical and laboratory fees, time delays and additional costs as may be incurred by the DISTRICT shall be borne entirely by the CONTRACTOR.
- (d) Hold Harmless: Interface of work for the Project with work containing asbestos shall be executed by the CONTRACTOR at his/her risk and at his/her discretion with full knowledge of the currently accepted standards, hazards, risks and liabilities associated with asbestos work and asbestos containing products. By execution of the Agreement, the CONTRACTOR acknowledges the above and agrees to hold harmless the DISTRICT, its Governing Board, employees, agents, and ARCHITECT and assigns for all asbestos liability which may be associated with this work. The CONTRACTOR further agrees to instruct its employees with respect to the above mentioned standards, hazards, risks and liabilities.

ARTICLE 70 – ESCROW OF BID DOCUMENTS

- (a) **SCOPE:**
 - (1) The CONTRACTOR shall submit, within ten (10) days after the award of contract one (1) copy of all documentary information generated in preparation of the bid price for the project. This material is hereinafter referred to as “Escrow Bid Documents.” The Escrow Bid Documents will be held in escrow of the duration of the contract.

- (2) The CONTRACTOR agrees that the Escrow Bid Documents constitute all of the information used in preparation of the bid, and that no other bid preparation information will be considered in resolving claims.
 - (3) Nothing in the Escrow Bid Documents shall change or modify the terms or conditions of the Contract.
- (b) The Escrow Bid Documents are and will always remain the property of the CONTRACTOR, subject only to joint review by the DISTRICT and the CONTRACTOR, as provided in **paragraph (g) "Examination."** The DISTRICT stipulates and expressly acknowledges that the Escrow Bid Documents constitute trade secrets and are proprietary and confidential. This acknowledgment is based on the DISTRICT's express understanding that the information contained in the Escrow Bid Documents is not known outside the CONTRACTOR's business, is known only to a limited extent and only by a limited number of employees of the CONTRACTOR, is safeguarded while in CONTRACTOR's possession, is extremely valuable to CONTRACTOR and could be extremely valuable to CONTRACTOR's competitors by virtue of it reflecting CONTRACTOR's contemplated techniques of construction. DISTRICT acknowledges that the CONTRACTOR expended substantial sums of money in developing the information included in the Escrow Bid Documents and further acknowledges that it would be difficult for a competitor to replicate the information contained therein. DISTRICT further acknowledges that the Escrow Bid Documents and the information used in the CONTRACTOR's business, were intended to give the CONTRACTOR an opportunity to obtain an advantage over competitors who do not know of or use the contents of the documentation. DISTRICT agrees to safeguard the Escrow Bid Documents and all the information contained therein against disclosure to the fullest extent permitted by law.
- (c) **PURPOSE:**

Escrow Bid Documents will be used to assist in the negotiation for the settlement of claims. They will not be used for evaluation of the CONTRACTOR's anticipated methods of construction or to assess the CONTRACTOR's qualification for performing the work.
- (d) **FORMAT AND CONTENTS:**
 - (1) CONTRACTOR may submit Escrow Bid Documents in the usual cost-estimating format. Escrow Bid Documents shall be adequate to enable complete understanding and proper interpretation for their intended use.
 - (2) Escrow Bid Documents shall clearly itemize the estimated costs of performing the work. Items shall be separated into sub-items as required to present a complete and detailed cost estimate and allow a detailed cost review. The Escrow Bid Documents shall include all quantity takeoffs, labor, equipment, calculations of rate production and progress, copies of quotations from Subcontractors and suppliers, and memoranda, narratives, consultant's reports, add/deduct sheets, and all other information used by the CONTRACTOR to arrive at the prices contained in the bid proposal. Estimated costs shall be broken down into the CONTRACTOR's usual estimate categories such as direct labor, repair labor, material, equipment, construction equipment operation, construction equipment ownership, expendable materials, materials and Subcontractor cost as appropriate. Plant and equipment, indirect costs shall be detailed in the CONTRACTOR's usual format. The CONTRACTOR's allocation of plant and equipment, indirect costs, contingencies, markup and other items shall be included.
 - (3) All costs shall be identified for all items. Sub-items amounting to less than \$10,000.00 estimated unit costs are acceptable without a detailed cost estimate, provided that

labor, equipment, materials, construction equipment, expendable materials and subcontracts, as applicable, are included, and provided that indirect costs, contingencies, and mark-up, as applicable, are allocated.

- (4) Bidding materials provided by the DISTRICT shall not be included in the Escrow Bid Documents unless needed to comply with the requirements of this specification.

(e) **SUBMITTAL:**

- (1) The Escrow Bid Documents shall be submitted by the CONTRACTOR in a sealed container(s) **within ten (10) days** after the day of award of the contract. The container shall be clearly marked on the outside with the CONTRACTOR's name, date of submittal, project name and the words "Escrow Bid Documents."
- (2) The Escrow Bid Documents shall be accompanied by an index to inventory the contents of the submittal and a Bid Documentation Certification, signed by the individual who executed the bidding proposal, stating that the material in the Escrow Bid Documents constitutes all documentary information used in preparation of the bid and that he/she has personally examined the contents of the Escrow Bid Documents container and has found that the documents in the container(s) are complete and organized as shown by the CONTRACTOR's index.
- (3) DISTRICT shall examine the index. This examination is to ensure that the index is detailed and complete and conforms to the "format and contents" as stated in **paragraph (d) above**. If all the documentation required in **paragraph (d) "Format and Contents"** has not been indexed in the original submittal a revised index shall be submitted at the DISTRICT's discretion. Timely submission of complete Escrow Bid Documents is an essential element of the CONTRACTOR's responsibility. **FAILURE TO PROVIDE THE NECESSARY ESCROW BID DOCUMENTS MAY BE SUFFICIENT CAUSE FOR THE DISTRICT TO ASSESS DAMAGES UNDER THE CONTRACT.** If the CONTRACTOR's proposal is based on subcontracting any part of the work, each Subcontractor, whose total subcontract price exceeds the lesser of five percent (5%) of the total contract price proposed by the CONTRACTOR or \$200,000 shall provide separate Escrow Bid Documents to be submitted with those of the CONTRACTOR. These submittals will be examined in the same manner and at the same time as the examination described above. If the CONTRACTOR wishes to subcontract any portion of the work or requests substitutions of any Subcontractor after award, the DISTRICT retains the right to require the CONTRACTOR to submit Escrow Bid Documents from the proposed Subcontractor before the subcontract or substitution is approved.

(f) **STORAGE:**

The Escrow Bid Documents will be placed in escrow, for the life of the contract, in a mutually agreeable institution. The DISTRICT will pay the cost of storage.

(g) **EXAMINATION:**

- (1) The Escrow Bid Documents shall be examined by the DISTRICT, the ARCHITECT and CONTRACTOR, at any time deemed necessary by either the DISTRICT or the CONTRACTOR, to assist in the negotiation for the settlement of claims.
- (2) Examination of the Escrow Bid Documents is subject to the following conditions:
- (A) As trade secrets, the Escrow Bid Documents are proprietary and confidential as described in **paragraph (b)**.

(B) The DISTRICT and the CONTRACTOR shall each designate, in writing to the other party and a minimum of five (5) days prior to examination, representatives who are authorized to examine the Escrow Bid Documents. No other person shall have access to the Escrow Bid Documents.

(C) Access to the Escrow Bid Documents under this paragraph will take place only in the presence of duly designed representatives of both the DISTRICT and the CONTRACTOR.

(h) **FINAL DISPOSITION:**

The Escrow Bid Documents will be returned to the CONTRACTOR at such time as the contract has been completed and final settlement has been achieved.

ARTICLE 71 – ALLOWANCES

(a) The following costs shall be included in all allowances;

- (1) Cost of the product to CONTRACTOR or Subcontractor, less applicable trade discounts
- (2) Delivery to the site
- (3) Applicable taxes

(b) CONTRACTOR costs included in the Contract Sum include, but are not limited to;

- (1) Arrangement of product(s) shipping and handling at site, including unloading, uncrating, and storage.
- (2) Protection of products from the elements and from damage
- (3) Labor for installation, adjustments and finishing products
- (4) Product warranties
- (5) Scheduling changes and updates
- (6) Other expenses required to complete installation
- (7) CONTRACTOR and Subcontractor(s) overhead and profit

(c) The adjustments in costs will be made if the net cost is more or less than the specified amount of the allowance. The net cost of the adjustment shall be the amount of the difference between the specified allowance and the actual cost of the material, with the exception of a not-to-exceed 15% mark-up for overhead and profit. The Contract Sum will be adjusted by Change Order.

- (1) Submit any claims for anticipated additional costs, or other expenses caused by the selection the allowance, prior to execution of the Work.
- (2) Submit documentation for actual additional costs, or other expenses caused by the selection the allowance, prior to execution of the Work.
- (3) Failure to submit claims within the designated time will constitute a waiver of claims for additional costs.

(e) Owner will separately bid the materials, subject to the specified allowances. The successful bidder will be assigned to CONTRACTOR, and shall be considered a Subcontractor to the CONTRACTOR. Upon assignment, the CONTRACTOR shall all make the necessary submittals, prepare necessary shop drawings and coordinate all related work. CONTRACTOR shall make all necessary adjustments and revisions to the Project Schedule for such allowances and Subcontractor assignments.

ARTICLE 72 - WAIVER AND RELEASE FORMS

- (a) Commensurate with the statutes of Public Contract Code section 7100, provisions in public works contracts with public entities which provide that acceptance of a payment otherwise due a CONTRACTOR is a waiver of all claims against the public entity arising out of the work performed under the contract or which condition the right to payment upon submission of a release by the CONTRACTOR of all claims against the public entity arising out of performance of the public work are against public policy and null and void. This section shall not prohibit a public entity from placing in a public works contract and enforcing a contract provision which provides that payment of undisputed contract amounts is contingent upon the CONTRACTOR furnishing the public entity with a release of all claims against the public entity arising by virtue of the public works contract related to those amounts. The CONTRACTOR from the operation of the release may specifically exclude disputed contract claims in stated amounts.
- (b) Neither the OWNER nor original CONTRACTOR by any term of their contract, or otherwise, shall waive, affect, or impair the claims and liens of other persons whether with or without notice except by their written consent, and any term of the contract to that effect shall be null and void. Any written consent given by any claimant pursuant to this subdivision shall be null, void, and unenforceable unless and until the claimant executes and delivers a waiver and release. Such a waiver and release shall be binding and effective to release the OWNER, construction lender, and surety on a payment bond from claims and liens only if the waiver and release follows substantially one of the forms set forth in this section and is signed by the claimant or his or her authorized agent, and, in the case of a **conditional release**, there is evidence of payment to the claimant. Evidence of payment may be by the claimant's endorsement on a single or joint payee check that has been paid by the bank upon which it was drawn or by written acknowledgment of payment given by the claimant.
- (c) No oral or written statement purporting to waive, release, impair or otherwise adversely affect a claim is enforceable or creates any estoppel or impairment of a claim unless:
- (1) It is pursuant to a waiver and release prescribed herein, or
 - (2) the claimant had actually received payment in full for the claim.
- (d) This section does not affect the enforceability of either an accord and satisfaction regarding a bona fide dispute or any agreement made in settlement of an action pending in any court provided the accord and satisfaction or agreement and settlement make specific reference to the, stop notice, or bond claims.
- (e) The waiver and release given by any claimant hereunder shall be null, void, and unenforceable unless it follows substantially the following forms in the following circumstances. Each waiver in this provision shall contain the following language, in at least as large a type as the largest type otherwise on the document:

- - - The remaining portion of this page has been left blank - - -

- (e.1) Where the claimant is required to execute a waiver and release in exchange for, or in order to induce the payment of, a progress payment and the claimant is not, in fact, paid in exchange for the waiver and release or a single payee check or joint payee check is given in exchange for the waiver and release, the waiver and release shall follow substantially the following form:

CONDITIONAL WAIVER AND RELEASE UPON "PROGRESS PAYMENT"

Upon receipt by the undersigned of a check from: _____
(Maker of Check)

in the sum of: \$ _____ payable to: _____
(Amount of Check) (Payee or Payees of Check)

and when the check has been properly endorsed and has been paid by the bank upon which it is drawn, this document shall become effective to release any mechanic's lien, stop notice, or bond right the undersigned has on the job of

_____ located at: _____
(OWNER) (Job Description)

to the following extent. This release covers a progress payment for labor, services, equipment, or material furnished to

_____ through: _____
(Your Customer) (Date)

only and does not cover any retention's retained before or after the release date; extras furnished before the release date for which payment has not been received; extras or items furnished after the release date. Rights based upon work performed or items furnished under a written change order which has been fully executed by the parties prior to the release date are covered by this release unless specifically reserved by the claimant in this release. This release of any mechanic's lien, stop notice, or bond right shall not otherwise affect the contract rights, including rights between parties to the contract based upon a rescission, abandonment, or breach of the contract, or the right of the undersigned to recover compensation for furnished labor, services, equipment, or material covered by this release if that furnished labor, services, equipment, or material was not compensated by the progress payment. Before any recipient of the document relies on it, said party should verify evidence of payment to the undersigned.

_____ (Company Name) _____ (Date)

By: _____
(Title)

Exclusions: Listing of Claims, of which Notice has been given:

- | | |
|---------------------|----------------------------|
| 1. Claim for: _____ | In the amount of: \$ _____ |
| 2. Claim for: _____ | In the amount of: \$ _____ |
| 3. Claim for: _____ | In the amount of: \$ _____ |
| 4. Claim for: _____ | In the amount of: \$ _____ |
| 5. Claim for: _____ | In the amount of: \$ _____ |

- (e.2) Where the claimant is required to execute a waiver and release in exchange for, or in order to induce payment of, a progress payment and the claimant asserts in the waiver it has, in fact, been paid the progress payment, the waiver and release shall follow substantially the following form:

UNCONDITIONAL WAIVER AND RELEASE UPON "PROGRESS PAYMENT"

The undersigned has been paid and has received a progress payment in the sum of \$_____ for labor, services, equipment, or material furnished to

(Your Customer)

on the job of: _____
(OWNER)

located at: _____
(Job Description)

and does hereby release any mechanic's lien, stop notice, or bond right that the undersigned has on the above referenced job to the following extent. This release covers a progress payment for labor, services, equipment, or materials furnished to

(Your Customer)

through: _____
(Date)

only and does not cover any retention's retained before or after the release date; extras furnished before the release date for which payment has not been received; extras or items furnished after the release date. Rights based upon work performed or items furnished under a written change order which has been fully executed by the parties prior to the release date are covered by this release unless specifically reserved by the claimant in this release. This release of any mechanic's lien, stop notice, or bond right shall not otherwise affect the contract rights, including rights between parties to the contract based upon a rescission, abandonment, or breach of the contract, or the right of the undersigned to recover compensation for furnished labor, services, equipment, or material covered by this release if that furnished labor, services, equipment, or material was not compensated by the progress payment.

(Company Name)

(Date)

By: _____
(Title)

Exclusions: Listing of Claims, of which Notice has been given:

- | | |
|---------------------|----------------------------|
| 1. Claim for: _____ | In the amount of: \$ _____ |
| 2. Claim for: _____ | In the amount of: \$ _____ |
| 3. Claim for: _____ | In the amount of: \$ _____ |
| 4. Claim for: _____ | In the amount of: \$ _____ |
| 5. Claim for: _____ | In the amount of: \$ _____ |

"NOTICE: THIS DOCUMENT WAIVES RIGHTS UNCONDITIONALLY AND STATES THAT YOU HAVE BEEN PAID FOR GIVING UP THOSE RIGHTS. THIS DOCUMENT IS ENFORCEABLE AGAINST YOU IF YOU SIGN IT, EVEN IF YOU HAVE NOT BEEN PAID. IF YOU HAVE NOT BEEN PAID, USE A CONDITIONAL RELEASE FORM."

- (e.3) Where the claimant is required to execute a waiver and release in exchange for, or in order to induce the payment of, a final payment and the claimant is not, in fact, paid in exchange for the waiver and release or a single payee check or joint payee check is given in exchange for the waiver and release, the waiver and release shall follow substantially the following form:

CONDITIONAL WAIVER AND RELEASE UPON "FINAL PAYMENT"

Upon receipt by the undersigned of a check from _____

in the sum of \$_____ payable to: _____

and when the check has been properly endorsed and has been paid by the bank upon which it is drawn, this document shall become effective to release any mechanic's lien, stop notice, or bond right the undersigned has on the job of

_____ located at: _____
(OWNER) (Job Description)

This release covers the final payment to the undersigned for all labor, services, equipment, or material furnished on the job, except for disputed claims for additional work in the amount of \$_____

Before any recipient of this document relies on it, the party should verify evidence of payment to the undersigned.

_____ (Company Name) _____ (Date)

By: _____
(Title)

Exclusions: Listing of Claims, of which Notice has been given:

- | | |
|---------------------|----------------------------|
| 1. Claim for: _____ | In the amount of: \$ _____ |
| 2. Claim for: _____ | In the amount of: \$ _____ |
| 3. Claim for: _____ | In the amount of: \$ _____ |
| 4. Claim for: _____ | In the amount of: \$ _____ |
| 5. Claim for: _____ | In the amount of: \$ _____ |

- (e.4) Where the claimant is required to execute a waiver and release in exchange for, or in order to induce payment of, a final payment and the claimant asserts in the waiver it has, in fact, been paid the final payment, the waiver and release shall follow substantially the following form:

UNCONDITIONAL WAIVER AND RELEASE UPON "FINAL PAYMENT"

The undersigned has been paid in full for all labor, services, equipment or material

furnished to: _____
(Your Customer)

on the job of: _____ located at: _____
(OWNER) (Job Description)

and does hereby waive and release any right to a mechanic's lien, stop notice, or any right against a labor and material bond on the job, except for disputed claims for extra work in the amount of \$_____.

(Company Name) (Date)

By: _____
(Title)

Exclusions: Listing of Claims, of which Notice has been given:

- | | |
|---------------------|----------------------------|
| 1. Claim for: _____ | In the amount of: \$ _____ |
| 2. Claim for: _____ | In the amount of: \$ _____ |
| 3. Claim for: _____ | In the amount of: \$ _____ |
| 4. Claim for: _____ | In the amount of: \$ _____ |
| 5. Claim for: _____ | In the amount of: \$ _____ |

"NOTICE: THIS DOCUMENT WAIVES RIGHTS UNCONDITIONALLY AND STATES THAT YOU HAVE BEEN PAID FOR GIVING UP THOSE RIGHTS. THIS DOCUMENT IS ENFORCEABLE AGAINST YOU IF YOU SIGN IT, EVEN IF YOU HAVE NOT BEEN PAID. IF YOU HAVE NOT BEEN PAID, USE A CONDITIONAL RELEASE FORM."

END OF SECTION

SECTION 01 11 13 - SUMMARY OF WORK

PART 1 - GENERAL

1.1 SUMMARY

- A. Work included: Construction of the work for **MENDOTA ELEMENTARY SCHOOL SITEWORK FOR MODULAR CLASSROOM BUILDINGS, MENDOTA, California**. The work is defined as all material, labor, equipment and services necessary to do all work shown on the drawings and called for in the Specifications. The Work shall be as indicated on the Contract Documents.
- B. This Section includes the following:
 - 1. Summarizes the Work of the Contract.
 - 2. Establishes requirements governing the Work.
 - 3. Identifies the Work that will be performed under separate contracts and the coordination.
 - 4. Project Site access.
 - 5. Restrictions under which the project will be constructed.
- C. Related Sections: The following Project Manual Sections contain requirements that relate to this section:
- D. List below only sections for this Project that the reader might expect to find related work but are specified elsewhere. Verify that the Section titles listed below for this Project's Specifications are correct.
 - 1. DIVISION 00 SPECIFICATION SECTIONS.
 - 2. DIVISION 01 SPECIFICATION SECTIONS.
 - 3. SPECIFICATION SECTIONS IN THE FACILITY CONSTRUCTION SUBGROUP.

1.2 DEFINITIONS

- A. The words "OWNER" and "DISTRICT" are synonymous and interchangeable, when used throughout this Project Manual.

1.3 SUBMITTALS

- A. Submit in accordance with Specification Section - SUBMITTAL PROCEDURES.
 - 1. Quality Assurance/Control Submittals:
 - a. Certificates:
 - 1) Submit three (3) copies of certificates indicating compliance with the Asbestos Hazard Emergency Regulations Act.

1.4 QUALITY ASSURANCE

- A. Qualifications:
 - 1. Contractor's Qualifications:
 - a. Contractor shall have experience and have successfully completed three (3) projects of similar scope and size to that indicated for this project.

- b. Contractor shall have demonstrated that they have the resources to perform all of the requirements of this project.
- B. Regulatory Requirements:
 - 1. Comply with codes, ordinances, rules, regulations, orders and other legal requirements of public authorities which bear on performance of Work.
 - a. CARB Materials and equipment used for this Project shall comply with the current applicable regulations of the California Air Resources Board (CARB) and the Environmental Protection Agency (EPA), in the area where the Project is located.
- C. Certifications:
 - 1. The Contractor shall certify in writing that no materials containing Asbestos are incorporated in the work, in accordance with the Asbestos Hazard Emergency Regulations Act.
- D. Contractor's Duties:
 - 1. Except as specifically noted, provide and pay for:
 - a. Labor, material and equipment.
 - b. Tools, construction equipment and machinery.
 - c. Heat and utilities required for construction. See Specification Section - TEMPORARY FACILITIES AND CONTROLS.
 - d. Other facilities and services necessary for proper execution and completion of Work.
 - 2. Pay legally required sales, consumer and use taxes.
 - 3. Secure and pay for all site specific as necessary for proper execution and completion of Work.
 - a. Licenses.
 - b. Permits and Fees.
 - c. Government Fees.
 - d. Royalties.
 - 4. Give required notices.
 - 5. Promptly submit written notice to Architect of observed variance.
 - 6. Enforce strict discipline and good order among employees. Do not employ on Work:
 - a. Unfit persons.
 - b. Persons not skilled in assigned task.

1.5 WORK UNDER OTHER CONTRACTS

- A. General Requirements:
 - 1. Work under separate contracts will occur throughout the duration of the project. The work being installed under separate contracts will occur around adjacent to the Contract project site.
 - 2. Contractor shall coordinate its work with the work under separate Contracts and shall cooperate with the Contractors of these separate Contracts as they occur.
 - 3. Should the Contractor damage and/or otherwise alter work installed under separate contracts, the Contractor is responsible for the repair and/or correction of installed work.
 - 4. Prior to the installation of the Work, coordinate the work installed or to be installed by separate contracts relative to this project scope of work.

B. Work by Owner:

1. General: Cooperate fully with Owner so work may be carried out smoothly, without interfering with or delaying work under this contract or work by Owner. Coordinate the work of this Contract with work performed by Owner.
2. Security and Intrusion Alarm System: Owner's Vendor will design the Intrusion Alarm System and identify pathways that need to be provided under the Contractor's Construction Contract.

C. Work Under Separate Contracts by Others:

1. General: Cooperate fully with separate contractors so work on those contracts may be carried out smoothly, without interfering with or delaying work under this Contract or other contracts. Coordinate the work of this Contract with work performed under separate contracts.
2. Concurrent Work: Owner will award a separate contract(s) for the following construction operations at the Project Site. Those operations will be conducted simultaneously with work under this Contract.
3. Sitework for the project up to the exterior walls.

1.6 PROJECT CONDITIONS

A. Access to Site:

1. General: Contractor shall have full use of Project site for construction operations during construction period. Contractor's use of Project site is limited only by Owner's right to perform work or to retain other contractors on portions of the Project.
2. Contractor shall be responsible for coordinating access to and from the site throughout the duration of the project. Access to and from the site may vary, based upon timing and duration of separate contracts.
3. The Contractor shall not use the Off-Site areas, with the exception of the Site Access per Specification Section - TEMPORARY FACILITIES AND CONTROLS, and shall not interfere with the work in these areas.

B. Contractor Use of Premises:

1. Confine operations at sites to areas permitted by:
 - a. Laws.
 - b. Ordinances.
 - c. Permits.
 - d. Contract Documents.
2. Do not unreasonably encumber site with materials or equipment.
3. Assume full responsibility for protection and safekeeping of Contractor's and Owner's material stored on premises, and keep the site and building secure at all times.
4. Obtain and pay for use of additional storage Work areas needed for operations.
5. Limit use of Site Work and storage.

1.7 SCHEDULING

A. The Work of this Project will be constructed under a single contract.

1. It is anticipated that the start of construction will be around:
 - a. May 27, 2025.

PART 2 - PRODUCTS

NOT APPLICABLE

PART 3 - EXECUTION

NOT APPLICABLE

END OF SECTION

SECTION 01 25 00 – SUBSTITUTION PROCEDURES

PART 1 - GENERAL

1.1 SUMMARY

A. This Section includes the following:

1. Work that is substituted for Work specified in DIVISIONS 02 through 49 shall meet the requirements of this Section.
2. Provide all material, labor, equipment and services necessary to completely install all approved substituted materials, accessories and other related items necessary to complete the Project as indicated by the Contract Documents.
3. See the INSTRUCTIONS TO BIDDERS or the GENERAL CONDITIONS for any time limits set for the submittal of substitutions.
4. Substitutions can be requested in two ways: a. "Prior to Bid Opening", and b. "After Award of the Contract":
 - a. "Prior to Bid Opening": The Contractor or Bidder must insure that proposed substitutions of materials by the Contractor or Bidder are submitted to the Architect's office no later than fourteen (14) calendar days prior to the Bid Opening for review and possible approval of any equipment or materials thought to be equal to or better than those specified in the drawings or specifications. An Addendum will be issued no later than three (3) calendar days prior to Bid Opening including all equipment and materials deemed equivalent to those specified and approved by the Architect.
 - b. "After Award of the Contract": In accordance with the provisions of Section 3400 of the California Public Contract Code, the Contractor awarded the Contract will be provided a period of thirty-five (35) calendar days after the award of the Contract for submission of data substantiating a request for a substitution of "an equal" item or items.

B. Related Sections: The following Project Manual Sections contain requirements that relate to this section:

1. DIVISION 00 SPECIFICATION SECTIONS.
2. DIVISION 01 SPECIFICATION SECTIONS.
3. SPECIFICATION SECTIONS IN THE FACILITY CONSTRUCTION SUBGROUP.

1.2 DEFINITIONS

- A. Claimant: Bidder, Sub-Contractor, Contractor, Distributor, Supplier, Manufacturer or other entity that is submitting a claim for a substitution.
- B. Substitutions: Substitutions are not a part of the Submittal Process described in Specification Section – SUBMITTAL PROCEDURES (add section). Substitution Requests by a claimant must be reviewed and approved by the Architect before any submittal will be accepted. It is the claimant's responsibility to provide clear and concise documentation to expedite the Architect's review. If the Substitution Request requires re-submission(s) due to the Claimant's inadequate documentation, no time extension will be allowed.
 1. Changes to the structural, accessibility, or life-safety portions of the DSA-approved Contract Documents shall be submitted to and approved by DSA as a Construction Change Document, prior to the fabrication and installation as required by California Administrative Code, Title 24, Part 1, Section 4-338, and DSA IR A-6.
- C. "Or Equal" / "Or Approved Equivalent": Claimant shall request a substitution in accordance with this Specification Section – SUBSTITUTION PROCEDURES.

- D. The Project Manual employs the following methods of specifying products. Claimant shall conform to the directives below for this Project:
1. Product, system or design specified only by reference standards:
 - a. Select any product, system or design meeting reference standards.
 2. Product, system or design specified by naming several products, systems, designs and/or manufacturers:
 - a. Select any product, system, design and/or manufacturer named.
 3. Product, system or design specified by naming several products, systems and/or manufacturers and reference standards:
 - a. Products, systems, designs and/or manufacturer names indicate products, systems, designs and/or manufacturers that (in the Architect's opinion) meets the reference standards.
 - b. Select any of the named manufacturer's products, systems or designs meeting the reference standards.
 4. Product, system or design specified by naming one or more products, systems, designs and stating "or equal to," "or approved equivalent," with the specified products, systems or designs:
 - a. Select product, system or design specified, "or approved equivalent."
 5. Product, system or design specified by naming only one product, system or design:
 - a. Select product, system or design specified, "or approved equivalent."
 6. Product, system or design specified by naming only one product, system or design and followed by the statement "DISTRICT STANDARD – NO SUBSTITUTIONS":
 - a. Provide product, system or design specified. No substitutions allowed.
- E. Cost to Claimant for review of Substitution Request:
1. Each review of a Substitution Request by the Architect and/or its Consultant(s) will be billed to the Claimant at an hourly rate of **\$212.00** an hour, two hour minimum for each review, whether approved or rejected.
 - a. Waiver of review fees:
 - 1) When the product has been discontinued or is unavailable.
 - a) **EXCEPTION:** Where the claimant has failed to order in a timely manner and waits until the last minute, no consideration of the waiver of fees will be allowed; no time extensions will be allowed.
 - 2) When the Owner has requested a substitution.

1.3 SUBMITTALS

- A. Submit in accordance with Specification Section - INSTRUCTIONS TO BIDDERS:
- B. Content of Request:
1. Check made payable to DARDEN ARCHITECTS, INC. for the minimum two hour review period for **\$424.00**, non-refundable.
 - a. When additional time is required to review a substitution request beyond the first two hours, the Architect or its consultants will bill the claimant for the time expended in the review process.
 2. Complete the attached **SUBSTITUTION REQUEST FORM** substantiating compliance of proposed substitution with Contract Documents. **NO OTHER FORMS WILL BE ACCEPTED.**
 3. Attach to the SUBSTITUTION REQUEST FORM an itemized comparison of proposed substitution with product, system or design specified.
 4. For products or systems, attach to the SUBSTITUTION REQUEST FORM:
 - a. Product, system or design identification, including manufacturer's name and address.

5. Manufacturer's product information: MUST BE HIGHLIGHTED AND PROJECT SPECIFIC. SUBMITTALS NOT ADEQUATELY MARKED-UP ACCORDING TO PROJECT SPECIFICS WILL BE REJECTED:
 - a. Literature including product, system or design description, performance and test data and reference standards.
 - b. Samples.
 - c. Warranties.
6. For construction methods, attach to the SUBSTITUTION REQUEST FORM:
 - a. Detailed description of proposed methods.
 - b. Drawings illustrating methods.
- C. Submit three (3) copies of Substitution Request including all attached data.

1.4 QUALITY ASSURANCE

A. Qualifications:

1. Product, system or design qualifications:
 - a. In making a request for substitution, Claimant certifies that:
 - 1) Claimant has personally investigated proposed product, system or design, and determined that it is equal or superior in all respects to that specified.
 - 2) Claimant shall provide the same guarantee or warranty for substitution as for product, system or design specified.
 - 3) Claimant shall coordinate installation of accepted substitution into the Project, making such changes as may be required for the Project to be complete in all respects.
 - 4) Claimant waives all claims for additional costs related to substitution which subsequently become apparent for integrating the substituted product, system or design into the Project.
 - 5) Claimant waives all claims for time extension(s) due to improper documentation requiring re-submission(s) of a Substitution Request Review.

B. Regulatory Requirements:

1. In accordance with Specification Section – REGULATORY REQUIREMENTS (add section), and the following:
 - a. Products (and installation standards), systems or methods used for this Project shall comply with CARB standards in effect at the Project Site, and at the time of installation.

C. Acceptance of Substitutions:

1. Procedures:
 - a. The Contract is based on products, systems or designs described in the Contract Documents.
 - b. Architect will consider proposals submitted in accordance with time limits set within the Specification Section - INSTRUCTIONS TO BIDDERS.
 - c. Architect is solely responsible for judging the acceptance of substitutions.
 - 1) Acceptance of a substitution does not waive the product manufacturer's responsibility for product liability. The Architect will judge (based on the substitution submission data) for function and use – product liability shall remain the responsibility of the product manufacturer.
 - d. Substitute products, systems or designs shall not be used unless the substitutions have been specifically approved for this Project by the Architect.
 - 1) Substitute products, systems or designs that are related to structural, fire and life safety or access compliance shall not be used unless such substitution have been specifically approved for this Project by the Architect and the appropriate authority having jurisdiction.

2. Substitutions will not be considered if:
 - a. They are indicated or implied on product submittals in accordance with Specification Section –SUBMITTAL PROCEDURES. Substitutions are not Submittals, and must be reviewed and approved prior to being submitted as a Submittal.
 - b. Acceptance will require substantial revision of Contract Documents.
 - c. They are submitted after the date set for substitutions within this Contract, unless:
 - 1) The specified or drawing item that has been verified to be discontinued or is otherwise unavailable.
 - 2) The Owner proposes a cost savings for the product, system or method.
 - 3) The Owner proposes early occupancy, and the proposed substitution allows for that convenience.
3. Substitutions affecting DSA-regulated items shall be considered as construction documents (CCD's) and shall be approved prior to fabrication and installation per DSA IR A-6 and Section 338(c) Part 1, Title 24 CCR.

PART 2 - PRODUCTS
NOT APPLICABLE

PART 3 - EXECUTION

3.1 SCHEDULES

A. Substitution Request Form:

1. See the form attached to the end of this section.
2. The attached form will be reproduced (and sequentially numbered by the Contractor after the award of the Contract) by the Claimant for any and all proposed substitutions.
3. **NO OTHER FORMS WILL BE ACCEPTED.**

(Attachment)

SUBSTITUTION REQUEST FORM

TO: DARDEN ARCHITECTS, INC. _____ Check attached for minimum review \$424.00.
 6790 N. West Avenue
 Fresno, CA 93711

CHECK APPROPRIATE LINE:

_____ Substitution Request Prior to Bid (During Bid Period)
 _____ Product or System Substitution
 _____ Design Change Substitution

_____ Substitution Request After Award of the Contract
 _____ Product or System Substitution
 _____ Design Change Substitution

The Contractor Awarded the Contract for this Project shall assign sequential Substitution Request # below.

Leave blank if submitted during the Bid Period.

SUBSTITUTION REQUEST # _____

WE HEREBY SUBMIT FOR YOUR CONSIDERATION THE FOLLOWING PRODUCT OR METHOD AS SUBSTITUTION FOR THE SPECIFIED OR DRAWING ITEM FOR THIS PROJECT:
 PROJECT: _____

SPECIFIED ITEM: _____

Specification Section #	Page #	Paragraph #	Description
OR			
DRAWING ITEM: _____			

Drawing #	Detail Cut #	Description

PROPOSED CREDIT IF ANY: _____

PROPOSED SUBSTITUTION: _____

Attached data includes product description, specifications, drawings, photographs, performance and test data adequate for evaluation of the request; applicable portions of the data are clearly identified.

Attached data also includes a description of changes to the Contract Documents to which the proposed substitution will require for its proper installation.

The undersigned claimant certifies: (Modifications by the claimant to the following list is cause for automatic rejection without further review)

1. The proposed substitution does not affect dimensions shown on drawings or code requirements indicated.
2. The undersigned claimant shall compensate the Architect at a rate of **\$212.00** an hour, two hour minimum for each review (check for **\$424.00** must be attached to this form), for investigation and comments whether or not the request is approved for changes required to the building design, including engineering design, detailing, and construction costs caused by the requested substitution. The Architect is herein defined as any of those firms or individuals listed by reference on the Drawings, including all Consultants identified herein.
3. The proposed substitution will have no adverse affect on other trades, the construction schedule, or specified warranty requirements.
4. Maintenance and service parts will be locally available for the proposed substitution.
5. Attach information for a minimum of three projects where the substitution has been used locally within a 200-mile distance of this project, including names, addresses and telephone numbers of Owners who have accepted this product into their projects.
6. Attach all cost data with explanations if different from Specified or Drawing item. Include in that explanation a discussion on quality of proposed substitution and cost differential.
7. The undersigned claimant shall pay for any subsequent changes in incorporating the proposed substitution that were not apparent at the time of approval into the Work, including compensation to the Architect as described in item 2 above.

The undersigned Claimant(s) declares under penalty of perjury per the California Government Code Section 12650, et seq., that the claim of function, appearance and quality are equivalent or superior to the specified or drawing item, and further know and understand that submission for certification of a false claim may lead to fines, imprisonment and/or other severe legal consequences.

SUBMITTED BY CLAIMANT:

Signature _____

Firm _____

Address _____

Date _____

Telephone _____

ADDITIONAL CLAIMANT SIGNATURE REQUIRED:

**The Contractor or Construction Manager
if submitted after the Award:**

Signature _____

Firm _____

DESIGN CONSULTANT USE ONLY:

___ Check Not Attached - Not Accepted

___ Accepted

___ Accepted as Noted

___ Not Accepted

___ Received Past Time Period Allowed by Public Contract Code #3400.

By _____ Date _____

Remarks _____

END OF SECTION

SECTION 01 29 73– SCHEDULE OF VALUES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. This section includes the administrative and procedural requirements necessary to prepare and process the following:
 - 1. Schedule of Values
 - a. Complete Schedule of Values.
 - 2. Application for Payment with Certification.
- B. Related Requirements: The following Project Manual Sections contain requirements that relate to this section:
 - 1. 01 11 13 SUMMARY OF WORK.
 - 2. 01 32 16 CONSTRUCTION SCHEDULE.
 - 3. 01 32 26 FORMS AND REPORTS.

1.3 DEFINITIONS

- A. Activity: A discrete part of a project that can be identified for planning, scheduling, monitoring and controlling the construction project. Activities included in a Schedule of Values and Payment Request consume cost for time and resources.
- B. Activity Code: Identifies each activity so as to be organized, group and sorted into Sub-Schedules, Areas of Work, and Reports.
- C. Allowances: Contract amounts allocated for specific activities of the project as identified in the contract documents.
- D. Application for Payments: A statement furnished by the Contractor allocating portions of the Contract Sum to various portions of the Work stipulating the amount of work that has been completed to date.
- E. Contingency: Contract amounts allocated for non-specific activities, to cover changes in the contract document work, unforeseen conditions and added scope of work to the project.
- F. Major Scope: Significant portions of work identified as, but not limited to, Base Bid, Alternate Bids, and Construction Phases, and Funding Criteria.
- G. Responsible Party: Entity that is responsible for performing the work of each activity as identified, but not limited to, General Contractor, and Sub-Contractor, second and tertiary tier Sub-Contractors, Manufacturers, Fabricators and Vendors.
- H. Schedule of Values: A statement furnished by the Contractor allocating portions of the Contract Sum to various portions of the Work.
- I. Scope Type: Segments of work identified as, but not limited to, Building ID, On-Site, and Off-Site.
- J. Sub-Schedules: Separated activities identified as part of the same element of work and arranged to show correlation with related elements.
- K. Unit Prices: A price per unit of measurement for materials, equipment, or services, or a portion of the Work that are applicable during the duration of the Work.

1.4 SUBMITTALS

A. General:

1. Submit in accordance with Specification Section – SUBMITTAL PROCEDURES. (add section)

B. Format for Submittals: A tabular form type schedules.

1. Provide a working electronic copy of schedule file.
 - a. Provide schedule files on Compact Disc (CD) or Digital Versatile Disc (DVD) (WINDOWS Formatted Disks) in a form that can be reviewed and used by the Owner, and Architect.
2. Provide PDF electronic copy of schedule file.
3. Provide **[Two (2)]** paper copies of schedules.
 - a. Sheet size shall be of adequate size to clearly show the required information for the entire construction period.
 - b. All required documentation shall have the Submittal number posted in the upper-right hand corner of the page.

C. Assurance/Control Submittals:

1. Schedule of Values.
 - a. Complete Schedule of Values.
 - 1) Submit at the earliest possible date, but no later than **[fifteen (15)]** days prior to the date scheduled for submittal of initial Application for Payment.
2. Application for Payment and Certification.
 - a. Application for Payment and Certification Forms.
 - 1) Submit along with the Complete Schedule of Values submittal.
 - b. Initial Application for Payment.
 - 1) Submit **[seven (7)]** prior to due date.
 - c. Application for Payment for Progress of Work.
 - 1) Submit monthly by the date directed by Owner.
 - d. Application for Payment at Substantial Completion.
 - 1) Submit after Architect issues the Certificate of Substantial Completion.
 - e. Final Application for Payment.
 - 1) Submit after competing Project Closeout requirements.

1.5 SYSTEM DESCRIPTION

A. General:

1. The Architect considers the project Schedule of Values requirements to be significant to both the Contractor and the Owner. The development, submittal, and acceptance of the Complete Schedule of Values, and subsequent development and maintenance of the Application for Payments must be given high priority.
 - a. No payment will be made without the Architect's review and acceptance of the Schedule of Values.
 - b. Progress payments may be withheld in whole or part should the Contractor fail to comply with the requirements of this section.
 - c. No separate payment will be made to the Contractor for any of the requirements of this section. All such costs shall be part of the Contractor's planned project overhead costs included in its bid.

B. Performance Requirements:

1. Complete Schedule of Values: Breakdown of the Contract Sum by specific line-item values, based on the individual activities in the Baseline Project Construction Schedules and to be the basis for the development of the Application for Payment.
 - a. Refer to Specification Section - CONSTRUCTION SCHEDULES.

2. Application for Payments: Shall be derived from Baseline Project Construction Schedule utilizing the costs in the Complete Schedule of Values, and from subsequent Project Construction Schedule Updates, reflecting the Work performed as of planned and actual dates.
 - a. Refer to Specification Section - CONSTRUCTION SCHEDULES.

1.6 QUALITY ASSURANCE

- A. Qualifications:
 1. The Contractor must have the capacity and capability of supporting the project by producing schedule-related data within [two (2)] days of request by the Architect, or Owner.
- B. Regulatory Requirements:
 1. In accordance with Specification Section - REGULATORY REQUIREMENTS.

PART 2 - PRODUCTS

2.1 GENERAL REQUIREMENTS

- A. Coordination:
 1. Coordinate preparation of the Complete Schedule of Values with the preparation of the Baseline Project Construction Schedule. Refer to Specification Section -- CONSTRUCTION SCHEDULES.
 2. Correlate line items in the Complete Schedule of Values with other required administrative forms and schedules, including, but not limited to, the following:
 - a. Application for Payment forms with continuation sheets.
 - b. Submittals Schedule.
 - c. Items required to be indicated as separate activities in the Baseline Project Construction Schedule.
- B. Project Information:
 1. Identification: Include the following Project Identification on all Schedule of Values and Application for Payment.
 - a. Project Name and Location.
 - b. Name of Owner and Address.
 - c. Name of Architect and Address.
 - d. Architect's Project Number.
 - e. Contractor's Name and Address.
 - f. Submittal Date.

2.2 COMPLETE SCHEDULE OF VALUES

- A. Format:
 1. Provide a comprehensive, fully developed, detailed Complete Schedule of Values in tabular form.
 - a. Provide and identify the following separate columns to indicate the following for each item listed;
 - 1) SPECIFICATION SECTION.
 - 2) ACTIVITY CODE.
 - 3) DESCRIPTION.
 - 4) RESPONSIBLE PARTY.
 - 5) MAJOR SCOPE.
 - 6) SCOPE TYPE.

- 7) DOLLAR VALUE.
- b. Provide and identify separate line-items to indicate the following;
 - 1) Activity.
 - 2) Sub-Schedules.
 - 3) Contract Conditions.
 - 4) Allowances.
 - 5) Purchase Contracts.
 - 6) Contingencies.
 - 7) Grand Totals.
- B. Content:
 - 1. SPECIFICATION SECTION: Use the specification section number in the Project Manual Table of Contents to identify and establish each line-item.
 - 2. ACTIVITY CODE: Provide the Activity Identification Code for each line-item indicated as separate activities in the Baseline Project Construction Schedule.
 - 3. DESCRIPTION: Provide a description of the work for each line-item associated with the specification section and responsible party.
 - 4. RESPONSIBLE PARTY: Identify the party responsible for performing the work of each line-item associated with the specification section and description.
 - 5. MAJOR SCOPE: Designate Major scope of work as identified and itemized in BID PROPOSAL
 - 6. SCOPE TYPE: Identify each line-item that is associated with a segment of work.
 - 7. DOLLAR VALUE: Sub-Total of the cost for each activity line-item, with the amounts rounded to the nearest dollar.
 - a. Assign a dollar value for each line-item to each Major Scope of the project excluding General Conditions, General Requirements and General Contractor's Overhead and Profit.
 - 8. Activity: Provide at least one activity item-line for the work in each Specification Section.
 - a. Provide separate activity line items for each Contractor or Subcontractor providing work under the same specification section.
 - b. Include entities responsible for performing the work of each activity, identified as, but not limited to, General Contractor, and Sub-Contractor, second and tertiary tier Sub-Contractors, Manufacturers, Fabricators and Vendors.
 - c. Include separate activity line-items for cost items that are directly related to Division 01 - GENERAL REQUIREMENTS and are direct cost of actual work-in-place. Such items shall be, but not limited to, the following;
 - 1) Submittals,
 - 2) Field Engineering,
 - 3) Operation and Maintenance Manuals.
 - 4) Demonstration and Training.
 - 9. Sub-Schedules:
 - a. Major Scope of Work: Provide Sub-Schedules for line-items that are associated with each designated major scope of work as identified in Bid Proposal, and defined in Specification Section -- SUMMARY OF WORK.
 - b. Scope Type: Provide Sub-Schedules for line-items that are associated with each specific scope type.
 - 1) Building Costs: Detailed cost breakdown of all cost items that are directly related to the Project per Building.
 - a) When the Project Building(s) is of sufficient size to warrant, break the building costs down into areas of work compatible with the Contractor's Means and Methods for construction sequences.

- b) Building areas may consist of floor and roof levels and partial floor and roof levels.
 - 2) Project Site Costs: Detailed cost breakdown of all cost items that are directly related to the Project Site.
 - a) When the Project Site is of sufficient size to warrant, break the site costs down into areas of work compatible with the Contractor's Means and Methods for construction sequences.
- 10. Contract Conditions:
 - a. Expand to include separate activity line-items for cost items that are directly related to Division 01 - GENERAL REQUIREMENTS and are not direct cost of actual work-in-place. Such items shall be, but not limited to, the following:
 - 1) Temporary Facilities.
 - 2) Field Supervision.
 - 3) Project Identification Sign.
 - 4) Project Closeout Requirements.
 - a) Punch List Activities, and Project Record Documents.
 - b. Expand to include separate activity line-item for cost items that are directly related to Division 00 - CONDITIONS OF THE CONTRACT REQUIREMENTS and are not direct cost of actual work-in-place. Such items shall be, but not limited to, the following:
 - 1) On-Site Facilities and Supervision.
 - 2) General Contractor's Overhead and Profit.
 - 3) Performance and Labor and Material Bonds.
- 11. Contingencies: If required, identify and provide separate activity line-item for each Contingency that is not assigned to specific work in any specification section. Dollar value to exclude General Contractor's Overhead and Profit.
 - a. If required, provide separate line items for Owner Contingency and Contractor Contingency.
- 12. Grand Total: Summation of dollar value for each column equal to the Bids received.

PART 3 - EXECUTION

3.1 APPLICATION AND CERTIFICATION FOR PAYMENT

A. General Requirements:

- 1. Coordination: Coordinate the preparation of the Application for Payment with the preparation of the Complete Schedule of Values and Project Construction Schedule.
 - a. Entries shall match data on the Complete Schedule of Values and Project Construction Schedule and Project Schedule Updates, if revisions were made.
- 2. Application and Certification for Payment Forms: Use forms accepted by the Architect and Owner for Applications for Payment.
 - a. Form shall be based on AIA Document G702 Application and Certification for Payment and AIA Document G703 Continuation Sheets.
 - b. Submit form for acceptance with initial submittal of Complete Schedule of Values.
- 3. Application Preparation: Complete every entry on form. Notarize and execute by a person authorized to sign legal documents on behalf of the Contractor. Project Inspector or Architect will return incomplete applications without action.
 - a. Use signed and notarized original copies of each Application for Payment to Architect by a method ensuring receipt. One copy shall include Waivers of Lien and similar attachments if required.

4. Identification: Include the following Project Identification on all Application for Payment:
 - a. Project Name and Location.
 - b. Owner Name.
 - c. Architect's Project Number.
 - d. Contractor Name and Address.
 - e. Application Number.
 - f. Application Date.
 - g. Period To:
- B. Format.
1. Provide a comprehensive, fully developed, detailed Application for Payment with Continuation Sheets in tabular form.
 - a. Provide and identify the following separate columns to indicate the following for each item listed;
 - 1) ACTIVITY CODE.
 - 2) DESCRIPTION.
 - 3) SCHEDULED DOLLAR VALUE.
 - 4) WORK COMPLETED.
 - a) FROM PREVIOUS APPLICATION.
 - b) THIS PERIOD.
 - 5) TOTAL COMPLETED.
 - 6) PERCENTAGE OF COMPLETION.
 - 7) BALANCE TO FINISH.
 - 8) RETAINAGE.
 - b. Provide and identify separate line-items to indicate the following the following;
 - 1) Activity.
 - 2) Sub-Schedules.
 - 3) Contract Conditions.
 - 4) Contingency (ies).
 - 5) Grand Totals.
 - 6) Change Orders.
- C. Content:
1. ACTIVITY CODE: Provide the Activity Identification Code for each line-item of Work as indicated as separate activities in the Project Construction Schedule.
 2. DESCRIPTION OF WORK: Provide the same description as indicated in the Schedule of Values for each line item.
 3. SCHEDULED DOLLAR VALUE: Provide the same amount as indicated in the Schedule of Values for each line item.
 4. WORK COMPLETED: with the following sub-columns.
 - a. FROM PREVIOUS APPLICATION, include Dollar Value for work completed in previous Application for Payment, whether or not payment has been received.
 - b. THIS PERIOD, include only the Dollar Value for work completed at the time of Application for Payment.
 5. TOTAL COMPLETED: The sum Dollar Value of Work Completed and Materials Presently Stored.
 6. PERCENTAGE OF COMPLETION: The percentage value of the total Work Completed and the Stored to Date divided by the Scheduled Value.
 7. BALANCE TO FINISH: The dollar value of the Scheduled Value minus the Total Completed.
 8. RETAINAGE: The dollar value of the percentage of retention per contract agreement.
 9. Activity:

- a. Use the Complete Schedule of Values and Baseline Project Schedule as a guide to establish activity line-items for the Application for Payment.
- b. Include separate activity line-items when a work activity is separated into stages and requires separate payments for each stage.
- c. Provide separate line-items for each part of the Work where separate payments will be requested including, but not limited to, submittals, materials, equipment, fabrication and installation.
- d. Provide separate line items for materials stored but not yet installed, where separate payments will be requested.
- 10. Sub-Schedules: As described in the Complete Schedule of Values.
- 11. Contract Conditions: As described in the Complete Schedule of Values.
- 12. Contingencies: As described in the Complete Schedule of Values.
- 13. Grand Totals: As described in the Complete Schedule of Values.
- 14. Change Orders:
 - a. Include amounts of approved Change Orders or Construction Change Directives issued before the last day of construction period covered by application.
- D. Supplemental Information:
 - 1. Materials Stored: Include in Application for Payment the amounts applied for materials or equipment purchased or fabricated and stored, but not yet installed.
 - a. Differentiate between items stored on-site and items stored off-site.
 - b. Provide certificate of insurance or Bonded Warehousing, evidence of transfer of title to Owner, and consent of surety to payment, for stored materials.
 - c. Provide supporting documentation that verifies amount requested, such as paid invoices. Match amount requested with amounts indicated on documentation; do not include overhead and profit on stored materials.
 - d. Provide summary documentation for stored materials indicating the following:
 - 1) Materials previously stored and included in previous Applications for Payment.
 - 2) Work completed for this Application utilizing previously stored materials.
 - 3) Additional materials stored with this Application.
 - 4) Total materials remaining stored, including materials with this Application.
 - 2. Waivers of Mechanic's Lien: With each Application for Payment, submit Waivers of Mechanic's Liens from subcontractors, sub-subcontractors, and suppliers for construction period covered by the previous application.
 - a. Submit partial waivers on each item for amount requested in previous application, after deduction for retainage, on each item.
 - b. When an Application shows completion of an item, submit conditional final or full waivers.
 - c. Owner reserves the right to designate which entities involved in the Work must submit waivers.
 - d. Submit final Application for Payment with or preceded by conditional final waivers from every entity involved with performance of the Work covered by the application who is lawfully entitled to a lien.
 - e. Waiver Forms: Submit waivers of lien on forms executed in a manner acceptable to Owner.
- E. Initial Application for Payment: Administrative actions and submittals that must precede or coincide with submittal of first Application for payment include the following:
 - 1. List of Subcontractors.
 - 2. Schedule of Values.
 - 3. Contractor's Construction Schedule (preliminary if not final).
 - 4. Products List (preliminary if not final).
 - 5. Copies of authorizations and licenses from authorities having jurisdiction for performance of the Work.

6. Initial Progress Report.
7. Report of Preconstruction Conference.
- F. Application for Payment for Progress of Work:
 1. Each Application for Payment shall be consistent with previous applications and payments as certified by the Project Inspector, Architect, and paid for by the Owner.
 2. Payment Applications shall be submitted to the Architect by the date established by the Owner. The maximum period of time covered by each Application for Payment is for one month.
 3. Payments Applications shall be updated to reflect any revised activity in the Project Schedule Updates.
- G. Application for Payment at Substantial Completion: After the issuing of the Certificate of Substantial Completion, submit an Application for Payment showing 100 percent completion for portions of the Work claimed as substantially complete.
 1. Include documentation supporting the claim that the Work is substantially complete and a statement showing an accounting of changes to the Contract Sum.
 2. This application shall reflect Certificates of Partial Substantial Completion issued previously for Owner occupancy of designated portions of the Work.
- H. Final Application for Payment: Submit Final Application for Payment with releases and supporting documentation not previously submitted and accepted, including, but not limited, to the following:
 1. Evidence of completion of Project closeout requirements.
 2. Insurance certificates for products and completed operations where required and proof that taxes, fees, and similar obligations were paid.
 3. Updated final statement accounting for final changes to the Contract Sum.
 4. "Contractor's Affidavit of Payment of Debts and Claims."
 5. "Contractor's Affidavit of Release of Liens."
 6. "Consent of Surety to Final Payment."
 7. Evidence that claims have been settled.
 8. Final meter readings for utilities, a measured record of stored fuel, and similar data as of date of Substantial Completion or when Owner took possession of and assumed responsibility for corresponding elements of the Work.
 9. Final liquidated damages settlement statement.

END OF SECTION

SECTION 01 31 13 – CONTRACTOR'S PROJECT MANAGEMENT

PART 1 - GENERAL

1.1 SUMMARY

- A. This section includes the administrative and procedural provisions for construction operations.
- B. Related Sections:
 - 1. DIVISION 00 SPECIFICATION SECTIONS, INCLUDING GENERAL AND SUPPLEMENTARY CONDITIONS.
 - 2. DIVISION 01 SPECIFICATION SECTIONS.
 - 3. SPECIFICATION SECTIONS IN THE FACILITY CONSTRUCTION SUBGROUP.

1.2 DEFINITIONS

- A. BIM: Building Information Modeling.
- B. CAD: Computer Aided Design and Drafting.
- C. RFI: Request for Information. Seeking information required by or clarifications of the Contract Documents.
- D. MINUTES: A method of documenting key topics discussed with a focus on decisions made and directions given and by whom during a meeting. A verbatim transcript is not necessary.

1.3 SUBMITTALS

- A. Subcontract List: Prepare a written summary identifying individuals or firms proposed for each portion of the Work, including those who are to furnish products or equipment fabricated to a special design. Include the following information in tabular form:
 - 1. Name, address, telephone number, and email address of entity performing subcontract or supplying products.
- B. Key Personnel Names: Within fifteen (15) days of starting construction operations, submit a list of key personnel assignments, including superintendent and other personnel in attendance at Project site. Identify individuals and their duties and responsibilities, list telephone numbers, and e-mail addresses. Provide names, and telephone numbers of individuals assigned as alternates in the absence of individuals assigned to Project. Keep list available and current at all times.

1.4 COORDINATION PROCEDURES

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

1. Schedule construction operations in sequence required to obtain the best results, where installation of one part of the Work depends on installation of other components, before or after its own installation.
 2. Coordinate installation of different components to ensure maximum performance and accessibility for required maintenance, service, and repair.
 3. Make adequate provisions to accommodate items scheduled for later installation.
- B. Coordination of Multiple Contracts: Each contractor shall coordinate its construction operations with those of other contractors and entities to ensure efficient and orderly installation of each part of the Work. Each contractor shall coordinate its own operations with operations included in the Contract Documents that depend on each other for proper installation, connection, and operation.
1. Schedule construction operations in sequence required to obtain the best results, where installation of one part of the Work depends on installation of other components, before or after its own installation.
 2. Coordinate installation of different components with other contractors to ensure maximum performance and accessibility for required maintenance, service, and repair.
 3. Make adequate provisions to accommodate items scheduled for later installation.
- C. Conservation: Coordinate construction activities to ensure that operations are carried out with consideration given to conservation of energy, water, and materials. Coordinate use of temporary utilities to minimize waste.
1. Salvage materials and equipment involved in performance of, but not actually incorporated into, the Work. See other Sections for disposition of salvaged materials that are designated as Owner's property.
- D. Prepare memoranda for distribution to each party involved, outlining special procedures required for coordination. Include such items as required notices, reports, and list of attendees at meetings.
1. Prepare similar memoranda for Owner and separate contractors if coordination of their Work is required.
- E. Administrative Procedures: Coordinate scheduling and timing of required administrative procedures with other construction activities and scheduled activities of other contractors to avoid conflicts and to ensure orderly progress of the Work. Such administrative activities include, but are not limited to, the following:
1. Preparation of Contractor's construction schedule.
 2. Preparation of the schedule of values.
 3. Installation and removal of temporary facilities and controls.
 4. Delivery and processing of submittals.
 5. Progress meetings.
 6. Preinstallation conferences.
 7. Project closeout activities.
 8. Startup and adjustment of systems.
- 1.5 DIGITAL PROJECT MANAGEMENT PROCEDURES
- A. Architect's Data Files Not Available: Architect will not provide Architect's CAD drawing digital data files for Contractor's use during construction.

- B. Use of Architect's Digital Data Files: Digital data files of Architect's CAD drawings will be provided by Architect, if available, for Contractor's use during construction, as per written request made by the Contractor.
1. Digital data files may be used by Contractor in preparing coordination drawings, Shop Drawings, and Project Record Drawings.
 2. Architect makes no representations as to the accuracy or completeness of digital data files as they relate to Contract Drawings.
 3. Digital Drawing Software Program: Contract Drawings are available in Auto CAD.
 4. Contractor, and other parties granted access by Contractor to Architect's digital data files, shall execute attached data licensing agreement form "USER AGREEMENT FOR ELECTRONIC FILES."
- C. Web-Based Project Management Software Package: Use of Contractor' web-based Project management software package for purposes of hosting and managing Project communication and documentation until Final Completion, is acceptable.
1. Web-based Project management software includes, at a minimum, the following features:
 - a. Compilation of Project data, including Contractor, subcontractors, Architect, Architect's consultants, Owner, and other entities involved in Project. Include names of individuals and contact information.
 - b. Access control for each entity for each workflow process, to determine entity's digital rights to create, modify, view, and print documents.
 - c. Document workflow planning, allowing customization of workflow between project entities.
 - d. Creation, logging, tracking, and notification for Project communications required in other Specification Sections, including, but not limited to, RFIs, submittals, Minor Changes in the Work, Construction Change Directives, and Change Orders.
 - e. Track status of each Project communication in real time, and log time and date when responses are provided.
 - f. Procedures for handling PDFs or similar file formats, allowing markups by each entity. Provide security features to lock markups against changes once submitted.
 - g. Processing and tracking of payment applications.
 - h. Processing and tracking of contract modifications.
 - i. Creating and distributing meeting minutes.
 - j. Document management for Drawings, Specifications, and coordination drawings, including revision control.
 - k. Management of construction progress photographs.
 - l. Mobile device compatibility, including smartphones and tablets.
 2. Provide up to seven (7) Project management software user licenses for use by users as identified by Owner and Architect.
 3. At completion of Project, provide digital archive in format that is readable by common desktop software applications in format acceptable to Architect. Provide data in locked format to prevent further changes.
- D. PDF Document Preparation: Where PDFs are required to be submitted to Architect, prepare as follows:
1. Assemble complete submittal package into a single indexed file, incorporating submittal requirements of a single Specification Section and transmittal form with bookmarks enabling navigation to each item.
 2. Name file with submittal number or other unique identifier, including revision identifier.
 3. Certifications: Where digitally submitted certificates and certifications are required, provide a digital signature with digital certificate on where indicated.
 4. Do not submit password protected documents or restricted documents.

1.6 REQUEST FOR INFORMATION (RFI)

- A. General: Immediately on discovery of the need for additional information, clarification, or interpretation of the Contract Documents, Contractor shall prepare and submit an RFI in the form specified.
 - 1. RFIs submitted to Architect by other parties controlled by Contractor will be returned without response.
 - 2. Coordinate and submit RFIs in a prompt manner to avoid delays in work.
- B. Content of the RFI: Include a detailed, legible description of item needing information or interpretation and the following:
 - 1. Project name.
 - 2. Owner name.
 - 3. Owner's Project number.
 - 4. Name of Architect.
 - 5. Architect's Project number.
 - 6. Date.
 - 7. Name of Contractor.
 - 8. RFI number, numbered sequentially.
 - 9. RFI subject.
 - 10. Specification Section number and title and related paragraphs, as appropriate.
 - 11. Drawing number and detail references, as appropriate.
 - 12. Field dimensions and conditions, as appropriate.
 - 13. Contractor's suggested resolution. If Contractor's suggested resolution impacts the Contract Time or the Contract Sum, Contractor shall state impact in the RFI.
 - 14. Contractor's signature.
 - 15. Attachments: Include sketches, descriptions, measurements, photos, Product Data, Shop Drawings, coordination drawings, and other information necessary to fully describe items needing interpretation.
 - a. Include dimensions, thicknesses, structural grid references, and details of affected materials, assemblies, and attachments on attached sketches.
- C. RFI Forms: Use forms accepted by the Architect and Owner. Attachments shall be electronic files in PDF format.
- D. Architect's Action: Architect will review each RFI, determine action required, and respond. Allow seven (7) days for Architect's response for each RFI. RFIs received by Architect after 1:00 p.m. will be considered as received the following working day.
 - 1. The following Contractor-generated RFIs will be returned without action:
 - a. Requests for approval of submittals.
 - b. Requests for approval of substitutions.
 - c. Requests for approval of Contractor's means and methods.
 - d. Requests for coordination information already indicated in the Contract Documents.
 - e. Requests for adjustments in the Contract Time or the Contract Sum.
 - f. Requests for interpretation of Architect's actions on submittals.
 - g. Incomplete RFIs or inaccurately prepared RFIs.
 - 2. Architect's action may include a request for additional information, in which case Architect's time for response will date from time of receipt by Architect of additional information.
 - 3. Architect's action on RFIs that may result in a change to the Contract Time or the Contract Sum may be eligible for Contractor to submit Change Proposal.

- a. If Contractor believes the RFI response warrants change in the Contract Time or the Contract Sum, notify Architect in writing within five (5) days of receipt of the RFI response.
- E. RFI Log: Prepare, maintain, and submit a tabular log of RFIs organized by the RFI number. Submit log weekly. Include not less than the following:
 - 1. Project name.
 - 2. Name and address of Contractor.
 - 3. Name and address of Architect.
 - 4. RFI number, including RFIs that were returned without action or withdrawn.
 - 5. RFI description.
 - 6. Date the RFI was submitted.
 - 7. Date Architect's response was received.
 - 8. Identification of related Minor Change in the Work, Construction Change Directive, and Proposal Request, as appropriate.
- F. On receipt of Architect's action, update the RFI log and immediately distribute the RFI response to affected parties. Review response and notify Architect within three (3) days if Contractor disagrees with response.

1.7 COORDINATION DRAWINGS

- A. Prepare coordination drawings according to requirements in individual Sections, and additionally where installation is not completely indicated on Shop Drawings, where limited space availability necessitates coordination, or if coordination is required to facilitate integration of products and materials fabricated or installed by more than one entity.
 - 1. Content: Project-specific information, drawn accurately to a scale large enough to indicate and resolve conflicts. Do not base coordination drawings on standard printed data. Include the following information, as applicable:
 - a. Use applicable Drawings as a basis for preparation of coordination drawings. Prepare sections, elevations, and details as needed to describe relationship of various systems and components.
 - b. Coordinate the addition of trade-specific information to coordination drawings in a sequence that best provides for coordination of the information and resolution of conflicts between installed components before submitting for review.
 - c. Indicate functional and spatial relationships of components of architectural, structural, civil, mechanical, and electrical systems.
 - d. Indicate space requirements for routine maintenance and for anticipated replacement of components during the life of the installation.
 - e. Show location and size of access doors required for access to concealed dampers, valves, and other controls.
 - f. Indicate required installation sequences.
 - g. Indicate dimensions shown on Drawings. Specifically note dimensions that appear to be in conflict with submitted equipment and minimum clearance requirements. Provide alternative sketches to Architect indicating proposed resolution of such conflicts. Minor dimension changes and difficult installations will not be considered changes to the Contract.
 - 2. Review: Architect will review coordination drawings to confirm that, in general, the Work is being coordinated, but not for the details of the coordination, which are Contractor's responsibility. If Architect determines that coordination drawings are not being prepared in sufficient scope or detail, or are otherwise deficient, Architect will so inform Contractor, who shall make suitable modifications and resubmit.

- B. Coordination Drawing Organization: Organize coordination drawings as follows:
1. Floor Plans and Reflected Ceiling Plans: Show architectural and structural elements, and mechanical, plumbing, fire-protection, fire-alarm, and electrical Work. Show locations of visible ceiling-mounted devices relative to acoustical ceiling grid. Supplement plan drawings with section drawings where required to adequately represent the Work.
 2. Above Ceiling: Indicate subframing for support of ceiling, and wall systems, mechanical and electrical equipment, and related Work. Locate components within ceiling plenums to accommodate layout of light fixtures, fire sprinklers, mechanical ducts, support structures, structural elements (beams, joist, trusses) and other components indicated on Drawings. Indicate areas of conflict between light fixtures and other components.
 3. Mechanical Rooms: Provide coordination drawings for mechanical rooms, showing plans and elevations of mechanical, plumbing, fire-protection, fire-alarm, and electrical equipment.
 4. Structural Penetrations: Indicate penetrations and openings required for all disciplines.
 5. Slab Edge and Embedded Items: Indicate slab edge locations and sizes and locations of embedded items for metal fabrications, sleeves, anchor bolts, bearing plates, angles, door floor closers, slab depressions for floor finishes, curbs and housekeeping pads, and similar items.
 6. Mechanical and Plumbing Work: Show the following:
 - a. Sizes and bottom elevations of ductwork, piping, and conduit runs, including insulation, bracing, flanges, and support systems.
 - b. Dimensions of major components, such as dampers, valves, diffusers, access doors, cleanouts and electrical distribution equipment.
 - c. Fire-rated enclosures around ductwork.
 7. Electrical Work: Show the following:
 - a. Runs of vertical and horizontal conduit 1-1/4 inches in diameter and larger.
 - b. Light fixture, exit light, emergency battery pack, smoke detector, and other fire-alarm locations.
 - c. Panel board, switchboard, switchgear, transformer, busway, generator, and motor-control center locations.
 - d. Location of pull boxes and junction boxes, dimensioned from column center lines.
 8. Fire-Protection System: Show the following: Locations of standpipes, mains piping, branch lines, pipe drops, and sprinkler heads.
 9. Site Utility Coordination: Show the following:
 - a. Existing and proposed underground and surface utility improvements including gas, domestic water, fire water, chilled water, hot water, irrigation, storm sewer, sanitary sewer, electrical power, and communications. No site improvements shall be installed prior to Architect's and Owner's review of coordination drawing. Architect's and Owner's review is only for general conformance with the Contract Documents. Contractor is responsible to obtain their own GPR Services to locate utilities within the construction site area.
- C. Coordination Drawing Process: Prepare coordination drawings in the following manner:
1. Schedule submittal and review of Structural Steel, Wood Framing, Fire Sprinkler, Plumbing, HVAC, and Electrical Shop Drawings to make required changes prior to preparation of coordination drawings.
 2. Commence routing of coordination drawing files with HVAC Installer, who will provide drawing plan files denoting approved ductwork. HVAC Installer will locate ductwork and piping on a single layer, using orange color. Forward drawings to Plumbing Installer.
 3. Plumbing Installer will locate plumbing and equipment on a single layer, using blue color.

4. Electrical Installer will indicate service and feeder conduit runs and equipment in green color. Electrical Installer shall forward drawing files to Communications and Electronic Safety and Security Installer.
 5. Communications and Electronic Safety and Security Installer will indicate cable trays and cabling runs and equipment in purple color. Communications and Electronic Safety and Security Installer shall forward completed drawing files to Contractor.
 6. Contractor shall perform the final coordination review. As each coordination drawing is completed, Contractor will meet with Architect to review and resolve conflicts on the coordination drawings.
- D. Coordination Digital Data Files: Prepare coordination digital data files according to the following requirements:
1. File Preparation Format:
 - a. Same digital data software program, version, and operating system as original Drawings, operating in Microsoft Windows operating system.
 2. File Submittal Format: Submit or post coordination drawing files using PDF format, or in a format as requested by the Architect.

1.8 PROJECT MEETINGS

- A. General: Schedule and conduct meetings and conferences at Project site unless otherwise indicated.
1. Attendees: Inform participants and others involved, and individuals whose presence is required, of date and time of each meeting. Notify Owner and Architect of scheduled meeting dates and times a minimum of seven days prior to meeting.
 2. Agenda: Prepare the meeting agenda. Distribute the agenda to all invited attendees.
 3. Minutes: Entity responsible for conducting meeting will record significant discussions and agreements achieved. Distribute the meeting minutes to everyone concerned, including Owner and Architect, within three days of the meeting.
- B. Preconstruction Conference: Schedule and conduct a preconstruction conference before starting construction, at a time convenient to Owner and Architect, but no later than 15 days after execution of the Agreement.
1. Attendees: Authorized representatives of Owner, Architect, and their consultants; Contractor and its superintendent; major subcontractors; suppliers; and other concerned parties shall attend the conference. Participants at the conference shall be familiar with Project and authorized to conduct matters relating to the Work.
 2. Agenda: Discuss items of significance that could affect progress, including the following:
 - a. Introductions, responsibilities and personnel assignments.
 - b. Tentative construction schedule.
 - c. Phasing.
 - d. Critical work sequencing and long lead items.
 - e. Designation of key personnel and their duties.
 - f. Lines of communications.
 - g. Use of web-based Project software.
 - h. Review of General Conditions/Requirements.
 - i. Procedures for processing field decisions and Change Orders.
 - j. Procedures for RFIs.
 - k. Procedures for Submittals.
 - l. Procedures for Substitutions.
 - m. Procedures for testing and inspecting.
 - n. Procedures for processing Applications for Payment.

- o. Distribution of the Contract Documents.
 - p. Submittal procedures.
 - q. Sustainable design requirements.
 - r. Preparation of Record Documents.
 - s. Use of the premises.
 - t. Work restrictions.
 - u. Working hours.
 - v. Owner's occupancy requirements.
 - w. Responsibility for temporary facilities and controls.
 - x. Procedures for moisture and mold control.
 - y. Procedures for disruptions and shutdowns.
 - z. Construction waste management and recycling.
 - aa. Parking availability.
 - bb. Office, work, and storage areas.
 - cc. Equipment deliveries and priorities.
 - dd. Project Safety.
 - ee. Security.
 - ff. Progress cleaning.
3. Minutes: Entity responsible for conducting meeting will record and distribute meeting minutes.
- C. Preinstallation Conferences: Conduct a preinstallation conference at Project site before each construction activity when required by other Sections and when required for coordination with other construction.
- 1. Attendees: Installer and representatives of manufacturers and fabricators involved in or affected by the installation and its coordination or integration with other materials and installations that have preceded or will follow, shall attend the meeting. Advise Owner and Architect of scheduled meeting dates.
 - 2. Agenda: Review progress of other construction activities and preparations for the particular activity under consideration, including requirements for the following:
 - a. Contract Documents.
 - b. Options.
 - c. Related RFIs.
 - d. Related Change Orders.
 - e. Purchases.
 - f. Deliveries.
 - g. Submittals.
 - h. Review of mockups.
 - i. Possible conflicts.
 - j. Compatibility requirements.
 - k. Time schedules.
 - l. Weather limitations.
 - m. Manufacturer's written instructions.
 - n. Warranty requirements.
 - o. Compatibility of materials.
 - p. Acceptability of substrates.
 - q. Temporary facilities and controls.
 - r. Space and access limitations.
 - s. Regulations of authorities having jurisdiction.
 - t. Testing and inspecting requirements.
 - u. Installation procedures.
 - v. Coordination with other work.
 - w. Required performance results.

- x. Protection of adjacent work.
 - y. Protection of construction and personnel.
 - 3. Record significant conference discussions, agreements, and disagreements, including required corrective measures and actions.
 - 4. Reporting: Distribute minutes of the meeting to each party present and to other parties requiring information.
 - 5. Do not proceed with installation if the conference cannot be successfully concluded. Initiate whatever actions are necessary to resolve impediments to performance of the Work and reconvene the conference at earliest feasible date.
- D. Project Closeout Conference: Schedule and conduct a project closeout conference, at a time convenient to Owner and Architect, but no later than 90 days prior to the scheduled date of Substantial Completion.
 - 1. Conduct the conference to review requirements and responsibilities related to Project closeout.
 - 2. Attendees: Authorized representatives of Owner, Architect, and their consultants; Contractor and its superintendent; major subcontractors; suppliers; and other concerned parties shall attend the meeting. Participants at the meeting shall be familiar with Project and authorized to conduct matters relating to the Work.
 - 3. Agenda: Discuss items of significance that could affect or delay Project closeout, including the following:
 - a. Preparation of Record Documents.
 - b. Procedures required prior to inspection for Substantial Completion and for final inspection for acceptance.
 - c. Procedures for completing and archiving web-based Project software site data files.
 - d. Submittal of written warranties.
 - e. Requirements for preparing operations and maintenance data.
 - f. Requirements for delivery of material samples, attic stock, and spare parts.
 - g. Requirements for demonstration and training.
 - h. Preparation of Contractor's punch list.
 - i. Procedures for processing Applications for Payment at Substantial Completion and for final payment.
 - j. Submittal procedures.
 - k. Coordination of separate contracts.
 - l. Owner's partial occupancy requirements.
 - m. Installation of Owner's furniture, fixtures, and equipment.
 - n. Responsibility for removing temporary facilities and controls.
 - 4. Minutes: Entity conducting meeting will record and distribute meeting minutes.
- E. Progress Meetings: Conduct progress meetings at weekly intervals.
 - 1. Coordinate dates of meetings with preparation of payment requests.
 - 2. Attendees: In addition to representatives of Owner and Architect, each contractor, subcontractor, supplier, and other entity concerned with current progress or involved in planning, coordination, or performance of future activities shall be represented at these meetings. All participants at the meeting shall be familiar with Project and authorized to conduct matters relating to the Work.
 - 3. Agenda: Review and correct or approve minutes of previous progress meeting. Review other items of significance that could affect progress. Include topics for discussion as appropriate to status of Project.

- a. Contractor's Construction Schedule: Review progress since the last meeting. Determine whether each activity is on time, ahead of schedule, or behind schedule, in relation to Contractor's construction schedule. Determine how construction behind schedule will be expedited; secure commitments from parties involved to do so. Discuss whether schedule revisions are required to ensure that current and subsequent activities will be completed within the Contract Time.
 - 1) Review schedule for next period.
 - b. Review present and future needs of each entity present, including the following:
 - 1) Interface requirements.
 - 2) Sequence of operations.
 - 3) Status of submittals.
 - 4) Status of sustainable design documentation.
 - 5) Deliveries.
 - 6) Off-site fabrication.
 - 7) Access.
 - 8) Site use.
 - 9) Temporary facilities and controls.
 - 10) Progress cleaning.
 - 11) Quality and work standards.
 - 12) Status of correction of deficient items.
 - 13) Field observations.
 - 14) Status of RFIs.
 - 15) Status of Proposal Requests.
 - 16) Pending changes.
 - 17) Status of Change Orders.
 - 18) Pending claims and disputes.
 - 19) Documentation of information for payment requests.
 - 4. Minutes: Entity responsible for conducting the meeting will record and distribute the meeting minutes to each party present and to parties requiring information.
 - a. Schedule Updating: Revise Contractor's construction schedule after each progress meeting, where revisions to the schedule have been made or recognized. Issue revised schedule concurrently with the report of each meeting.
- F. Coordination Meetings: Conduct Project coordination meetings at weekly intervals. Project coordination meetings are in addition to specific meetings held for other purposes, such as progress meetings and preinstallation conferences.
- 1. Attendees: Each contractor, subcontractor, supplier, and other entity concerned with current progress or involved in planning, coordination, or performance of future activities shall be represented at these meetings. All participants at the meetings shall be familiar with Project and authorized to conduct matters relating to the Work. Advise Owner and Architect of scheduled meeting dates.
 - 2. Agenda: Review and correct or approve minutes of the previous coordination meeting. Review other items of significance that could affect progress. Include topics for discussion as appropriate to status of Project.
 - a. Combined Contractor's Construction Schedule: Review progress since the last coordination meeting. Determine whether each contract is on time, ahead of schedule, or behind schedule, in relation to combined Contractor's construction schedule. Determine how construction behind schedule will be expedited; secure commitments from parties involved to do so. Discuss whether schedule revisions are required to ensure that current and subsequent activities will be completed within the Contract Time.

- b. Schedule Updating: Revise combined Contractor's construction schedule after each coordination meeting, where revisions to the schedule have been made or recognized. Issue revised schedule concurrently with report of each meeting.
- c. Review present and future needs of each contractor present, including the following:
 - 1) Interface requirements.
 - 2) Sequence of operations.
 - 3) Status of submittals.
 - 4) Deliveries.
 - 5) Off-site fabrication.
 - 6) Access.
 - 7) Site use.
 - 8) Temporary facilities and controls.
 - 9) Work hours.
 - 10) Hazards and risks.
 - 11) Progress cleaning.
 - 12) Quality and work standards.
 - 13) Status of RFIs.
 - 14) Proposal Requests.
 - 15) Change Orders.
 - 16) Pending changes.
- 3. Reporting: Record meeting results and distribute copies to everyone in attendance and to others affected by decisions or actions resulting from each meeting.

PART 2 - PRODUCTS
NOT APPLICABLE

PART 3 - EXECUTION
NOT APPLICABLE

END OF SECTION

**CONTRACTORS PROJECT
MANAGEMENT**

**USAGE AGREEMENT FOR ELECTRONIC FILES
Release of Liability**

Documents Transmitted By: **Darden Architects, Inc.**
 6790 N. West Ave.
 Fresno CA 93711

PROJECT NAME: _____

ARCHITECT PROJECT NO.: _____

PROJECT ARCHITECT: _____

I _____, as a duly authorized agent
of _____ - (Contractor) have an agreement for construction
services on the above named project. The Contractor acknowledges having received at least one (1)
complete set of Contract Documents for the project and has posted all Addenda and all other contract
documents issued to date.

The Contractor is requesting the electronic CAD files of work prepared by the Architect and/or
Architect's Consultants (Design Team) on the subject project, so that the information therein may be
utilized in the Contractor's work on the same project. The Contractor understands that these files are
being provided as a courtesy and they are strictly intended for the Contractor's sole convenience and they
are not recognized Contract Documents. This request is subject to the following conditions, which the
Contractor hereby agrees to abide by:

1. It is understood and agreed to that any files and/or documents provided are instruments of
professional service by the Design Team and are intended for one-time use solely in the
construction of this project. They are and shall remain the property of the Architect or the
Architect's Consultants, who is deemed to be the author of the drawings and data, and who shall
retain all common law, statutory law, and all other rights, including copyrights.
2. The Contractor shall indemnify and hold harmless, the Design Team, its officers, directors,
employees or subcontractors, to the fullest extent permitted by law, against all claims, liabilities,
losses, damages, and costs, including but not limited to attorney's fees and defense costs arising
out of or resulting from contractor's use of these electronic files, or in any way connected with the
modification, misinterpretation, misuse, or reuse by the Contractor or by others.
3. The Contractor agrees that by using these electronic files, the Contractor is in no way relieved of
the duty to fully comply with the Contract Documents, including and without limitation, the need
to check, confirm and coordinate all dimensions and other details, take field measurements, verify
field conditions and coordinate with all other contractors for the project.
4. It is agreed to that these electronic files are not Contract Documents. Differences may exist
between electronic files and corresponding hard-copy Contract documents. The Design Team
makes no representation regarding the accuracy or completeness of the electronic files provided
to the contractor. In the event that a conflict arises, the signed and sealed hard-copy Contract
Documents shall govern. Contractor is responsible for determining if any conflict exists.
5. The Contractor understands that the Design Team makes no representation as to the compatibility
of these files with Contractor's computer hardware or software. The Contractor understands that
the accuracy of the information is an artifact of the techniques used to generate it and is in no way

**CONTRACTORS PROJECT
MANAGEMENT**

intended to imply actual accuracy. It is also understood that the automated conversion of information and data from the system and format used by the Design Team to an alternate system or format cannot be accomplished without the possibility of introduction of inexactitudes, anomalies and errors.

6. Because information presented on the electronic files can be modified, unintentionally or otherwise, the Design Team reserves the right to edit the drawings to remove information deemed not necessary and/or remove all indications of ownership and/or involvement from each electronic display.
7. The Design Team will only furnish those drawings directly applicable to the shop drawings the contractor wishes to create. The Contractor understands that not all electronic files may be available at the Design Team's discretion.
8. The Contractor understands that the Architect's Consultants may have Additional Conditions for release of their electronic files or documents, and the Contractor hereby agree to abide by the Consultants conditions in addition to the stated conditions in this agreement. Additional Conditions (if any) are attached to this agreement.
9. The Contractor understands that the Architect and the Architect's Consultants will incur certain costs in providing the requested electronic files. The Contractor agrees to pay the Design Team a service fee of \$120.00 per sheet, per delivery, prior to any delivery of the electronic files to compensate the Design Team for the labor to prepare and transmit the files and for the additional risk that this transfer will occasion.
10. Under no circumstances shall delivery of the electronic files for use by the Contractor be deemed a sale by the Owner, the Design Team, or any member of the Design Team. The Design Team makes no warranties, either expressed or implied, of merchantability or fitness for any particular purpose. In no event shall the Design Team be liable for any loss of profit or any consequential damages as a result of Contractor's use or reuse of the electronic files.

Darden Architects, Inc.

Description of the requested documents and/or CAD files:

___ Civil ___ Structural ___ Mechanical ___ Electrical ___ Other(s)

Printed Name

Title

Signed

Dated

SECTION 01 32 16 – CONSTRUCTION SCHEDULES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specifications Sections, apply to this Section.

1.2 SUMMARY

- A. This Section includes administrative and procedural requirements for documenting the progress of construction during performance of the Work, including the following:
 - a. Project Construction Schedules.
 - b. Coordination Schedules.
 - c. Schedule Modifications.
 - d. Time Extensions.
- B. Related Requirements:
 - 1. 01 11 13 SUMMARY OF WORK.
 - 2. 01 29 73 SCHEDULE OF VALUES.
 - 3. 01 45 23 TESTING AND INSPECTION SERVICES.

1.3 DEFINITIONS

- A. The following definitions or terms apply to this specification section:
 - 1. Activity: A discrete part of a project that can be identified for planning, scheduling, monitoring, and controlling the construction project. Activities included in a construction schedule consume time and resources.
 - a. Critical Activity is an activity on the critical path that must start and finish on the planned early start and finish times.
 - b. Predecessor Activity is an activity that precedes another scheduled activity.
 - c. Successor Activity: An activity that follows another scheduled activity.
 - 2. Activity Code: Identifies each activity so as to be organized, group and sorted into Sub-Schedules, Areas of Work, and Reports.
 - 3. Construction Schedule: A logical analysis listing the project's milestones, activities, and deliverables with planned dates for performing the scheduled activities and milestones.
 - 4. Critical Path: The longest continuous chain of activities through the schedule that establishes the minimum overall project duration.
 - 5. Event: The starting or ending point of an activity.
 - 6. Float: The measure of leeway in starting and completing an activity.
 - a. Float time is not for the exclusive use or benefit of either Owner or Contractor, but is jointly owned, expiring Project resource is available to both parties as needed to meet the schedule milestones and contract completion date.
 - b. Free float is the amount of time an activity can be delayed without adversely affecting the early start of the successor activity.
 - c. Total float is the measure of leeway in starting of or completing an activity without adversely affecting the planned Project completion date.
 - 7. Milestone: A key or critical point in time for reference or measurement.
 - 8. Inclement Weather: Temperature, Precipitation, Fog, and Muddy conditions that may impede the progress of the Project construction on critical activities for more than fifty percent (50%) of the Contractor's scheduled work day.

9. Responsibility Code: Identify entities that are responsible for performing the work of each activity as identified, but not limited to, General Contractor, Sub-Contractor, second and tertiary tier Sub-Contractors, Manufacturers, Fabricators and Vendors.
10. Unusually Severe Weather: The amount of excessive Inclement Weather that is greater than the anticipated number of Inclement Weather days for any given month.
11. Mud Days: The amount of excessive muddy site conditions which prohibit access to and around the Project site, access to buildings and impedes the progress of the Project construction on critical activities as a result of Unusually Severe Weather.
12. NOAA: National Oceanic and Atmospheric Administration.

1.4 SUBMITTALS

- A. General:
- B. Submit in accordance with Specification Section - SUBMITTAL PROCEDURES.
- C. Format for Submittals: A time-scaled bar chart and Gantt-chart-type schedules.
 1. Provide a working electronic copy of schedule file.
 2. Provide schedule files on Compact Disc (CD) or Digital Versatile Disc (DVD) (WINDOWS Formatted Disks) in a form that can reviewed and used by the Owner, and Architect.
 3. Provide PDF electronic copy of schedule file.
 4. Provide (Two) <Insert Number> paper copies of schedules.
 5. Sheet size shall of adequate size to clearly show the required information for the entire construction period.
 6. All required documentation shall have the Submittal number posted in the upper-right hand corner of the page.
- D. Assurance/Control Submittals:
 1. Project Construction Schedules:
 - a. Initial Project Schedule (IPS);
 - 1) Submit within [fourteen (14)] days after the Award of Contract.
 - b. Baseline Project Schedule (BPS);
 - 1) Submit within [twenty-one (21)] days after the Notice to Proceed date.
 2. Coordination Schedules:
 - a. Short Interval Schedules (SIS);
 - 1) Submit at the regularly scheduled meetings.
 3. Schedule Modifications:
 - a. Change in Sequence;
 - 1) Submit as needed at a regularly scheduled Progress Meeting.
 - b. Recovery Schedule;
 - 1) Submit as needed at a regularly scheduled Progress Meeting.
 - c. Alterations to Schedule;
 - 1) Submit as needed at a regularly scheduled Progress Meeting
 4. Time Extension Requests:
 - a. Notice of Delay;
 - 1) Submit within [seven (7)] days after a delay event, and/or with a Change Order Request (COR) that is in response to a CCD, RFP, or other documents issued by the Architect.
 - b. Inclement Weather;
 - 1) Submit within [twenty-four (24)] hours after an event.

1.5 SYSTEM DESCRIPTION

- A. General:

1. The Architect considers the project schedule requirements to be of significant importance to both the Contractor and the Owner. The development, submittal, acceptance and maintenance of the Initial Project Schedule, Baseline Project Schedule and Schedule Updates must be given high priority.
 - a. Progress payments may be withheld in whole or part should the Contractor fail to comply with the requirements of this section.
 - b. No separate payment will be made to the Contractor for any of the requirements of this section. All such costs shall be part of the Contractor's planned project overhead costs included in its bid.
 - B. Performance Requirements:
 1. The Baseline Project Schedule shall be the basis for evaluating the job progress and time extension requests. The responsibility for developing the Baseline Project Schedule, accurately updating the schedule, and monitoring the actual progress of the work compared to the planned schedule rests solely with the Contractor.
 - a. Failure of the Contractor to include any element of the work or any inaccuracy in the Baseline Project Schedule will not relieve Contractor from the responsibility for accomplishing all the work in accordance with the Contract requirements.
 2. Inclement Weather: The Contractor shall have included all impacts to weather dependent activities, resulting from the anticipated Inclement Weather in the Baseline Project Schedule.
 - a. Contractor shall be responsible for all associated time delays and costs.
 - b. Contractor shall be responsible to account for associated mitigating measures which includes, but not limited to, dewatering, mucking, temporary weather protection, gravel roadways, equipment downtime, etc.
 - c. Contractor shall be responsible to account for the site's soil conditions, drainage patterns, and other elements that may be affected.
 3. Cost Correlation: The Initial Project Schedule and the Baseline Project Schedule shall be the basis for developing the Schedule of Values and the Work performed as of planned and actual dates used for preparation of The Application for Payment Requests.
 - a. Refer to Specification Section - SCHEDULE OF VALUES.
 4. Early Completion Schedules: Early completion schedules may be prohibited due to certain physical or monetary constraints imposed upon the Owner.
 - a. If not prohibited, and is contemplated by the Contractor as part of its bidding strategy, it is hereby expressly understood by the Contractor that early completion schedules will only be acceptable under the condition that the schedule be reasonable and realistic.
 - b. The Contractor certifies that it has included general conditions costs in its bid sufficient for the entire contractual time of performance.
 - c. No damages for delay will be recoverable if the project is prolonged beyond the early completion date, but still completed within the entire contract duration.
- 1.6 QUALITY ASSURANCE
- A. Qualifications:
 1. The Contractor must have the capacity and capability of supporting the project by producing schedule-related data within [two (2)] days of request by the Contractor, Architect, or Owner.
 - B. Regulatory Requirements:
 1. In accordance with Specification Section - REGULATORY REQUIREMENTS.
 - C. Meetings:

1. Prescheduling Conference: Scheduled by the Contractor prior to submitting the Baseline Project Schedule, unless otherwise agreed to by the Architect and Owner, for the proper coordination of the work. Conduct conference at Project site. Review methods and procedures related to the Baseline Project Schedule, including, but not limited to, the following:
 - a. Discuss constraints, including **phasing** and **interim milestones**.
 - b. Review schedule for work of Owner's separate contracts.
 - c. Review submittal requirements and procedures.
 - d. Review time required for review of submittals and resubmittals.
 - e. Review requirements for test and inspections by independent testing and inspection agencies.
 - f. Review time required for Project closeout and Owner startup procedures, [including commissioning activities].
 - g. Review and finalize list of construction activities to be included in schedule.
 - h. Review procedures for updating schedule.
2. Progress Meetings: Scheduled by the Contractor for the proper coordination of the work.
 - a. Weekly Progress Meeting: Schedule on a weekly basis, unless otherwise agreed to by the Architect and Owner;
 - 1) Review Short Interval Schedule.
 - 2) Discuss field observations, problems, and decisions.

PART 2 - PRODUCTS

2.1 GENERAL REQUIREMENTS

- A. Time Frame: Extend schedules from dates established from the Notice to Proceed to final completion.
 1. Contract completion date shall not be changed by submission of a schedule that shows an early completion date.
- B. Activity Data: Schedule to show early start, early finish, late start, late finish, original duration, remaining duration, total float and percentage completion.
 1. Contractor shall submit a detailed BPS presenting an orderly and realistic plan for the completion of the entire project.
 - a. The BPS shall not show more than 10% of the total activities as critical.
 - b. The BPS shall not show more than 20% of the activities with total float of 10 working days or less.
 - c. The schedule shall not show any activities with negative float.
 - d. Start and Finish constraints, unless identified in the contract documents, shall be minimized as much as possible.
 2. Schedule activities that are dependent on submittal approval and/or material delivery. Activities shall not be scheduled to start earlier than the reasonably expected review, and acceptance or delivery dates.
- C. Activity Duration: Activity durations shall be the total number of days required to perform that activity.
 1. Define activities so no activity is longer than twenty (20) days, unless specifically allowed by Architect, except for submittal, approval, fabrication and delivery (procurement) activities
 2. Activities that require three months or longer to complete, indicate an estimated completion percentage in ten (10) percent increments within the time bar.
 3. Procurement Activities: Include procurement process activities for long lead items and major items, requiring a cycle of more than sixty (60) days, as separate activities in schedule.

- a. Procurement cycle activities include, but are not limited to, submittals, approvals, purchasing, fabrication, and delivery
- 4. Startup and Testing Time: Include no fewer than fifteen (15) days for startup and testing.
- 5. Substantial Completion: Indicate completion in advance of date established for Substantial Completion, and allow time for Architect's administrative procedures necessary for certification of Substantial Completion.
- 6. Punch List and Final Completion: Include not more than thirty (30) days for completion of punch list items and final completion.
- D. Constraints:
 - 1. Constraints: Include constraints and work restriction indicated in the Contract Documents and as follows in schedule, and show how the sequence of the Work is affected.
 - a. Phasing: Arrange list of activities on schedule by phase as indicated in Specification Section – SUMMARY OF WORK
 - b. Include a Separate activity for each of the following:
 - 1) Work under More Than One Contract.
 - 2) Work Performed By Owner.
 - 3) Each Product Ordered In Advance, include delivery dates.
 - 4) Each Owner-Furnished Product, include the delivery dates.
 - c. Work Restrictions: Show the effect of the following items on the schedule:
 - 1) Coordination with existing construction.
 - 2) Limitations of continued occupancies.
 - 3) Uninterruptible service.
 - 4) Partial occupancy before Substantial Completion.
 - 5) Use of premises restrictions.
 - 6) Provisions for future construction.
 - 7) Seasonal variations.
 - 8) Environmental control.
 - d. Work Stages: Indicate important stages of construction for each major portion of the Work, including, but not limited to, the following:
 - 1) Submittals.
 - 2) Purchases.
 - 3) Mockups
 - 4) Fabrication
 - 5) Sample Testing.
 - 6) Deliveries
 - 7) Installation
 - 8) Test and inspections
 - e. Construction Areas: Identify each major area of construction for each major portion of the Work. Indicate where each construction activity within a major area must be sequenced or integrated with other construction activities.
- E. Inclement Weather: The schedules shall include delays due to the effect of the anticipated Inclement Weather, including resultant muddy conditions, in all-weather dependent activities.
 - 1. The Contractor shall submit with the Baseline Project Schedule, a National Oceanic and Atmospheric Administration (NOAA) Meteorological Data Chart showing the "Normals," "Means," • and "Extremes," • of monthly Temperature, Precipitation, and Fog for the area where the project is located.
 - a. The Owner reserves the right to update Meteorological Data, so that it reflects the most accurate data for the project site, site conditions and locality.
 - 2. Upon review and acceptance, the Meteorological Data Chart shall be the baseline for evaluating anticipated weather related delays. Refer to the "sample" Meteorological Data Chart provided herein.

- a. Provide the number of delay days of anticipated Inclement Weather in the schedule per month.
- b. Provide the number of delay days of anticipated Mud Days in the schedule per month.
 - 1) Not all Mud Days are eligible for delays, only a portion of the actual Mud Days will be considered.
 - 2) Mud Days shall be based on a percentage of actual precipitation days. Upon review and found acceptable, the percentage shall be applied to actual precipitation that are above and beyond the anticipated Inclement Weather.
 - 3) It is the Contractors obligation to become aware of the site soil conditions, drainage patterns, and other elements that may affect the resulting impacts due to Mud Provide.

F. Project Information:

- 1. Identification: Include the following Project Identification on all Project Construction Schedules, Coordination Schedules, Schedule Modifications and Time Extension Requests.
 - a. Project Name and Location.
 - b. Name of Owner and Address.
 - c. Name of Architect and Address.
 - d. Architect's Project Number.
 - e. Contractor's Name and Address.
 - f. Submittal Date.

2.2 INITIAL PROJECT SCHEDULE (IPS)

A. Format:

- 1. Prepare in form of a summary level horizontal-box-column Bar-Chart Schedule:
 - a. Provide and identify separate columns to indicate the following;
 - 1) SPECIFICATION SECTION.
 - 2) DESCRIPTION.
 - 3) RESPONSIBILITY CODE.
 - 4) HORIZONTAL TIME SCALE.
 - b. Provide and identify separate activity line-item horizontal bars to indicate the following;
 - 1) Activity.
 - 2) Milestones.
 - 3) Contract Conditions.

B. Content:

- 1. SPECIFICATION SECTION: Use the specification section number in the Project Manual Table of Contents to identify and establish each line-item.
- 2. DESCRIPTION: Provide a description of the work for each line-item associated with the specification section and responsible party.
- 3. RESPONSIBILITY CODE: Provide responsibility code that identifies the responsible party for performing the work of each activity line-item associated with the specification section and description.
- 4. HORIZONTAL TIME SCALE: Identify the week, month and year. Indicate the first work day of each week with a continuous vertical line.
 - a. Extend from the date established from the Notice to Proceed to the date of Final Completion.
- 5. Activity: Provide a summary level bar chart with distinct graphic delineation for each activity line-item.
 - a. Provide at least one activity line-item for the work in each Specification Section.

- 1) Provide separate activity line items for each Contractor or Subcontractor providing work under the same specification section.
- b. Organize activities in chronological order by the beginning of each Activity.
6. Milestones: Include initial milestones with dates for the Notice to Proceed, Project Start, Substantial Completion, and Final Completion.
7. Contract Conditions:
 - a. Identify and provide separate activity line-items that are directly related to Division 01 - GENERAL REQUIREMENTS.
 - b. Identify and provide separate activity line-items that are directly related to Division 00 - CONDITIONS OF THE CONTRACT.

2.3 BASELINE PROJECT SCHEDULE (BPS)

A. Format:

1. Provide a comprehensive, fully developed, detailed, and complete horizontal Gantt-Chart type schedule based on the Initial Project Schedule.
 - a. Provide and identify separate columns to indicate the following:
 - 1) ACTIVITY CODE.
 - 2) SPECIFICATION SECTION.
 - 3) DESCRIPTION.
 - 4) RESPONSIBLE CODE.
 - 5) HORIZONTAL TIME SCALE.
 - b. Provide and identify separate line-item horizontal bars to indicate the following:
 - 1) Activity
 - 2) Sub-Schedules
 - 3) Milestones
 - 4) Contract Conditions

B. Content:

1. ACTIVITY CODE: Assign Activity Codes that identifies each separate activity line-item to allow the following, but not limited to, to be appropriately sort and grouped into Sub-Schedules, Major Areas of Work, and Reports:
 - a. "construction area," "trade" or "submittal/procurement."
2. SPECIFICATION SECTIONS: As described in the Initial Project Schedule.
3. RESPONSIBLE CODE: As described in the Initial Project Schedule.
4. HORIZONTAL TIME SCALE: As described in the Initial Project Schedule.
5. Activity: As describe in the Initial Project Schedule and expand to provide a detailed level bar chart with distinct graphic delineation for each activity line-item.
 - a. expand to include entities, which are responsible for performing the work of each activity, identified as, but not limited to General Contractor, and Sub-Contractor, second and tertiary tier Sub-Contractors, manufactures, fabricators and vendors.
 - b. Include activities for planned mobilization and sequence of early operations
6. Milestones: As describe in the Initial Project Schedule and include other milestones indicated in the Contract Documents and the following interim milestones.
 - a. Earthwork.
 - b. Building Foundations and slab on grade.
 - c. Structural completions.
 - d. Temporary Enclosure and Space Conditioning.
 - e. Permanent Space enclosure.
 - f. Completion of Mechanical.
 - g. Completion of Electrical Installation.
 - h. Completion of Communication Installation.
 - i. Substantial Completion
 - j. Final Completion

7. Contract Conditions: As described in the Initial Project Schedule and expanded to include separate activity line-items that are directly related to Division 01 - General Requirements and are not of actual work-in-place. Such items shall be, but not limited to the following.
 - a. Temporary Facilities.
 - b. Field Engineering.
 - c. Project Closeout Requirements:
 - 1) Startup and Testing Time:
 - 2) Operation and Maintenance.
 - 3) Demonstration and Training.
 - 4) Punch List.

PART 3 - EXECUTION

3.1 SCHEDULES AND PROCEDURES FOR CONSTRUCTION SCHEDULES

A. General Requirements:

1. The Architect may request the Contractor to provide (at no cost) the following additional reports or schedule plots:
 - a. Total or Free Float Report from least to most float.
 - b. Subcontractor Certifications, indicating approval of the subcontractors scheduled work, acknowledging outside factors such as manpower resources, stacking of trades, multiple mobilizations, and coordination of space with other trades and the stacking of trades.
 - c. Narrative Reports: May include but not limited to the following descriptions;
 - 1) Last month's progress achieved, and anticipated next month's progress.
 - 2) Problems or delays experienced and an explanation of mitigating actions taken.
 - 3) Current or anticipated delays and proposed mitigation action to be taken.
 - 4) Listing of all submittals, RFIs, Change Directives, Owner-supplied equipment or other Owner-controlled and critical constraints affecting the Contractor's progress.

B. Coordination Schedules:

1. Short Interval Schedules (SIS): A look-ahead schedule.
 - a. Provide a three-week snapshot of the work generated from the most recent monthly Schedule Update.
 - b. Include the current week, and two week thereafter.
 - c. The schedule shall contain sufficient detail to evaluate inspection requirements, and for the Contractor to anticipate manpower and equipment needs.

C. Schedule Modifications:

1. Changes in Sequence:
 - a. If the Architect determines that the sequence of the construction differs significantly from the Contract schedule, the Contractor shall submit a revised schedule for approval within fourteen (14) days of the Architect's request.
 - b. If the work is re-sequenced, or if activities are added or deleted, these schedule data changes must be specifically identified, discussed and submitted.
 - c. If the changes are reviewed and found acceptable, the schedule revision shall be made and incorporated into the project schedule.
 - 1) The Contractor agrees to be bound by the revised, re-sequenced or optimized schedules, and agrees to make no claim for such.
2. Recovery Schedule:

- a. When periodic update indicates, the Work is fourteen (14) or more calendar days behind the current approved schedule, submit a separate recovery schedule indication means by which Contractor intends to regain compliance with the schedule.
 - b. Submittal shall indicate changes to working hours, working days, crew sizes, and equipment required to achieve compliance, and date by which recovery will be accomplished.
 - 1) The submittal shall be separate and apart from routine monthly update submittals.
 - c. The Contractor agrees to be bound by the revised, re-sequenced or optimized schedules, and agrees to make no claim for such.
3. Alterations to Schedule:
- a. If the Contractor intends to alter its planned sequence or approach to the work, the Contractor shall submit a request of the schedule revisions or sequence changes to the Architect for review and comment.
 - b. Submittal shall include a description of the reason(s) for the schedule changes, a description of the changes being made, a list of all added and deleted activities, changed logic relationships, changed activity durations or descriptions, etc.
 - 1) The submittal shall be separate and apart from routine monthly update submittals.
 - c. If the requested changes are reviewed and found acceptable, the schedule revision shall be made and incorporated into the project schedule prior to the next Monthly Schedule Update submittal.
 - 1) The Contractor agrees to be bound by the revised, re-sequenced or optimized schedules, and agrees to make no claim for such.
- D. Time Extension Submittals:
1. Notice of Delay:
- a. Provide "Notice of Delay" submittal to the Architect for all claimed time extension requests, showing the impact of the delay event on the Project Schedule. Refer to the "sample" "Notice of Delay" form provided herein.
 - 1) Submit as a Change Order Request (COR) in response to an event, SI, RFI, RFP, or other documents issued by the Architect.
 - 2) In cases where the Contractor does not provide "Notice of Delay" submittal for a delay event within the specified time limits, then it is mutually agreed that the delay event has no time impact on the contract completion date (or interim milestones) and no time extension is required
 - b. The Submittal shall demonstrate the time impact based on the date(s) and durations of the delay event, the status of construction at that point in time, and the affect on the scheduled sequence, progress of the Critical Path Activities and Project Completion.
 - 1) The Submittal shall include all supporting project documentation or delay calculations that establish entitlement and quantify the delay.
 - 2) The Submittal shall demonstrate the activity or activities effects on the total float along the activity path at the time the event occurred.
 - 3) The Contractor must propose possible mitigation plans (sequence changes and any costs) for otherwise critical path delays.
 - a) The Contractor shall provide an evaluation of the cost of mitigation versus the cost of extended project performance.
 - c. If the requested changes are reviewed and found acceptable, the schedule revision shall be made and incorporated into the project schedule.

- 1) Extensions of time for performance will be granted only to the extent that the equitable time adjustment for the activity or activities affected exceeds the total float.
- 2) The Contractor acknowledges and agrees that mitigation of delays due to delay events may require a change to preferential sequences of work.
 - a) The Contractor agrees to be bound by the revised, re-sequenced or optimized schedules, and agrees to make no claim for such.
- d. The Owner (or District) shall not be liable for any acceleration costs due to the Contractor's failure to comply with the contract requirements for requesting, documenting and demonstrating that a time extension is required for a delay event.
 - 1) The Contractor's obligation to timely perform per the schedule will not be excused until time extension requests are reviewed and accepted by the Architect.
2. Inclement Weather Delays:
 - a. General:
 - 1) The Contractor shall record on the Contractor Daily Reports, each occurrence of Inclement Weather and Mud impacts to the progress of scheduled work through the Contract duration.
 - a) Inclement Weather days will be counted chronologically from the first to the last day of each month, with each daily incidence of "Inclement Weather" being counted as a whole day.
 - b) Each occurrence of Inclement Weather and Mud, must be verified and approved by the Inspector of Record.
 - b. Unusually Severe Weather:
 - 1) Provide "Unusually Severe Weather submittal to the Architect for all claimed time extension requests, showing the impact of the delay event on the contract schedule. Refer to the "sample" "Notice of Unusually Severe Weather" form provided herein.
 - 2) Submit as a Change Order Request (COR).
 - 3) The submittal shall demonstrate the time impact based on the date(s) and durations of the delay event, the status of construction at that point in time, and the effect on the scheduled sequence and progress of the Critical Path Activities.
 - a) The submittal shall include all supporting project documentation or delay calculations that establish entitlement and quantify the number of days of anticipated "Inclement Weather" are exceeded in a given month.
 - b) The submittal shall demonstrate the effects on the total float of the Project at the time the event occurred
 - c) The submittal shall demonstrate that the delay must be beyond the control and without the fault of negligence of the Contractor
 - 4) If the requested changes are reviewed and found acceptable, the schedule revision shall be made and incorporated into the project schedule.
 - a) The Contractor will become eligible for an excusable, non-compensable time extension for "Unusually Severe Weather."
 - c. Mud Days:
 - 1) Provide "Mud Days" Submittal to the Architect for all claimed time extension requests, showing the impact of the delay event on the contract schedule. Refer to the "sample" "Notice of Mud Days" form provided herein
 - 2) Submit as a Change Order Request (COR).

- 3) The Submittal shall demonstrate the time impact based on the date(s) and durations of the delay event, the status of construction at that point in time, and the effect on the scheduled sequence and progress of the Critical Path Activities.
 - a) The Submittal shall include all supporting project documentation or delay calculations that establish entitlement and quantify the number of days of anticipated "Mud Days" are exceeded in a given month.
 - b) The Submittal shall demonstrate the effects on the total float of the Project at the time the event occurred.
 - c) The Submittal shall demonstrate that the delay must be beyond the control and without the fault of negligence of the Contractor.
- 4) If the requested changes are reviewed and found acceptable, the schedule revision shall be made and incorporated into the project schedule.
 - a) The Contractor will become eligible for an excusable, non-compensable time extension for "Mud Days."

3.2 SCHEDULES

- A. List of attached Forms and Reports.
 1. Meteorological Data Chart.
 2. Notice of Delay Form.
 3. Inclement Weather Form.

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EXAMPLE• Meteorological Data for Fresno, California Normals, Means and Extremes							
TEMPERATURE (degrees F)					PRECIPITATION***		FOG
	Normal		Extremes				
Month	Daily Max.	Daily Min.	Record Highest	Record Lowest	Mean* Number Calendar / Work	Normal (in)	Mean** Number Calendar / Work
					Days per Month		Days per Month
Jan	54.1	37.4	78	19	7.5/5.4	1.96	11.8/8.4
Feb	61.7	40.5	80	24	7.1/5.1	1.8	6.0/4.3
Mar	66.6	43.4	90	26	7.1/5.1	1.89	1.7/1.2
Apr	75.1	47.3	100	32	4.1/2.9	0.97	0.3/0.2
May	84.2	53.7	107	36	1.9/1.4	0.3	0.1/0.1
Jun	92.7	60.4	110	44	0.7/0.5	0.08	0.0/0.0
Jul	98.6	65.1	112	50	0.2/0.1	0.01	0.0/0.0
Aug	96.7	63.8	111	49	0.3/0.2	0.03	0.1/0.1
Sep	90.1	58.8	111	37	1.0/0.7	0.24	0.1/0.1
Oct	79.7	50.7	102	27	2.2/1.6	0.53	0.9/0.6
Nov	64.7	42.5	89	26	5.2/3.7	1.37	5.8/4.1
Dec	53.7	37.1	76	18	6.7/4.8	1.42	12.1/8.6
Year					44.1/31.5	10.6	38.8/27.7
Source: NOAA, National Oceanic and Atmosphere Administration.							
* Precipitation of 0.01 inches or more.							
** Heavy Fog visibility 1/4 mile or less.							
*** Refer to the term Mud, for mud impacts.							
Above data is subject to change, based upon the locality of the project. Contractor shall assemble the data and submit to The Architect for confirmation, review and modifications: Obtain data from NOAA (828) 271-4800, or the Local Weather Office. http://www.ncdc.noaa.gov							

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NOTICE OF DELAY FORM

Date: _____ Submittal No.: _____

From: Name of Contractor _____ Sheet _____ of _____

To: Darden Architects, 6790 N. West Avenue, Fresno, CA 93711 (559) 448-8051

Description of Delay: By reference to attached schedule, the following delay occurred:

Continued on Sheets _____ of _____
Time Extension Requested: _____ work days x 1.4 = _____ calendar days.

Time Requested for Activity: _____ Time Requested for Project: _____

Related Documents: The following construction documents provide evidence of the delay event:

RFI Nos.: _____ SI Nos.: _____

CCD Nos.: _____ RFP Nos.: _____

Daily Reports Dated: _____ and attached.

Project Correspondence Dated: _____ and attached.

Other Documentation: _____

Schedule-Related Information: By reference to the attached Schedule, provide the following:

Predecessor Activity: _____

Successor Activity: _____

Affected CPM Schedule Activities (list IDs and descriptions):

- THE REST OF THIS PAGE IS INTENTIONALLY BLANK -

INCLEMENT WEATHER FORM

Date: _____

From: Name of Contractor _____ Sheet _____ of _____

To: Darden Architects, 6790 N. West Avenue, Fresno, CA 93711 (559) 448-8051

Description of Delay: the following delay occurred:

Continued on Sheets ____ of ____
Time Extension Requested: _____ work days x 1.4 = _____ calendar days.

Time Requested for Activity: _____ Time Requested for Project: _____

Related Documents: The following construction documents provide evidence of the delay event:

Daily Reports Dated: _____ and attached.

Project Correspondence Dated: _____ and attached.

Other Documentation: _____

Affected CPM Schedule Activities (list IDs and descriptions):

END OF SECTION

SECTION 01 32 26 – FORMS AND REPORTS

PART 1 - GENERAL

1.1 SUMMARY

- A. This Section includes the following:
 - 1. Contractor to provide all Forms and Reports as required by the Architect for Administrative Procedures and other related items necessary to document the Project as required by the Contract Documents, including but not limited to those forms provided under this specification section.
 - 2. CalGREEN Forms:
 - a. Contractor shall provide all California Green Building Standards Code Certification Worksheets and other related items necessary to document the Project as required by the AHJ, including, but not limited to, those forms provided under this specification section.
 - 1) Obtain the latest documents from the California Building Standards Commission; revisions may have been made since the publication of this Project Manual.
- B. Related Sections: The following Project Manual Sections contain requirements that relate to this section:
 - 1. DIVISION 00 SPECIFICATION SECTIONS
 - 2. DIVISION 01 SPECIFICATION SECTIONS
 - 3. SPECIFICATION SECTIONS IN THE FACILITY CONSTRUCTION SUBGROUP

1.2 SUBMITTALS

- A. Submit in accordance with Specification Section - SUBMITTAL PROCEDURES:
 - 1. Forms and Reports as attached to this section when required by the Architect.

1.3 QUALITY ASSURANCE

- A. Regulatory Requirements:
 - 1. In accordance with Specification Section - REGULATORY REQUIREMENTS.

PART 2 - PRODUCTS

NOT APPLICABLE

PART 3 - EXECUTION

3.1 SCHEDULES

- A. Listing of Architect required Forms and Reports
 - 1. 01 32 26.01-DAILY SUPERINTENDENT'S REPORT
 - 2. 01 32 26.02-SUBCONTRACTOR'S DAILY REPORT
 - 3. 01 32 26.03-SHOP DRAWING AND SUBMITTAL TRANSMITTAL
 - 4. 01 32 26.04-REQUEST FOR INFORMATION (RFI)
 - 5. 01 32 26.05-SUPPLEMENTAL INSTRUCTIONS (SI)
 - 6. 01 32 26.06-REQUEST FOR PROPOSAL (RFP)

7. 01 32 26.07-CONSTRUCTION CHANGE DIRECTIVE (CCD)
 8. 01 32 26.08-CHANGE ORDER REQUEST REVIEW (COR)
 - a. (Review form provided by the Contractor is subject to review and comments by the Owner and Architect).
 9. 01 32 26.09-CHANGE ORDER (CO)
 10. 01 32 26.11-APPLICATION FOR PAYMENT (AP)
 11. 01 32 26.12-CONTRACTOR'S TESTING / INSPECTION REQUEST FORM
 12. 01 32 26.13-CONTRACTOR'S "DEVIATION NOTICE" INSPECTION REPORT FORM
 13. 01 32 26.14-CONTRACTOR'S FINAL INSPECTION REQUEST FORM
 14. 01 32 26.15-CONTRACTOR'S PUNCHLIST INSPECTION REQUEST FORM
 15. 01 32 26.16-CONTRACTOR'S PUNCHLIST
 16. Periodic field reports issued by the Architect and Engineers.
 17. Contractor's Punch List Response and Correction form is required for each Punch List Review report, citing the issuing Punch List Review format number(s).
 18. Completed Contractor's Punch List and Final Inspection Reports issued by the Architect, Engineers and the Owner.
 19. See the attached Forms and Reports suitable for reproduction by the Contractor or Subcontractor.
- B. Listing of California Green Building Standards Code Certification Worksheets:
1. WORKSHEET (WS-1) BASELINE WATER USE
 2. WORKSHEET (WS-2) WATER USE REDUCTION
 3. CONSTRUCTION WASTE MANAGEMENT (CWM) PLAN
 4. CONSTRUCTION WASTE MANAGEMENT (CWM) WORKSHEET
 5. CONSTRUCTION WASTE MANAGEMENT (CWM) ACKNOWLEDGMENT

END OF SECTION

**GENERAL CONTRACTOR'S
DAILY SUPERINTENDENT'S REPORT**

(JOB NO./REPORT NO.)

(DATE/DAY)

(JOB NAME)

WEATHER DESCRIPTION

(WORK SHIFT) / FROM / TO

(PROJECT MANAGER/SUPERINTENDENT)

PM/ SUPT	ENGR/ TK	CARPENTERS			LABORERS		CEM FINISHERS			OPER ENGR			
		FMAN	JRMAN	APP	FMAN	LAB	FMAN	JRMAN	APP	JRMAN	APP	OTHER	TOTAL

CONCRETE: CY TODAY: LOCATION: CY TO DATE:

WORK SUMMARY:

DELAYS / WORK RELEASED BY OWNER:

CHANGE ORDERS / EXTRA WORK ORDERS:

INSTRUCTIONS FROM ARCHITECT / OWNER:

MATERIALS / EQUIP. DELIVERED TO JOB:

INSPECTIONS / TESTS PERFORMED

SAFETY / ACCIDENTS:

MAJOR EQUIP. ON SITE:

BACKSIDE OF GENERAL CONTRACTOR'S REPORT

[illegible]

MAJOR EQUIPMENT ON SITE:

BACK CHARGES:

REMARKS:

**SUBCONTRACTOR'S
DAILY REPORT**

PROJECT:

DATE:

SHIFT TIME

FOREMAN:

WEATHER:

WORK DESCRIPTION AND LOCATION:

SUB-SUBCONTRACTOR	CREW SIZE	CRAFT	WORK DESCRIPTION / LOCATION

DELAYS:

CHANGE ORDERS / EXTRA WORK ORDERS:

INSTRUCTIONS RECEIVED FROM GC:

TESTS / INSPECTIONS PERFORMED:

MATERIAL / EQUIPMENT DELIVERIES:

MAJOR EQUIPMENT ON SITE:

SAFETY / ACCIDENTS:

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SHOP DRAWING AND SUBMITTAL TRANSMITTAL

DESCRIPTION:

SUBMITTAL NO.:

SPEC SECTION:

ARCHITECT:

Darden Architects

6790 N. West Ave

Fresno, California 93711

PROJECT:

CONTRACTOR:

SUPPLIER:

Substitution: Yes: ☐ DSA Approval Req'd

DATE RECEIVED: _____ **NO. RECEIVED:** _____ **DATE RETURNED:** _____

Contractor Remarks:

Other Required Information:

CPM Activity / Submittal Task No.: _____

Early Start (ES) Date: _____

Late Finish (LF) Date: _____

WARRANTY: ☐ O and M MANUALS ☐

Early Finish (EF) Date: _____

Scheduled Float Time: _____ 0

DESIGN CONSULTANT'S REVIEW:

TRANSMITTED BY ARCHITECT TO: _____ DATE RETURNED: _____

DATE SENT: _____

NO. SENT: _____

Consultants Remarks:

ACTION:

- ☐ NO EXCEPTION TAKEN RELATIVE TO DESIGN
- ☐ NO EXCEPTION TAKEN WITH MODIFICATION NOTED
- ☐ AMEND AS NOTED AND RESUBMIT
- ☐ REJECTED AND RESUBMIT
- ☐ SEE ATTACHED LETTER

ARCHITECT'S REVIEW:

Architects Remarks:

ACTION:

- ☐ NO EXCEPTION TAKEN RELATIVE TO DESIGN
- ☐ NO EXCEPTION TAKEN WITH MODIFICATION NOTED
- ☐ AMEND AS NOTED AND RESUBMIT
- ☐ REJECTED AND RESUBMIT

Approved Substitution ☐

COPIES TO:

DATE RETURNED: _____

Contractor:

Owner:

Inspector:

File:

Other:

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6790 N. West Avenue
Fresno, California 93711
Tel: 559.448.8051
Fax: 559.446.1765

www.dardenarchitects.com

REQUEST FOR INFORMATION

RFI No.:

To: **Darden Architects**
6790 N. West Ave
Fresno, California 93711

Date:
Respond By:

Attn:

Architect Project No.
Project:

DSA/HCAI Review
Required

Yes No Apprd
☐ ☐ ☐

INFORMATION REQUESTED:

Cost Impact: _____ Signature: _____
Schedule Impact: _____ Days Pages Attached: _____
Trade/Contractor: _____ Schedule Task No/Item: _____

The Work shall be carried out in accordance with the following supplemental instructions issued in accordance with the Contract Documents without change in the Contract Sum or Contract Time. Proceeding with the Work in accordance with these instructions indicates your acknowledgement that there will be no change in the Contract Sum or Contract Time.

If the Contractor considers that this supplemental instruction requires a change in the Contract Sum or Contract Time, the Contractor shall not proceed with this Work and shall promptly submit an itemized proposal to the Architect for doing this work. If your proposal is found to be satisfactory and in order, this supplemental instruction will be superseded by a Construction Change Directive.

Referred To: _____ Referred Date: _____ Return Date: _____

SUPPLEMENTAL INSTRUCTIONS:

Consultant : _____ Architect _____
Date: _____ Date _____

Copy: ☐ Owner ☐ Inspector ☐ Testing Lab ☐ Structural ☐ Mech. ☐ Elec ☐ File ☐ Other Pages Attached: _____

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SUPPLEMENTAL INSTRUCTIONS

PROJECT:

SUPPL. INST. NO.:

DATE OF ISSUANCE:

OWNER:

CONTRACT DATE:

CONTRACTOR:

NOTICE TO PROCEED:

Architect Project No.:

DSA Appl. No.:

DSA File No.:

OPSC Appl. No.:

HCAI No.:

The Work shall be carried out in accordance with the following supplemental instructions issued in accordance with the Contract Documents without change in the Contract Sum or Contract Time. Proceeding with the Work in accordance with these instructions indicates your acknowledgement that there will be no change in the Contract Sum or Contract Time.

If the Contractor considers that this supplemental instruction requires a change in the Contract Sum or Contract Time, the Contractor shall not proceed with this Work and shall promptly submit an itemized proposal to the Architect for doing this work. If your proposal is found to be satisfactory and in order, this supplemental instruction will be superseded by a Construction Change Directive.

Description:

Trade/Contractor:

Schedule Task No/Item:

Attachments:

Darden Architects, Inc.

Issued By:

Architect

☐ OWNER ☐ CONTRACTOR ☐ INSPECTOR ☐ TESTING LAB ☐ STRUCTURAL ☐ MECHANICAL ☐ ELECTRICAL ☐ OTHER

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REQUEST FOR PROPOSAL

PROJECT:

REQUEST FOR PROPOSAL NO.:

DATE OF ISSUANCE:

OWNER:

CONTRACT DATE:

CONTRACTOR:

NOTICE TO PROCEED:

Architect Project No.:

DSA Appl. No.:

DSA File No.:

OPSC Appl. No.:

HCAI No.:

Please submit an itemized proposal for change in the Contract Sum and Contract Time for proposed modifications to the Contract Documents described herein. Submit proposal promptly or notify the Architect in writing of the date on which you anticipate submitting your proposal.

This is not a Change Order, Construction Change Directive, or a direction to proceed with the Work described in the proposed modifications.

Description:

Attachments

Darden Architects, Inc.

ISSUED BY:

Architect

☐ OWNER ☐ CONTRACTOR ☐ ARCHITECT ☐ CONSULTANT ☐ INSPECTOR ☐ OTHER

INTENTIONALLY LEFT BLANK

CONSTRUCTION CHANGE DIRECTIVE

PROJECT:

DIRECTIVE NO.:

DATE OF ISSUANCE:

OWNER:

CONTRACT DATE:

NOTICE TO PROCEED:

CONTRACTOR:

Architect Project No.:

DSA Appl. No.:

DSA File No.:

OPSC Appl. No.:

HCAI No.:

You are hereby directed to make the following change(s) in this Contract:

CONTRACT ADJUSTMENT

1. The proposed basis of adjustment to the Contract Sum or Guaranteed Maximum Price is:

- ☐ Lump Sum
☐ Unit Price of
☐ As provided for in General Conditions and the Supplemental Conditions of the contract.
☐ As Follows:

2. The Contract Time is proposed to (be adjusted) . The proposed adjustment, if any, is increase of _____ days)

When signed by the Owner and Architect and received by the Contractor, this document becomes effective IMMEDIATELY as a Construction Change Directive (CCD), and the Contractor shall proceed with the change(s) described above.

Signature by the Contractor indicates the Contractor's agreement with the proposed adjustments in Contract Sum and Contract Time set forth in this Construction Change Directive.

ARCHITECT

OWNER

CONTRACTOR

Darden Architects

6790 N. West Ave

Fresno, California 93711

By:

By:

By:

Date:

Date:

Date:

☐ OWNER

☐ CONTRACTOR

☐ ARCHITECT

☐ CONSULTANT

☐ INSPECTOR

☐ OTHER

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6790 N. West Ave

Fresno, California 93711

Tel: 559.448.8051

Fax: 559.446.1765

www.dardenarchitects.com

CHANGE ORDER REQUEST REVIEW

PROJECT:

CHANGE ORDER REQUEST NO.:

DATE OF ISSUANCE:

OWNER:

CONTRACTOR:

Architect Project No.:

DSA Appl. No.:

DSA File No.:

OPSC Appl. No.:

HCAI No.:

DESCRIPTION OF PROPOSED CHANGE:

Requested By:

Scope:

Necessary for:

DESIGN CONSULTANT'S REVIEW:

Date Sent:

ACTION:

Referred To:

Date Returned:

- ☐ NO EXCEPTION TAKEN RELATIVE TO COST
☐ NO EXCEPTION TAKEN RELATIVE TO TIME
☐ AMEND AS NOTED AND RESUBMIT
☐ REJECTED

Consultants Remarks

ARCHITECT'S REVIEW:

Date Returned:

ACTION:

Architects Remarks:

- ☐ NO EXCEPTION TAKEN RELATIVE TO COST
☐ NO EXCEPTION TAKEN RELATIVE TO TIME
☐ AMEND AS NOTED AND RESUBMIT
☐ REJECTED

Attachments:

REVIEWED:

Darden Architects
6790 N. West Ave
Fresno, California 93711

APPROVED:

Darden Architects :

Date :

Owner :

Date :

The Architect is hereby directed to instruct the Contractor to make the above changes in the Project and to include these changes in a subsequent Change Order:

☐ OWNER ☐ CONTRACTOR ☐ INSPECTOR ☐ STRUCTURAL ☐ MECHANICAL ☐ ELECTRICAL ☐ OTHER

CHANGE ORDER REQUEST NO.

Project Architect's Project No.:

CHANGE ORDER REQUEST- BREAKDOWN WORKSHEET

WORK DELETED:

Contractor			
Materials	\$0.00		
Equipment	\$0.00		
Labor	\$0.00		
Material, Equipment, & Labor	\$0.00		
TOTAL:			\$0.00

ADDITIONAL WORK PERFORMED BY SUB-CONTRACTOR

Sub-Contractor			
Materials	\$0.00		
Equipment	\$0.00		
Labor	\$0.00		
Material, Equipment, & Labor	\$0.00		
Overhead	\$0.00		
Profit	\$0.00		
Sub Total:		\$0.00	
Contractor			
Overhead		\$0.00	
Profit		\$0.00	
TOTAL:			\$0.00

ADDITIONAL WORK PERFORMED BY CONTRACTOR

Contractor			
Materials	\$0.00		
Equipment	\$0.00		
Labor	\$0.00		
Material, Equipment, & Labor	\$0.00		
Overhead	\$0.00		
Profit	\$0.00		
TOTAL:			\$0.00

TOTAL COST:	\$0.00
-------------	---------------

TOTAL COST:	\$0.00
-------------	--------

TOTAL DAYS:	0
-------------	---

ARCHITECTURAL ADMINISTRATIVE FEES:

Proposal Request Administration	\$0.00
Construction Administration	\$0.00
TOTAL:	\$0.00
DSA Fees:	\$0.00

CHANGE ORDER

PROJECT:

CHANGE ORDER NO.:

DATE OF ISSUANCE:

OWNER:

CONTRACT DATE:

CONTRACTOR:

NOTICE TO PROCEED:

Architect Project No.:
DSA Appl. No.:
DSA File No.:
OPSC Appl. No.:
HCAI No.:

The Contract is changed as follows:

Description:

It is mutually agreed that the affixed signature to this Change Order is evidence that all compensation with respects to the changes defined herein have been satisfied with the execution of this document. Furthermore, no additional compensation either monetarily or via time extension to this contract will be sought in respect to this Change Order.

The Original Contract Sum and Contract Completion Date:

Net change (Contract Sum and Contract Time) by previous Change Orders: _____ days

Contract Sum and Contract Completion Date prior to this Change Order: _____

Contract Sum and Contract Time (increased or decreased) by this Change Order: _____ days

New Contract Sum and Contract Completion Date including this Change Order: _____

CONTRACTOR

ARCHITECT

OWNER

Darden Architects
6790 N. West Ave
Fresno, California 93711

By: _____

By: _____

By: _____

Date: _____

Date: _____

Date: _____

☐ OWNER ☐ CONTRACTOR ☐ ARCHITECT ☐ CONSULTANT ☐ INSPECTOR ☐ OTHER

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APPLICATION FOR PAYMENT

To:
DARDEN ARCHITECTS, INC.
6790 N. West Avenue
Fresno, CA 93711

Project: _____

Pay Application No.: _____

Distribution to: _____

Bid Package No. _____

Application Date: _____

Owner: _____

Architect: _____

Contractor: _____

Const Mgr.: _____

Inspector: _____

FROM _____
Prime Contractor

Period Ending: _____

Address: _____

Phone: _____

CONTRACTOR'S APPLICATION FOR PAYMENT**CHANGE ORDER SUMMARY****APPROVED CHANGE ORDERS:**

Change Order No.:	Approved Date:	Amount:
		\$
		\$
		\$
		\$
		\$
		\$
		\$
		\$
		\$

TOTALS

Net change by Change Order	\$
----------------------------	----

The undersigned Contractor certifies that in the best of his knowledge, information, and belief the Work covered by this Application for Payment has been completed in accordance with the Contract Documents, that all amounts have been paid by the contractor for work for which previous Certificates for Payment were issued and payment received from the Owner and that current payment show herein is now due.

Contractor: _____**DATE:** _____

The present status of the account for this Contract is as follows:

ORIGINAL CONTRACT SUM \$ _____

Net Change by Change Orders \$ _____

CONTRACT SUM TO DATE: \$ _____

TOTAL COMPLETE & STORED TO DATE: \$ _____

RETAINAGE: _____ %: \$ _____

TOTAL EARNED LESS RETAINAGE: \$ _____

LESS STOP NOTICE(S): \$ _____

LESS PREVIOUS PAYMENT: \$ _____

CURRENT PAYMENT DUE: \$ _____

This Certificate is not negotiable. This AMOUNT CERTIFIED is payable only to the Contractor named herein, issuance, payment and acceptance of payment, are without prejudice to any rights of the Owner or Contractor under this contract.

CONTRACTOR: _____

DATE: _____

CONSTRUCTION MANAGER: _____

DATE: _____

INSPECTOR: _____

DATE: _____

ARCHITECT: _____

DATE: _____

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CONTRACTOR'S TESTING / INSPECTION REQUEST FORM

PROJECT: _____
DATE RECEIVED: _____ (by Inspector)
TIME RECEIVED: _____ (by Inspector)

BUILDING: _____
SITE/OFFSITE: _____
CONSTRUCTION PHASE (1, 2, 3, etc.): _____
SPECIFICATION SECTION (No.): _____
PLAN SHEET AND DETAIL: _____
SCOPE OF WORK: _____
(concrete, electrical, etc.)

INSPECTION REQUESTED BY: _____
(contractor name)

LOCATION (bldg., room, floor, wall, ceiling, etc.) _____

TYPE OF INSPECTION (concrete, framing, welding, masonry, electrical, etc.) _____

INSPECTION REQUESTED ON: _____ at _____ am/pm
(date) (time)

Note 1: A Minimum Notice of 48 hours is Required to be Received by the Inspection Officer Prior to the Time the Testing / Inspection is Requested to Begin.

PRINT NAME AND TITLE OF PERSON REQUESTING INSPECTION

SIGNATURE OF PERSON REQUESTING INSPECTION

Note 2: Contractor Must Accompany Inspector on Inspection, if Requested.

PASSED: _____ FAILED: _____

Note 3: See Attached Sheet for Explanation if Inspection Failed. Re-inspection Required.

INSPECTOR SIGNATURE: _____ Date: _____

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CONTRACTOR'S "DEVIATION NOTICE" INSPECTION REQUEST FORM

PROJECT: _____
DATE RECEIVED: _____ (by Inspector)
TIME RECEIVED: _____ (by Inspector)

DEVIATION NOTICE(S) (No.): _____

BUILDING: _____
SITE/OFFSITE: _____
CONSTRUCTION PHASE (1, 2, 3, etc.): _____
SPECIFICATION SECTION (No.): _____
SCOPE OF WORK: _____
(concrete, electrical, etc.)

INSPECTION REQUESTED BY: _____
(contractor company name)

LOCATION(S) OF WORK FOR INSPECTION (be specific- bldg.(s), room(s), etc.)

INSPECTION REQUESTED ON: _____ at _____ am/pm
(date) (time)

Note 1: A Minimum Notice of 48 hours is Required to be Received by the Inspection Officer Prior to the Time the "Deviation Notice" Inspection is Requested to Begin.

PRINT NAME OF PERSON REQUESTING DEVIATION NOTICE INSPECTION

SIGNATURE OF PERSON REQUESTING DEVIATION NOTICE INSPECTION

Note 2: Contractor Must Accompany Project Inspector on "Deviation Notice" Inspection, if Requested.

Note 3: See Attached "Deviation Notice" for Inspector's Comments and/or Date Completed.

PASSED: _____ FAILED: _____

PROJECT INSPECTOR SIGNATURE: _____
DATE: _____

INTENTIONALLY LEFT BLANK

CONTRACTOR'S FINAL INSPECTION REQUEST FORM

PROJECT: _____
DATE RECEIVED: _____ (by Inspector)
TIME RECEIVED: _____ (by Inspector)

BUILDING: _____
SITE/OFFSITE: _____
CONSTRUCTION PHASE (1, 2, 3, etc.): _____
SPECIFICATION SECTION (No.): _____
SCOPE OF WORK: _____
(concrete, electrical, etc.)

INSPECTION REQUESTED BY: _____
(contractor company name)

INSPECTION REQUESTED ON: _____ at _____ am/pm
(date) (time)

Note 1: A Minimum Notice of 48 hours is Required to be Received by the Inspection Officer Prior to the Time the Final Inspection is Requested to Begin. Contractor to be Notified by the Construction Manager in Regards to the Actual Date and Time of the Final Inspection.

PRINT NAME AND TITLE OF PERSON REQUESTING FINAL INSPECTION

SIGNATURE OF PERSON REQUESTING FINAL INSPECTION

Note 2: Contractor Must Accompany Project Inspector, Architect and/or Engineer(s) on Final Inspection, if Requested.

PASSED: _____ FAILED: _____

Note 3: If the Final Inspection Fails Re-Inspection is Required. See Attached Sheet for Comment(s).

PROJECT INSPECTOR SIGNATURE: _____
DATE: _____

PROJECT ARCHITECT SIGNATURE: _____
DATE: _____

INTENTIONALLY LEFT BLANK

CONTRACTOR'S PUNCHLIST INSPECTION REQUEST FORM

PROJECT: _____
DATE RECEIVED: _____ (by Inspector)
TIME RECEIVED: _____ (by Inspector)

BUILDING: _____
SITE/OFFSITE: _____
CONSTRUCTION PHASE (1, 2, 3, etc.): _____
SPECIFICATION SECTION (No.): _____
SCOPE OF WORK: _____
(concrete, electrical, etc.)

INSPECTION REQUESTED BY: _____
(contractor company name)

LOCATION(S) OF WORK FOR INSPECTION: (be specific- bldg.(s), room(s), etc.)

DESCRIPTION OF WORK TO BE INSPECTED: (item number(s) from punchlist)

INSPECTION REQUESTED ON: _____ at _____ am/pm
(date) (time)

Note 1: A Minimum Notice of 48 hours is Required to be Received by the Inspection Officer Prior to the Time the Punchlist Inspection is Requested to Begin.

PRINT NAME OF PERSON REQUESTING PUNCHLIST INSPECTION

SIGNATURE OF PERSON REQUESTING PUNCHLIST INSPECTION

Note 2: Contractor Must Accompany Project Inspector on Punchlist Inspection, if Requested. Items Must Have Already Been Signed Off by Contractor.

Note 3: Attached Sheet for Contractor's Signoff and/or Inspector's Comments and/or Date Completed for the Specific Punchlist Items Noted Above.

Note 4: This Inspection is NOT A FINAL INSPECTION but Only an Acknowledgement That a Particular Item(s) is/are completed.

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PROJECT: _____ - CONTRACTOR'S PUNCHLIST
CONTRACTOR NAME: _____ Page _____ of _____

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SECTION 01 33 00 – SUBMITTAL PROCEDURES

PART 1 - GENERAL

1.1 SUMMARY

- A. Provide all material, labor, equipment and services necessary to completely provide all required submittals and other related items necessary to complete the Project as indicated by the Contract Documents.
- B. Related Sections:
 - 1. DIVISION 00 SPECIFICATION SECTIONS.
 - 2. DIVISION 01 SPECIFICATION SECTIONS.
 - 3. SPECIFICATION SECTIONS IN THE FACILITY CONSTRUCTION SUBGROUP.
 - 4. SPECIFICATION SECTIONS IN THE FACILITY SERVICES SUBGROUP.
 - 5. SPECIFICATION SECTIONS IN THE SITE AND INFRASTRUCTURE SUBGROUP.

1.2 SUBMITTALS

- A. Contractor's responsibilities:
 - 1. The Contractor shall check, verify, and be responsible for all field measurements.
 - 2. The Contractor shall submit a schedule indicating when the required shop drawings and submittals will be submitted to the Architect.
 - a. Submit schedule within the amount of days as indicated in Specification Section - CONSTRUCTION SCHEDULES.
 - 3. Submit copies as scheduled below, checked and approved by the Contractor for all submittals required for the work of the various trades. Deliver submittals promptly to avoid delays in delivery of materials or execution of the work.
 - a. The Contractor (or Subcontractor) shall mark-up the submittals as to project specifics. If the specifications contains a schedule prepared by the Architect (i.e. paint symbols such as DW-1, M-1, CB-1, etc., or tile symbols such as CT-1, CT-2, or IWA, IWB, IWC, etc.), then the submittal will also contain those designations. Submittals without project specifics will be returned to the Contractor as not being properly prepared.
 - b. The Contractor shall stamp the Submittals utilizing any language requested by the Owner in the General Conditions and the following minimum language:

"This submittal has been reviewed by (Name of Contractor) and approved with respect to the means, methods, techniques, sequences, and procedures of construction, and safety precautions and programs incidental thereto. The Contractor has reviewed and approved not only the field dimensions, but the construction criteria, and has also made written notation regarding any information in the Shop Drawings that does not conform to the Contract Documents. The Contractor has reviewed this submittal and coordinated with all other Shop Drawings received to date by the Contractor and this duty of coordination has not been delegated to subcontractors, material suppliers, the Architect, or the design consultants on this project. The Contractor shall also have indicated that it has not relied upon the dimensions shown on the drawings, specifications and schedules, and that the Contractor has double-checked all dimensions for accuracy and fit. (Name of Contractor) also warrants that this submittal complies with the Contract Documents and comprises no variation thereto."

By: _____ Contractor's Signature

_____ Contractor's Typed Name

Date: _____

- c. Substitutions on shop drawings or in product submittals will not be considered without prior approval in accordance with Specification Section - SUBSTITUTION PROCEDURES. Submittals containing unacceptable items will be rejected.
 - d. The Contractor shall make any corrections required by the Architect during the Architect's initial review, and re-submit the required corrected copies for final review and distribution.
- B. Architect's responsibilities:
 - 1. The Architect will make any desired corrections with reasonable promptness, and return the submittal to the Contractor.
 - 2. The Architect's review of such drawings or schedules shall not relieve the Contractor of responsibility for deviations from the drawings or specifications, unless he has, in writing, called the Architect's attention to such deviations at the time of submission, and secured written acceptance.
 - a. The Architect's review shall be for general conformance with the design concept for the project and general compliance with the information given in the Contract Documents.
 - b. The Architect's review shall not be construed as an "approval," or to relieve the Contractor(s) and material suppliers of responsibility for errors or omissions in the submitted documents.
 - c. Modifications or comments made on the submittals or shop drawings during this review do not relieve the Contractor from compliance with the requirements of the drawings and specifications.
 - d. Acceptance of a specific item does not include acceptance of the assembly of which the item is a component.
- C. The following list of items, definitions and required quantities is a minimum required for this project. Verify with FACILITY SERVICES SUBGROUP sections for additional quantities required within those divisions.
 - 1. Product Data: Illustrations, standard schedules, performance charts, instructions, brochures, diagrams, other product information, color choices and/or manufacturer's catalog sheets shall be specially prepared for the Project (marked-up with project specifics) and shall be submitted in sequential sets for each category of work:
 - a. Quantity:
 - 1) Unless otherwise indicated in the Contract Documents, provide Six (6) sets.
 - b. Material Safety Data Sheets (MSDS): MSDS are not required, but it is recognized that applicable federal and state laws require the submission of these data sheets to an Owner. MSDS shall be turned over to the Owner (without review by the Architect or it's consultants) in compliance with federal and state laws.
 - 2. Shop Drawings: Newly prepared information, drawn to accurate scale, consisting of drawings, diagrams, schedules, and other data specifically prepared for the Project by the Contractor, a Subcontractor, manufacturer, supplier or distributor to illustrate some portion of the Project. Do not reproduce Contract Documents or copy Standard information as the basis of Shop Drawings. Standard information prepared without specific reference to the Project is not considered Shop Drawings.
 - a. Quantity: Provide One (1) reproducible original (vellum, sepia or mylar) and Three (3) opaque (blue-line or black-line xerographic) prints for each sheet or detail.
 - 1) The contractor shall receive the marked-up reproducibles and copy the required number of sets to the subcontractor, manufacturer's and/or material suppliers.
 - b. Contractor's use of Architect's Electronic CAD Files.
 - 1) Upon written request by Contractor, copies of the Architect's electronic CAD files may be available for Contractor's use in connection with this Project.

- a) Contractor's written request shall be on the Architect's "Contractor's Document Usage Agreement for Requested Documents" and may include an additional Architect's Consultant's Agreements, outlining conditions for providing files.
 - b) Contractor's request shall be limited to drawings directly applicable to the Shop Drawings the Contractor wishes to create for submittal.
 - c) Contractor shall pay the Architect for work incurred for providing the requested files. Payment shall be submitted with the request.
 - 2) The Architect's electronic CAD files are limited to files that already exist and that not all files may be available at the Architect's and Architect's Consultant's discretion.
 - 3) The Architect's electronic CAD files are not part of the Contract Documents and have limitations to the accuracy, incorporating modifications, CAD system formats, CAD entity attributes and layering.
 - 4) The Architect's electronic CAD files have restrictions on Contractor's use, transmittal and delivery of files.
3. Samples: Physical examples specially prepared for the Project (marked-up with project specifics) which illustrate materials, equipment, or workmanship and establish standards by which the Work will be judged.
 - a. Quantity:
 - 1) Unless otherwise indicated in the Contract Documents, provide Four (4) sets.
 - b. Color samples shall be submitted on 8-1/2" x 11" cards for all colors scheduling paint types specified utilizing the paint symbols designated by the Architect in the drawings and specifications.
 - c. Manufactured devices or equipment items:
 - 1) Quantity: One (1) sample, returned to supplier and which, when approved, may be incorporated into the Project.
4. Quality Assurance/Control submittals: Consists of design data, test reports, certificates, manufacturers instructions, and /or manufacturer's field reports.
 - a. Quantity:
 - 1) Unless otherwise indicated in the Contract Documents, provide Six (6) sets.
5. Closeout submittals: Maintenance data, operating manuals, project documents, engineering calculations, and/or warranties shall be submitted when required in the various specification sections:
 - a. Quantity:
 - 1) Unless otherwise indicated in the Contract Documents, provide Two (2) sets.
6. Field Samples: Sample panels of in place construction, or selected area of completed substrates or work showing the anticipated compliance with specified characteristics in order to establish a standard of quality.
 - a. Quantity:
 - 1) See specific specification section requirements.
7. Mockups: Full-sized erected assemblies, used for coordination purposes or for testing in a laboratory, or required for approval in a finish form before the actual Project construction begins.
 - a. Quantity:
 - 1) See specific specification section requirements.
- D. Substitution, Dispute or Claim Submittals:
 1. Any substitution, dispute or claim submittals relating to this contract, or any Contract breach, which are not disposed of by agreement shall be promptly submitted in accordance with the GENERAL CONDITIONS, as a claim to and decided by the Architect who shall issue a written decision on the dispute.

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2. Adequate supporting data shall include, but is not limited; a statement of the reasons for the asserted entitlement, the certified payroll, invoice for material and equipment rental, and an itemized breakdown of any adjustment sought.
3. If no "SUBMISSION UNDER PENALTY OF PERJURY" clause is provided within the GENERAL CONDITIONS, then the Contractor shall certify, at the time of submission of a substitution, dispute or claim, as follows:

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SUBMISSION UNDER PENALTY OF PERJURY

I _____, being the _____ (Must be an officer), declare under penalty of perjury under the laws of the State of California, and do personally certify and attest that: I have thoroughly reviewed the attached substitution, dispute or claim for additional compensation and/or extension of time, and know its contents, and said claim is made in good faith; the supporting data is truthful and accurate; that the amount required accurately reflects the contract adjustment for which the Contractor believes the Owner is liable; and further, that I am familiar with California Government Code Section 12650, et seq, pertaining to false claims, and further know and understand that submission of certification of a false claim may lead to fines, imprisonment and/or other severe legal consequences.

By: _____ Contractor's Signature

_____ Contractor's Typed Name

Date: _____

Submission of a substitution, dispute or claim, properly certified, with all required supporting documentation, and written rejection or denial or all or part of the claim by Owner, is a condition precedent to any action, proceeding, litigation, suit or demand for arbitration by Contractor.

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PART 2 - PRODUCTS
NOT APPLICABLE

PART 3 - EXECUTION

3.1 SCHEDULES

- A. The following schedule was prepared to assist the Contractor in knowing the required submittals for this project, but may not be complete. Specific submittal information as to what is required is contained within the individual specification sections and those individual sections shall govern in the event of a question.

B. SUBMITTAL SCHEDULE

1. 01 11 13 - SUMMARY OF WORK
 - a. QUALITY ASSURANCE/ CONTROL SUBMITTALS
2. 01 25 00 - SUBSTITUTION PROCEDURES
 - a. SUBSTITUTION REQUEST FORMS
3. 01 29 73 - SCHEDULE OF VALUES
 - a. SCHEDULE OF VALUES
4. 01 32 16 - CONSTRUCTION SCHEDULES
 - a. CONSTRUCTION SCHEDULE, SHOP DRAWING SUBMITTAL SCHEDULE, CRITICAL PATH SCHEDULES, FRAGNETS.
5. 01 32 26 - FORMS AND REPORTS
 - a. AS REQUIRED BY THIS SPECIFICATION SECTION AND OTHER SPECIFICATION SECTIONS.
6. 01 33 00 - SUBMITTAL PROCEDURES
 - a. SHOP DRAWING AND SUBMITTAL SCHEDULE, COLOR SAMPLES OF ALL FINISH MATERIALS FOR COLOR BOARD SELECTION.
7. 01 45 29 - TESTING LABORATORY SERVICES
 - a. TESTING SCHEDULE, TEST REPORTS
8. 01 71 23 - FIELD ENGINEERING
 - a. COORDINATION DRAWINGS, QUALITY ASSURANCE/CONTROL SUBMITTALS, CLOSEOUT SUBMITTALS.
9. 01 77 20 - PROJECT CLOSEOUT
 - a. ANOTATED CONTRACTOR'S AND ARCHITECT'S PUNCH LIST. ALL OPERATIONAL DATA, ALL MAINTENANCE MANUALS, ALL EXTRA MATERIALS.
10. 01 78 36 - WARRANTIES
 - a. ALL GUARANTEES AND WARRANTIES
11. 01 78 39 - PROJECT DOCUMENTS
 - a. PROJECT "AS-BUILT" DOCUMENTS, PROJECT "RECORD" DOCUMENTS AND PROJECT "CERTIFICATION" DOCUMENTS.
12. 03 11 01 - CONCRETE FORMWORK
 - a. PRODUCT DATA, SAMPLES, QUALITY ASSURANCE/CONTROL SUBMITTALS, CLOSEOUT SUBMITTALS.
13. 03 15 14 - DRILLED ANCHORS
 - a. PRODUCT DATA, ICC EVALUATION SERVICE REPORTS, DSA APPROVAL LETTERS.
14. 03 20 00 - REINFORCEMENT
 - a. SHOP DRAWINGS, QUALITY ASSURANCE/CONTROL SUBMITTALS, CLOSEOUT SUBMITTALS.
15. 03 30 00 - CAST-IN-PLACE CONCRETE
 - a. PRODUCT DATA, QUALITY ASSURANCE/CONTROL SUBMITTALS, CLOSEOUT SUBMITTALS.

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16. 03 35 10 - POLISHED CONCRETE FINISHING
 - a. PRODUCT DATA, SHOP DRAWINGS, QUALITY ASSURANCE/ CONTROL SUBMITTALS, CLOSEOUT SUBMITTALS.
17. 03 52 13 - INSULATING CONCRETE
 - a. PRODUCT DATA, QUALITY ASSURANCE/CONTROL SUBMITTALS, CLOSEOUT SUBMITTALS.
18. 04 21 13 - THIN BRICK VENEER
 - a. SAMPLES, COLOR SAMPLES, PRODUCT DATA CERTIFICATION.
19. 04 22 00 - CONCRETE MASONRY UNITS
 - a. SAMPLES, COLOR SAMPLES, PRODUCT DATA CERTIFICATION.
20. 04 23 00 - GLASS MASONRY UNITS
 - a. SAMPLES, COLOR SAMPLES, PRODUCT DATA CERTIFICATION.
21. 05 12 00 - STEEL AND FABRICATIONS
 - a. PRODUCT DATA, SHOP DRAWINGS, SAMPLES, QUALITY ASSURANCE/CONTROL SUBMITTALS, CLOSEOUT SUBMITTALS.
22. 05 30 00 - METAL DECK
 - a. PRODUCT DATA, SHOP DRAWINGS, QUALITY ASSURANCE/CONTROL SUBMITTALS, CLOSEOUT SUBMITTALS.
23. 05 52 00 - RAILING SYSTEMS
 - a. MATERIALS LIST, SHOP DRAWINGS, AND WARRANTIES.
24. 06 10 00 - ROUGH CARPENTRY
 - a. PRODUCT DATA, CERTIFIACTES OF COMPLIANCE, AND WARRANTIES.
25. 06 18 00 - GLUE-LAMINATED CONSTRUCTION
 - a. SHOP DRAWINGS, VERIFIED REPORTS, AND WARRANTIES.
26. 06 22 00 - MILLWORK
 - a. PRODUCT DATA, SHOP DRAWINGS, AND WARRANTIES.
27. 06 41 23 - MODULAR CASEWORK
 - a. SHOP DRAWINGS, MANUFACTURER'S SPECIFICATIONS, COLOR SAMPLES, MOCK-UP, WI CERTIFICATION.
28. 06 61 16 - SOLID SURFACING
 - a. SHOP DRAWINGS, MANUFACTURER'S SPECIFICATIONS, COLOR SAMPLES, MOCK-UP, WI CERTIFICATION.
29. 07 14 16 - FLUID-APPLIED WATERPROOFING
 - a. PRODUCT DATA, INSTALLATION INSTRUCTIONS, CLOSEOUT SUBMITTALS.
30. 07 18 50 - VAPOR-ALKALINITY CONTROL
 - a. PRODUCT DATA, INSTALLATION INSTRUCTIONS, CLOSEOUT SUBMITTALS.
31. 07 21 00 - INSULATION
 - a. PRODUCT DATA, INSTALLATION INSTRUCTIONS, CLOSEOUT SUBMITTALS.
32. 07 31 13 - SHINGLES
 - a. PRODUCT DATA, SHOP DRAWINGS, SAMPLES, CLOSOUT SUBMITTALS.
33. 07 40 00 - METAL PANELS
 - a. PRODUCT DATA, SHOP DRAWINGS, SAMPLES, CLOSOUT SUBMITTALS.
34. 07 40 12 - MCM PANELS
 - a. PRODUCT DATA, SHOP DRAWINGS, SAMPLES, CLOSEOUT SUBMITTALS.
35. 07 42 43 - FIBER-CEMENT PANELS
 - a. PRODUCT DATA, SHOP DRAWINGS, SAMPLES, CLOSEOUT SUBMITTALS.
36. 07 51 13 - BUILT-UP ROOFING
 - a. PRODUCT DATA, SHOP DRAWINGS AND WARRANTIES.

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37. 07 53 16 - ELASTOMERIC MEMBRANE ROOFING
 - a. PRODUCT DATA, SHOP DRAWINGS AND WARRANTIES.
38. 07 53 29 - ELASTOMERIC MEMBRANE ROOFING
 - a. PRODUCT DATA, SHOP DRAWINGS AND WARRANTIES.
39. 07 60 00 - SHEET METAL
 - a. SHOP DRAWINGS
40. 07 72 00 - ROOF ACCESSORIES
 - a. PRODUCT DATA, SHOP DRAWINGS, SAMPLES AND WARRANTIES.
41. 07 81 16 - FIREPROOFING
 - a. MATERIALS LIST, COLORS, MANUFACTURER'S DATA, TEST DATA AND SAMPLES.
42. 07 84 00 - FIRESTOPPING
 - a. PRODUCT DATA, CERTIFICATIONS, SHOP DRAWINGS QUALIFICATION DATA ON INSTALLERS.
43. 07 92 00 - SEALANTS
 - a. PRODUCT DATA, COLORS AND WARRANTIES.
44. 07 95 00 - EXPANSION JOINTS
 - a. MATERIALS LIST, SHOP DRAWINGS, AND WARRANTIES.
45. 08 11 00 - METAL DOORS AND FRAMES
 - a. PRODUCT DATA AND SHOP DRAWINGS.
46. 08 14 16 - WOOD DOORS
 - a. PRODUCT DATA AND SHOP DRAWINGS.
47. 08 15 13 - LAMINATE-FACED WOOD DOORS
 - a. PRODUCT DATA AND SHOP DRAWINGS.
48. 08 33 00 - COILING DOORS
 - a. PRODUCT DATA, SHOP DRAWINGS AND WARRANTIES.
49. 08 34 73 - ACOUSTICAL DOORS AND FRAMES
 - a. PRODUCT DATA, SHOP DRAWINGS AND WARRANTIES.
50. 08 41 00 - STOREFRONTS
 - a. PRODUCT DATA, SHOP DRAWINGS AND WARRANTIES.
51. 08 51 13 - ALUMINUM WINDOWS
 - a. PRODUCT DATA, SHOP DRAWINGS AND WARRANTIES.
52. 08 56 59 - SERVICE WINDOWS
 - a. PRODUCT DATA, SHOP DRAWINGS AND WARRANTIES.
53. 08 63 00 - SKYLIGHTS
 - a. PRODUCT DATA, SHOP DRAWINGS AND WARRANTIES.
54. 08 70 00 - HARDWARE
 - a. HARDWARE SCHEDULE AND CERTIFICATES.
55. 08 80 00 - GLASS
 - a. PRODUCT DATA, MATERIALS LIST, SAMPLES AND CERTIFICATES.
56. 08 91 00 - LOUVERS
 - a. PRODUCT DATA, SHOP DRAWINGS, CERTIFICATES AND COLORS.
57. 09 22 16 - METAL FRAMING
 - a. PRODUCT DATA (INCLUDING INSTALLATION METHODS) AND MATERIALS LIST.
58. 09 24 00 - CEMENT PLASTER
 - a. PRODUCT DATA (INCLUDING INSTALLATION METHODS) AND MATERIALS LIST.
59. 09 26 13 - VENEER PLASTER
 - a. PRODUCT DATA (INCLUDING INSTALLATION METHODS) AND MATERIALS LIST.
60. 09 29 00 - GYPSUM BOARD

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- a. PRODUCT DATA, FASTENING SCHEDULE AND SAMPLES.
- 61. 09 30 00 - TILE
 - a. PRODUCT DATA, COLORS, SAMPLES, CERTIFICATES, MAINTENANCE MATERIAL AND WARRANTIES.
- 62. 09 51 00 - ACOUSTICAL CEILINGS
 - a. ACOUSTICAL TILE SAMPLES, SUSPENSION SYSTEM SAMPLES AND DSA APPROVED CEILING BRACING DRAWINGS.
- 63. 09 64 29 - HARDWOOD FLOOR
 - a. PRODUCT DATA, SHOP DRAWINGS, QUALITY ASSURANCE/CONTROL SUBMITTALS, CLOSEOUT SUBMITTALS AND WARRANTIES.
- 64. 09 64 66 - RESILIENT WOOD FLOOR
 - a. PRODUCT DATA, SHOP DRAWINGS, QUALITY ASSURANCE/CONTROL SUBMITTALS, CLOSEOUT SUBMITTALS AND WARRANTIES.
- 65. 09 65 10 - RESILIENT BASE AND ACCESSORIES
 - a. PRODUCT DATA, SHOP DRAWINGS, QUALITY ASSURANCE/CONTROL SUBMITTALS, CLOSEOUT SUBMITTALS AND WARRANTIES.
- 66. 09 65 16 - RESILIENT SHEET
 - a. PRODUCT DATA, SHOP DRAWINGS, QUALITY ASSURANCE/CONTROL SUBMITTALS, CLOSEOUT SUBMITTALS AND WARRANTIES.
- 67. 09 65 19 - RESILIENT TILE
 - a. PRODUCT DATA, SHOP DRAWINGS, QUALITY ASSURANCE/CONTROL SUBMITTALS, CLOSEOUT SUBMITTALS AND WARRANTIES.
- 68. 09 67 23 - RESINOUS FLOORING
 - a. PRODUCT DATA, SHOP DRAWINGS, QUALITY ASSURANCE/CONTROL SUBMITTALS, CLOSEOUT SUBMITTALS AND WARRANTIES.
- 69. 09 68 40 - CARPET
 - a. PRODUCT DATA, SHOP DRAWINGS, QUALITY ASSURANCE/CONTROL SUBMITTALS, CLOSEOUT SUBMITTALS AND WARRANTIES.
- 70. 09 72 00 - WALL COVERINGS
 - a. PRODUCT DATA, SHOP DRAWINGS, QUALITY ASSURANCE/CONTROL SUBMITTALS, CLOSEOUT SUBMITTALS AND WARRANTIES.
- 71. 09 91 00 - PAINTING
 - a. PRODUCT DATA, MATERIALS LIST, COLORS, MAINTENANCE INFORMATION AND WARRANTIES.
- 72. 10 05 00 - MISCELLANEOUS SPECIALTIES
 - a. PRODUCT DATA, COLORS AND SAMPLES (WHERE APPLICABLE) FOR ALL ITEMS.
- 73. 10 11 00 - VISUAL DISPLAY BOARDS
 - a. PRODUCT DATA AND SAMPLE COLORS.
- 74. 10 13 00 - DIRECTORIES
 - a. PRODUCT DATA, SHOP DRAWINGS, QUALITY ASSURANCE/CONTROL SUBMITTALS, CLOSEOUT SUBMITTALS AND WARRANTIES.
- 75. 10 14 00 - IDENTIFYING DEVICES
 - a. PRODUCT DATA, SHOP DRAWINGS, QUALITY ASSURANCE/CONTROL SUBMITTALS, CLOSEOUT SUBMITTALS AND WARRANTIES.
- 76. 10 14 53 - ROAD AND PARKING SIGNAGE
 - a. PRODUCT DATA, SHOP DRAWINGS, QUALITY ASSURANCE/CONTROL SUBMITTALS, CLOSEOUT SUBMITTALS AND WARRANTIES.
- 77. 10 21 13 - TOILET PARTITIONS
 - a. PRODUCT DATA, SHOP DRAWINGS, CERTIFICATES AND COLORS.
- 78. 10 26 00 - WALL AND CORNER GUARDS
 - a. PRODUCT DATA, SHOP DRAWINGS, QUALITY ASSURANCE/CONTROL SUBMITTALS, CLOSEOUT SUBMITTALS AND WARRANTIES.

- 79. 10 28 13 - TOILET ACCESSORIES
 - a. PRODUCT DATA, SHOP DRAWINGS, QUALITY ASSURANCE/CONTROL SUBMITTALS, CLOSEOUT SUBMITTALS AND WARRANTIES.
- 80. 10 44 00 - FIRE PROTECTION SPECIALTIES
 - a. PRODUCT DATA, SHOP DRAWINGS, QUALITY ASSURANCE/CONTROL SUBMITTALS, CLOSEOUT SUBMITTALS AND WARRANTIES.
- 81. 10 51 13 - METAL LOCKERS
 - a. PRODUCT DATA, SHOP DRAWINGS, QUALITY ASSURANCE/CONTROL SUBMITTALS, CLOSEOUT SUBMITTALS AND WARRANTIES.
- 82. 10 56 13 - METAL STORAGE SHELVING
 - a. PRODUCT DATA, SHOP DRAWINGS, QUALITY ASSURANCE/CONTROL SUBMITTALS, CLOSEOUT SUBMITTALS AND WARRANTIES.
- 83. 11 16 16 - SAFES
 - a. PRODUCT DATA, SHOP DRAWINGS, CERTIFICATES AND COLORS.
- 84. 11 40 00 - FOOD SERVICE EQUIPMENT
 - a. PRODUCT DATA, SHOP DRAWINGS, QUALITY ASSURANCE/CONTROL SUBMITTALS, CLOSEOUT SUBMITTALS AND WARRANTIES.
- 85. 11 53 00 - LAB CASEWORK AND EQUIPMENT
 - a. PRODUCT DATA, SHOP DRAWINGS, QUALITY ASSURANCE/CONTROL SUBMITTALS, CLOSEOUT SUBMITTALS AND WARRANTIES.
- 86. 11 66 00 - ATHLETIC EQUIPMENT
 - a. PRODUCT DATA, SHOP DRAWINGS, QUALITY ASSURANCE/CONTROL SUBMITTALS, CLOSEOUT SUBMITTALS AND WARRANTIES.
- 87. 11 66 43 - SCOREBOARDS
 - a. PRODUCT DATA, SHOP DRAWINGS, QUALITY ASSURANCE/CONTROL SUBMITTALS, CLOSEOUT SUBMITTALS AND WARRANTIES.
- 88. 11 68 00 - PLAYFIELD EQUIPMENT
 - a. PRODUCT DATA, SHOP DRAWINGS, QUALITY ASSURANCE/CONTROL SUBMITTALS, CLOSEOUT SUBMITTALS AND WARRANTIES.
- 89. 12 21 00 - BLINDS
 - a. PRODUCT DATA, SHOP DRAWINGS, QUALITY ASSURANCE/CONTROL SUBMITTALS, CLOSEOUT SUBMITTALS AND WARRANTIES.
- 90. 12 61 00 - FIXED SEATING
 - a. PRODUCT DATA, SHOP DRAWINGS, QUALITY ASSURANCE/CONTROL SUBMITTALS, CLOSEOUT SUBMITTALS AND WARRANTIES.
- 91. 12 66 13 - TELESCOPING BLEACHERS
 - a. PRODUCT DATA, SHOP DRAWINGS, QUALITY ASSURANCE/CONTROL SUBMITTALS, CLOSEOUT SUBMITTALS AND WARRANTIES.
- 92. 12 66 23 - TELESCOPING CHAIR PLATFORMS
 - a. PRODUCT DATA, SHOP DRAWINGS, QUALITY ASSURANCE/CONTROL SUBMITTALS, CLOSEOUT SUBMITTALS AND WARRANTIES.
- 93. 13 34 23 - CUSTOM PORTABLE BUILDINGS
 - a. PRODUCT DATA, SHOP DRAWINGS, QUALITY ASSURANCE/CONTROL SUBMITTALS, CLOSEOUT SUBMITTALS AND WARRANTIES.
- 94. 13 49 00 - RADIATION PROTECTION
 - a. PRODUCT DATA, SHOP DRAWINGS, QUALITY ASSURANCE/CONTROL SUBMITTALS, CLOSEOUT SUBMITTALS AND WARRANTIES.
- 95. 14 24 23 - HYDRAULIC ELEVATORS
 - a. PRODUCT DATA, SHOP DRAWINGS, QUALITY ASSURANCE/CONTROL SUBMITTALS, CLOSEOUT SUBMITTALS AND WARRANTIES.
- 96. 14 42 00 - WHEELCHAIR LIFTS
 - a. PRODUCT DATA, SHOP DRAWINGS, QUALITY ASSURANCE/CONTROL SUBMITTALS, CLOSEOUT SUBMITTALS AND WARRANTIES.

- 97. 14 45 00 - VEHICLE LIFTS
 - a. PRODUCT DATA, SHOP DRAWINGS, QUALITY ASSURANCE/CONTROL SUBMITTALS, CLOSEOUT SUBMITTALS AND WARRANTIES.
- 98. DIV 21 - FIRE SUPPRESSION SECTIONS
 - a. REFER TO APPROPRIATE SPECIFICATION SECTION REQUIREMENTS.
- 99. DIV. 22 - PLUMBING SECTIONS
 - a. REFER TO APPROPRIATE SPECIFICATION SECTION REQUIREMENTS.
- 100. DIV. 23 -HEATING, VENTILATING AND AIR CONDITIONING SECTIONS
 - a. REFER TO APPROPRIATE SPECIFICATION SECTION REQUIREMENTS.
- 101. DIV. 25- INTEGRATED AUTOMATION SECTIONS
 - a. REFER TO APPROPRIATE SPECIFICATION SECTION REQUIREMENTS.
- 102. DIV. 26- ELECTRICAL SECTIONS
 - a. REFER TO APPROPRIATE SPECIFICATION SECTION REQUIREMENTS.
- 103. DIV. 27 -COMMUNICATIONS SECTIONS
 - a. REFER TO APPROPRIATE SPECIFICATION SECTION REQUIREMENTS.
- 104. DIV. 28- ELECTRONIC SAFETY AND SECURITY SECTIONS
 - a. REFER TO APPROPRIATE SPECIFICATION SECTION REQUIREMENTS.
- 105. 31 20 00 - EARTHWORK
 - a. PRODUCT DATA, SHOP DRAWINGS, QUALITY ASSURANCE/CONTROL SUBMITTALS, PROJECT RECORD DOCUMENTS, AND WARRANTIES, AND DRAWINGS SHOWING KNOWLEDGE OF THE EXTENT OF ENGINEERED PADS.
- 106. 31 31 00- SOIL TREATMENT
 - a. PRODUCT DATA, SHOP DRAWINGS, QUALITY ASSURANCE/CONTROL SUBMITTALS, PROJECT RECORD DOCUMENTS, AND WARRANTIES.
- 107. 32 12 00- PAVEMENT
 - a. PRODUCT DATA, SHOP DRAWINGS, QUALITY ASSURANCE/CONTROL SUBMITTALS, PROJECT RECORD DOCUMENTS, AND WARRANTIES.
- 108. 32 80 00- LANDSCAPE IRRIGATION
 - a. PRODUCT DATA, SHOP DRAWINGS, QUALITY ASSURANCE/CONTROL SUBMITTALS, PROJECT RECORD DOCUMENTS, AND WARRANTIES.
- 109. 33 40 00- STORM DRAINAGE
 - a. PRODUCT DATA, SHOP DRAWINGS, QUALITY ASSURANCE/CONTROL SUBMITTALS, PROJECT RECORD DOCUMENTS, AND WARRANTIES.

END OF SECTION

SECTION 01 41 00 – REGULATORY REQUIREMENTS

PART 1 - GENERAL

1.1 SUMMARY

- A. Provide all material, labor, equipment and services necessary to completely install all materials, accessories and other related items necessary to complete the Project as indicated by the Contract Documents.
- B. Section 4-317 (c), Part 1, Title 24, CCR, requires the following:
 - 1. "The intent of these drawings and specifications is that the work of the alteration, rehabilitation or reconstruction is to be in accordance with Title 24, California Code of Regulations. Should any existing conditions such as deterioration of non-complying construction be discovered which is not covered by DSA approved documents wherein the finished work will not comply with Title 24, California Code of Regulations, a construction change document, or a separate set of plans and specifications, detailing and specifying the required repair work shall be submitted to and approved by DSA before proceeding with the repair work."
- C. Related Sections:
 - 1. DIVISION 00 SPECIFICATION SECTIONS.
 - 2. DIVISION 01 SPECIFICATION SECTIONS.
 - 3. SPECIFICATION SECTIONS IN THE FACILITY CONSTRUCTION SUBGROUP.
 - 4. SPECIFICATION SECTIONS IN THE FACILITY SERVICES SUBGROUP.
 - 5. SPECIFICATION SECTIONS IN THE SITE AND INFRASTRUCTURE SUBGROUP.

1.2 REFERENCES

- D. References to standards, codes, specifications, recommendations and regulations, refer to the latest edition or printing in effect at the date of issue shown in the Documents unless another date is implied by the suffix number of the Standards.
- E. Applicable portions of the Standards listed that are not in conflict with the Contract Documents shall be construed as specification for this work.
- F. General Standards:
 - 1. AFPA American Forest and Paper Association
 - 2. ANSI American National Standards Institute
 - 3. ASTM American Society for Testing and Materials
 - 4. CAL/OSHA California Occupational Safety and Health Administration
 - a. State of California Construction Safety Orders
 - 5. CARB California Air Resources Board
 - 6. CS Commercial Standards of the US Department of Commerce
 - 7. EPA Environmental Protection Agency
 - 8. FMG Factory Mutual Group
 - 9. NIBS National Institute of Building Sciences
 - 10. NIST National Institute of Standards and Technology
 - 11. NFPA National Fire Protection Association
 - 12. OSHA Occupational Safety and Health Administration
 - a. Federal Construction Safety Orders
 - 13. PS Product Standards of the US Department of Commerce
 - 14. SS-CDOT "Standard Specification":
 - a. State of California Department of Transportation (CalTrans)
 - 15. UL Underwriters Laboratory Incorporated
 - 16. WH Warnock Hersey

1.3 SUBMITTALS

- A. Submit in accordance with Specification Section - SUBMITTAL PROCEDURES:
- B. Quality Assurance/Control Submittals:
 - 1. Certificates:
 - a. Submit three (3) copies of certificates written on the Contractor's Letterhead indicating that the required codes shall be present at the Job Site.

1.4 QUALITY ASSURANCE

- A. Regulatory Requirements:
 - 1. All codes, laws, ordinances, rules, regulations, orders and other legal requirements of City, County, State, Federal and other public authorities which bear on performances of Work shall be applicable to Project. Latest editions shall be applicable unless specified otherwise.
 - 2. Relationship between Applicable Codes and Contract Documents. The Contract Documents have been developed with the intent to conform to the applicable codes. Nothing within the Contract Documents shall be construed to permit Work not conforming to the applicable codes.
- B. Major Governing Codes And Regulations:
 - 1. General: All work shall comply with the requirements of the following codes and regulations. Special reference in other Sections of the Specifications to a specific code will be by use of the abbreviation given in front of the Code.
 - a. Freestanding equipment (if applicable) shall be provided and installed in accordance with the seismic requirements where the Project is located.
 - 2. NOTE: * -Indicates that a copy of these codes shall be at the job site at all times.
 - 3. FEDERAL LAW:
 - a. ADA: Americans with Disabilities Act
 - 4. CALIFORNIA CODE OF REGULATIONS (Previously known as the California Administrative Codes)
 - a. CCR-T5: California Code of Regulations, Title 5-Education.
 - b. CCR-T8: California Code of Regulations, Title 8-Industrial Safety
 - 1) Contains the California Elevator Safety Code.
 - c. CCR-T19: California Code of Regulations, Title 19-Public Safety.
 - d. CCR-T21: California Code of Regulations, Title 21-Public Works.
 - e. *CCR-T24: California Code of Regulations, Title 24, Part 1-California Administrative Code 2022.
 - 5. CALIFORNIA BUILDING, ELECTRICAL, MECHANICAL, PLUMBING, ENERGY, FIRE, and REFERENCED CODES
 - a. *CBC: California Building Code 2022 California Code of Regulations, Title 24-Part 2, Volumes 1 and 2, CCR-T24, based on the 2021 edition of the IBC (International Building Code), with the latest California State Amendments.
 - b. *CEC: California Electrical Code 2022, California Code of Regulations, Title 24-Part 3, CCR-T24, based on the 2020 edition of the NEC (National Electrical Code), with the latest California State Amendments.
 - c. *CMC: California Mechanical Code 2022, California Code of Regulations, Title 24, Part 4, CCR-T24, based on the 2021 edition of the UMC (Uniform Mechanical Code) by IAPMO, with the latest California State Amendments.
 - d. *CPC: California Plumbing Code 2022, California Code of Regulations, Title 24, Part 5, CCR-T24, based on the 2021 edition of the UPC (Uniform Plumbing Code) by IAPMO, with the latest California State Amendments.
 - e. *CEnC: California Energy Code 2022, California Code of Regulations, Title 24, Part 6, CCR-T24, and the latest California State Amendments.

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- f. *CFC: California Fire Code 2022, California Code of Regulations, Title 24, Part 9, CCR-T24, based on the 2021 edition of the IFC (International Fire Code), with the latest California State Amendments.
 - 1) In addition to all other Chapters in the CFC to be followed, attention is specifically called out to comply with Chapter 33 - "Fire Safety During Construction and Demolition".
- g. CEBC: California Existing Building Code 2022, California Code of Regulations, Title 24, Part 10, CCR-T24.
- h. CGBSC: California Green Building Standards Code 2022, California Code of Regulations, Title 24-Part 11, CCR-T24 (CALGreen).
- i. CRSC: California Referenced Standard Code 2022, Title 24, Part 12, CCR-T24, with the latest California State Amendments.
- 6. DSA: DIVISION OF THE STATE ARCHITECT:
 - a. DSA: Regulations of the Division of the State Architect of the State of California:
 - 1) ACS: Access Compliance Section
 - 2) SSS: Structural Safety Section
 - 3) FLS: Fire and Life Safety Section
 - 4) IR: Interpretation of Regulations.
- 7. OTHER STATE AGENCIES:
 - a. AQMCD: Air Quality Management Control District in the area where the project is located.
 - b. RWQCB: Regional Water Quality Control Board in the area where the project is located.
- C. Governing Authority:
 - 1. DSA: Division of the State Architect.
 - a. The provisions of the State of California, Statutes of 1933, Chapter 59, Safety of Construction of Public School Buildings Act, and the latest regulation based thereon, of the Division of the State Architect of the State of California, shall be the governing authority and shall take precedence over other applicable codes.
 - b. The following shall be stamped and signed by the A/E on Record or Delegated Design Professional per CBC, Part 1, Section 4-317 (h), and the following:
 - 1) Addenda or Bulletins per Sec. 4-338(b): All addenda or bulletins shall be signed and approved by the Division of State Architect.
 - 2) Construction Changes per Sec. 4-338(c): All Construction Changes related to structural items, fire safety issues, life safety issues and accessibility compliance issues shall be reviewed and approved by the appropriate Division of the State Architect.
 - 3) Substitutions (per DSA) shall be treated like Addenda, or Construction Changes per Sec. 4-338(c), and IR A-6: All substitution requests and substitutions related to structural items, fire safety issues, life safety issues and accessibility compliance issues shall be reviewed and approved by the appropriate Division of the State Architect prior to fabrication and installation.

PART 2 - PRODUCTS
NOT APPLICABLE

PART 3 - EXECUTION
NOT APPLICABLE

END OF SECTION

SECTION 01 42 00 – REFERENCES

PART 1 - GENERAL

1.1 SUMMARY

- A. This Section includes the following:
 - 1. Provide all material, labor, equipment and services necessary to completely install all materials, accessories and other related items necessary to complete the Project as indicated by the Contract Documents.
 - a. The abbreviations, symbols and work meanings not defined in the Contract Documents are in accordance with building industry usage and convention. Questions which arise as to "meaning," or intent shall be referred to the Architect prior to bidding for interpretation.
 - b. Refer to drawings for additional abbreviations and symbols.
 - c. Refer to GENERAL and SPECIAL or SUPPLEMENTAL CONDITIONS and specific specification Sections for additional definitions.
- B. Related Sections: The following Project Manual Sections contain requirements that relate to this section:
 - 1. DIVISION 00 SPECIFICATION SECTIONS.
 - 2. DIVISION 01 SPECIFICATION SECTIONS.
 - 3. SPECIFICATION SECTIONS IN THE FACILITY CONSTRUCTION SUBGROUP.

1.2 DEFINITIONS

- A. EXECUTE Perform what is required to install, apply, erect and otherwise incorporate products in to this Project.
- B. FURNISH Supply products required, deliver to Project, unload, store and install as required in location as directed by Contractor, Owner or Architect.
- C. GUARANTEE An assurance by the seller or installer that products or Work are as represented or will be as promised in compliance with Specifications. Synonymous and interchangeable with WARRANTY.
- D. INSTALL Incorporate into this Project.
- E. PRODUCTS The material, equipment, fixtures and other physical substances required to execute the Project.
- F. PROVIDE Furnish and Install into this Project.
- G. WARRANTY An assurance by the seller or installer that products or Work are as represented or will be as promised in compliance with Specifications. Synonymous and interchangeable with GUARANTEE.

PART 2 - PRODUCTS

NOT APPLICABLE

PART 3 - EXECUTION

NOT APPLICABLE

END OF SECTION

SECTION 01 45 23 – TESTING AND INSPECTION SERVICES

PART 1 - GENERAL

1.1 SUMMARY

A. This Section includes the following:

1. One Project Inspector (Owner's Inspector), including Special and/or Assistant Inspector(s) (minimum Class 2 Rating), as required, will be employed by the Owner in accordance with the requirements of CCR-Title 24, Part 1, CALIFORNIA ADMINISTRATIVE CODE, and the latest amendments, and will be assigned to the Project.
 - a. Duties of a Project Inspector are specifically defined in CCR-Title 24, Part 1, and the latest amendments.
 - b. Special Inspections (not within the Project Inspector's abilities) shall be performed by the Testing Laboratory or other Special Inspector as approved by the Owner and DSA.
 - 1) All Special Inspections shall be approved by DSA in accordance with CCR-T24, Part 1, Chapter 4, Group 1, Article 5, Section 4-335.1.
 2. The Project Inspector shall be employed by the Owner and approved by the Architect, and DSA.
 - a. See the Title Page of this Project Manual for the name of this Project.
 - b. Payment of the Project Inspector will be by the Owner.
 3. Provide all access, facilities and information required by the Project Inspector for the Project.
- B. Related Sections: The following Project Manual Sections contain requirements that relate to this section:
1. DIVISION 00 SPECIFICATION SECTIONS.
 2. DIVISION 01 SPECIFICATION SECTIONS.
 3. SPECIFICATION SECTIONS IN THE FACILITY CONSTRUCTION SUBGROUP.

1.2 DEFINITIONS

A. Responsibilities of the Project Inspector:

1. The Project Inspector will be required to provide inspection of the Work (including "Continuous Inspection") as required in CCR-T24, Part 1:
 - a. Educational Work: Chapter 4, Group 1, Article 6, 4-342 (b).
2. The Project Inspector will report to the Owner, the Architect and DSA as required during the progress of the Work.
3. The Project Inspector shall review all Pay Requests prior to submittal to the Architect.

B. Responsibilities of the Contractor:

1. Written Statement of Responsibility to the Owner and the Authority Having Jurisdiction (DSA) per CBC Chapter 17A:
 - a. Provide a written Statement of Responsibility regarding the Contractor's understanding of the special inspection requirements and identifying individuals in their firm responsible for exercising control over the conformance to the construction documents.
2. Provide the Project Inspector free access to any and all parts of the Project at all times.
3. Provide the Project Inspector information necessary to keep him fully informed with respect to the progress, manner and character of Work.

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4. Perform no Work in absence of the Project Inspector unless alternate arrangements have been made in advance and agreed to by the Owner, the Architect and DSA.
5. The Owner's "Inspection of Work" by the Project Inspector shall not relieve the Contractor from any conditions of this Contract.

PART 2 - PRODUCTS

NOT APPLICABLE

PART 3 - EXECUTION

NOT APPLICABLE

END OF SECTION

SECTION 01 45 29 – TESTING LABORATORY SERVICES

PART 1 - GENERAL

1.1 SUMMARY

A. This Section includes the following:

1. The Owner's Testing Laboratory shall be employed by the Owner and approved by the Architect, and DSA.
 - a. Payment of the Owner's Testing Laboratory will be by the Owner.
 - b. The Owner shall pay for all initial testing indicated as paid for by Owner except as specified otherwise or in the schedule at the end of this section.
 - 1) Cost of re-testing (due to initial failures) shall be back-charged to the Contractor, and those excess costs will be deducted from the Contract Price.
 - 2) Cost of testing (due to shop fabrication or in-plant testing out of state and beyond a 75-mile radius of the Project Site) shall be back-charged to the Contractor, and those excess costs will be deducted from the Contract Price.
2. Provide all access, facilities and information required for the testing of the various portions of the Work as required by Regulatory Agencies, Planning, Agencies, Building Agencies, and other Governmental Inspectors, the Contract Documents and the Owner.

B. Related Sections: The following Project Manual Sections contain requirements that relate to this section:

1. DIVISION 00 SPECIFICATION SECTIONS.
2. DIVISION 01 SPECIFICATION SECTIONS.
3. SPECIFICATION SECTIONS IN THE FACILITY CONSTRUCTION SUBGROUP.

1.2 DEFINITIONS

A. Responsibility of the Testing Laboratory:

1. Taking all specimens.
2. Performing Tests.
 - a. The Testing Laboratory's duties shall include all tests required by the DSA 103 Form prepared at the time of DSA Approvals, and any other testing as determined by authorities or the Project Inspector during the course of the work.
 - b. Special Inspections (not within the Project Inspector's abilities) shall be performed by the Testing Laboratory or other Special Inspector as approved by the Owner and DSA.
 - 1) All Special Inspections shall be approved by DSA in accordance with CCR-T24, Part 1, Chapter 4, Group 1, Article 5, Section 4-335.
3. Writing Test Reports
4. Review of "Continuous Inspection" reports by the Project Inspector.
 - a. Portions of the Work requiring "Continuous Inspection" shall be performed by the Project Inspector (if qualified) and all reports will be reviewed by the Testing Laboratory.
5. Distribute Test Reports to the Owner, Architect, applicable Engineer, Contractor and to DSA.

B. Responsibilities of the Contractor:

1. Contractor shall provide a Testing Schedule that is in accordance with the following:
 - a. Format of the Testing Schedule shall be in accordance with Specification Section – CONSTRUCTION SCHEDULES.
 - b. Cooperates with the Testing Laboratory's schedule of required testing.

- c. Contractor shall coordinate Construction Schedule and Testing Schedule.
 - 1) Format of testing schedule in accordance with Specification Section – CONSTRUCTION SCHEDULES.
- 2. Cooperation with testing laboratory:
 - a. Provide access to Work being tested.
 - b. Provide test samples as selected by testing laboratory.
 - c. Schedule Work so that there shall be no excessive inspection time.
 - 1) At times that an inspector is required, sufficient work shall be laid out and adequate personnel supplied so that the inspector's time shall be used to full advantage.
 - 2) If inspection costs become excessive because of poor shop or construction procedure, such excess costs will be paid for by the Owner, but deducted from the Contract Price.
 - d. Inspections and tests required by regulatory agencies shall be the responsibility of and shall be paid for by the Owner unless specified otherwise.
 - e. Inspections and testing performed exclusively for the Contractor's convenience shall be the sole responsibility of the Contractor.
 - f. Test Reports:
 - 1) Distribute test reports and related instruction to insure all required re-testing and/or replacement of materials.
 - g. Payment of Testing:
 - 1) All testing shall be paid for by the Owner.
- 3. Contractor shall be backcharged for re-testing, excessive distance from the Project Site, or extra testing required because of initial failures.

1.3 QUALITY ASSURANCE

A. Qualifications:

- 1. Testing Laboratory Qualifications:
 - a. In accordance with the latest Edition of ASTM E-329.

PART 2 - PRODUCTS

NOT APPLICABLE

PART 3 - EXECUTION

3.1 SCHEDULES

- A. Testing Schedule at the end of this section should be used as a guide only and it is not considered a complete list. Refer to regulatory agency requirements and specific specification section for complete testing requirements.
- B. TESTING SCHEDULE
 - 1. Drilled Anchors
 - a. Tension Tests.
 - 1) Paid by Owner.
 - 2. Reinforcement
 - a. Rebar Material per ACI 318, CBC TABLE 1705A.2.1, CBC Sections 1903A.1, 1905A, and 1910A.
 - 1) Paid by Owner

- b. Continuous Inspection of Welds per ACI 318, CBC TABLE 1705A.2.1, CBC Sections 1903A.8, 1905A, and 1910A.
 - 1) Paid by Owner
- 3. Cast-In-Place Concrete
 - a. Cement Material per ACI 318, and CBC Sections 1903A, 1905A, and 1910A.
 - 1) Paid by Owner
 - b. Aggregate Material per ACI 318.
 - 1) Paid by Owner
 - c. Concrete Mix per ACI 318. CBC Sections 1903A and 1910A.
 - 1) Paid by Owner
 - d. Concrete Strength Tests per ACI 318.
 - 1) Paid by Owner
 - e. Concrete Compression Tests per ACI 318.
 - 1) Paid by Owner
- 4. Steel And Fabrications
 - a. Steel Material per CBC Section 1705A.2.
 - 1) Paid by Owner
 - b. High Strength Bolts and installation per CBC Section 1705A, and CBC Section 1705A.2.6.
 - 1) Paid by Owner
 - c. Inspection of Shop and Field Welding per CBC Section 1705A, and CBC Section 1705A.2.5.
 - 1) Paid by Owner
- 5. Wood Joists
 - a. Continuous Plant Inspection for open web trusses per CBC Section 1705A.5.5.
 - 1) Paid by Owner
- 6. Glue-Laminated Construction
 - a. Continuous Plant Inspection per CBC Sections 1705A.5.4, and 1705A.10.
 - 1) Paid by Owner
- 7. Metal Framing
 - a. Metal Stud Material.
 - 1) Paid by Owner
 - b. Metal Stud Welding.
 - 1) Paid by Owner
- 8. Acoustical Ceilings
 - a. Main and cross runners, intersection connectors and expansion devices
 - 1) Paid by Contractor
- 9. Plumbing
 - a. Non-Leaking System
 - 1) Paid by Contractor
 - b. Bacteriological Purity
 - 1) Paid by Contractor
- 10. Heating, Ventilating And Air Conditioning
 - a. Equipment Operation
 - 1) Paid by Contractor
 - b. System Energy Balance
 - 1) Paid by Contractor
 - c. Non-Leaking Hydronic System.
 - 1) Paid by Contractor
- 11. Service And Distribution
 - a. Equipment Operation
 - 1) Paid by Contractor
 - b. Protective Systems

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- 1) Paid by Contractor
- 12. Lighting
 - a. Equipment Operation
 - 1) Paid by Contractor
- 13. Public Address System
 - a. Equipment Operation
 - 1) Paid by Contractor
- 14. Fire Sprinkler System
 - a. All tests required by NFPA #13.
 - 1) Paid by Contractor
- 15. Earthwork
 - a. Compaction Test
 - 1) Paid by Owner
 - b. Inspection of Excavations and Fills per CBC Table 1705A.6.
 - 1) Paid by Owner
 - c. Department of Toxic Substances Control (DTSC) Independent Testing of Imported soil
 - 1) Paid by Contractor
- C. Division of the State Architect "Statement of Structural Tests and Special "Inspections":
 - 1. In addition to the TESTING SCHEDULE cited above, and elsewhere within the documents, DSA requires the Contractor to schedule and manage the following tests to be performed and reported as required for this Project.
 - 2. Failure to schedule these tests is grounds for reduction in Monthly Payment Request authorization, and may delay distribution of the Final Payment.
 - 3. Refer to the approved DSA 103-Listing of Structural Tests and Special Inspections Form.

END OF SECTION

SECTION 01 50 00 – TEMPORARY FACILITIES AND CONTROLS

PART 1 - GENERAL

1.1 SUMMARY

- A. This Section includes the following:
 - 1. Provide all material, labor, equipment and services necessary to completely install all Temporary Utilities, Support Facilities, and Protection Facilities materials, accessories and other related items necessary to complete the Project as indicated by the Contract Documents.
- B. Related Sections: The following Project Manual Sections contain requirements that relate to this section:
 - 1. DIVISION 00 SPECIFICATION SECTIONS.
 - 2. DIVISION 01 SPECIFICATION SECTIONS.
 - 3. SPECIFICATION SECTIONS IN THE FACILITY CONSTRUCTION SUBGROUP.

1.2 SUBMITTALS

- A. Submit in accordance with Specification Section - SUBMITTAL PROCEDURES:
 - 1. Quality Assurance/Control Submittal:
 - a. Copy of Application to APCD for Dust Prevention and Control Plan.
 - b. Copy of approved Application to APCD for Dust Prevention and Control Plan.
 - c. Copy of Application to local City or County Engineer for Traffic Control.
 - d. Copy of approved Application to local City or County Engineer for Traffic Control.

1.3 QUALITY ASSURANCE

- A. Regulatory Requirements:
 - 1. In accordance with Specification Section - REGULATORY REQUIREMENTS, and the following:
 - a. CARB Materials and equipment used for this Project shall comply with the current applicable regulations of the California Air Resources Board (CARB) and the Environmental Protection Agency (EPA), in the area where the project is located.
 - b. CAL/OSHA California Division of Occupational Safety and Health Administration
 - c. EPA Environmental Protection Agency
- B. Dust Prevention and Control Plan:
 - 1. Prior to commencing the Work, prepare a Dust Prevention and Control Plan and obtain review and approval of the Air Pollution Control District (APCD) in the area where the project is located.
 - a. Prepare application and file with appropriate fees to APCD upon completion of Dust Prevention and Control Plan.
 - 2. The Dust Prevention and Control Plan shall specify the methods of control that will be utilized, demonstrate the availability of needed equipment and personnel, and identify a responsible individual who, if needed, can authorize implementation of additional measures.
 - 3. All construction shall comply with applicable elements of the APCD's regulations.
 - 4. The Dust Prevention and Control Plan shall include, but not be limited to, the following:
 - a. Contractor's name and project identification information.

- b. Procedures and measures to be implemented, but not be limited to:
 - 1) All material excavated or graded shall be sufficiently watered to prevent excessive amounts of dust.
 - 2) During periods of high winds, all clearing, grading, earth moving, or excavation shall cease when dust control measures are unable to avoid visible plumes.
 - 3) All dust producing material transported off site shall be either sufficiently watered or securely covered to prevent excessive amounts of dust.
 - 4) The area disturbed by clearing, earth moving, or excavation activities shall be minimized at all times.
 - 5) All watering of areas shall be only to the extent required to keep the soil particles in a moist condition and not to the extent that erosion of surface soil occurs.
 - 6) To control general fugitive dust, on-site vehicle speed shall be limited to 15 mph.
 - 7) All areas with vehicle traffic shall be watered periodically for stabilization of dust emissions.
 - 8) Periodically streets adjacent to the project site shall be cleaned as required to remove silts which may have accumulated from construction activities.
- C. Traffic Control Plan:
 - 1. Prior to commencing the Work, prepare a Traffic Control Plan and obtain approval of the local City or County Engineer in the area where the project is located.
 - a. Prepare application and file with appropriate fees to the local City or County Engineer upon completion of Traffic Control Plan.
 - 2. The Traffic Control Plan shall include information on construction timing and phasing and proposed methods of alleviating potential hazardous and/or inconvenient conditions. Such methods can include, but are not limited to, the use of flagmen, barricades, signs, warning lights, detours, phased lane closures, coordination with adjacent property owners, and coordination with law enforcement, fire protection and other emergency service agencies.
- D. Copy of approved Fire Protection Program:
 - 1. Contractor shall be responsible for the development, implementation, and maintenance of a written plan establishing a fire prevention program at the project site applicable throughout all phases of the construction, repair, alteration, or demolition work in accordance with CFC Chapter 33, Section 3308 and sub-sections.
 - 2. It is the Contractor's responsibility to contact local Fire Authority to discuss the plan.
 - a. A copy of the report should be made available to the Project Inspector and local Fire Authority.
 - 3. Approval Required: Prior to commencing the Work, prepare a Fire Protection Program and obtain review and approval from the local Fire Authority in the area where the project is located.
 - 4. Plan shall address at a minimum:
 - a. Each phase of the construction, repair, alteration, or demolition work.
 - b. Designate responsible program superintendent in accordance with CFC 3308.2.
 - c. Duties of staff.
 - d. Staff training requirements.
 - e. Prefire plans.
 - f. Fire protection devices.
 - g. Hot work operations.
 - h. Impairment of fire protection systems.
 - i. Temporary covering of fire protection devices.

1.4 PROJECT CONDITIONS

A. Environmental Requirements:

1. Heating and Cooling:

- a. Provide temporary heating and cooling required by construction activities for curing, acclimating the building or drying of completed installations or for protecting installed construction from adverse effects of low temperatures or high humidity. Select equipment that will not have a harmful effect on completed installations or elements being installed, and is maintained prior, during and after the installation in accordance with the exterior or interior building materials temperature and humidity guidelines.

- 1) Do not use heating units that contribute moisture to the enclosed spaces under construction.

2. Ventilation and Humidity Control:

- a. Provide temporary ventilation required by construction activities for curing, acclimating the building or drying of completed installations or for protecting installed construction from adverse effects of high humidity. Select equipment that will not have a harmful effect on completed installations or elements being installed. Coordinate ventilation requirements to produce ambient condition required and minimize energy consumption.

- 1) Exterior Moisture Control:

- a) Perform the installation of all exterior building cladding only after the substrate to which they are being applied is dry and ready to receive them. Do not apply any cladding if it will trap moisture inside a wall or roof cavity (i.e. insulation that has become wet for whatever reasons).

- 2) Interior Moisture Control:

- a) Perform the installation of all interior moisture sensitive building materials only after the building or space is acclimated to the final environmental conditions under which the building is to be operated in accordance within the Owner's humidity control guidelines.

- b. Maintain a consistent humidity in accordance with the guidelines for those materials in the space at least seven (7) days prior to installation of any moisture sensitive materials (i.e. Veneer Plaster, Gypsum Board, Ceiling Tiles, Wood Sensitive Floors, other Flooring sensitive to moisture levels, Interior Painting, etc.).
- c. Maintain the same levels or temperature and humidity during the installation of those materials, and after the installation of those materials until the building's own mechanical systems can be turned on to maintain the facility within the Owner's temperature and humidity control guidelines.
- d. Replace any materials that have become wet and damaged due to the Contractor not properly protecting installed building materials at no additional cost to the Owner.

3. Dust control:

- a. Perform work in a manner as to minimize the spread of dust and flying particles.
- b. Thoroughly moisten all surfaces as required to prevent dust from being a nuisance to the public, neighbors and concurrent performance of other on-site work.
- c. Temporarily cover mechanical equipment and ductwork openings to prevent the entry of construction dust and debris.

4. Burning: No burning will be allowed on-site.

5. Noise Control:

- a. Stationary noise sources shall be of a low-noise emission design, consistent with the best available noise reduction technology.

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- b. The hours of operation of noise-generating equipment shall be restricted to 6:00 a.m. to 7:00 p.m. Monday through Friday, and to 8:00 a.m. to 6:00 p.m. on Saturday and Sunday.
 - c. Mufflers shall be required on all gas and diesel-powered equipment.
 - B. Existing Conditions:
 - 1. Examine site and compare it with the drawings and specifications. Thoroughly investigate and verify conditions under which the work is to be performed. No allowance will be made for extra work resulting from negligence or failure to be acquainted with all available information concerning conditions necessary to estimate the difficulty or cost of the work.
 - 2. Cultural Resources:
 - a. The Contractor is advised of the possibility that cultural resources may be discovered during project activities.
 - b. If any cultural or paleontological materials are uncovered during project activities, work in the area or any area reasonably suspected to overlie adjacent remains shall be stopped and the Architect advised of the discovery. The Architect will notify the appropriate agency and the work shall remain stopped until professional cultural resources evaluation and/or data recovery excavation can be planned and implemented. Appropriate measures to protect remains from accidents, looting, and vandalism shall be implemented immediately on discovery.
 - c. If human remains are discovered, the work in the area or any area reasonably suspected to overlie adjacent remains shall be stopped and the County Coroner and the Architect shall be notified immediately. Appropriate measures to protect remains from accidents, looting, and vandalism shall be implemented immediately on discovery. The work shall remain stopped until professional cultural resources evaluation and/or recovery excavation can be planned and implemented.

PART 2 - PRODUCTS

2.1 EQUIPMENT

- A. Fire Protection During Construction:
 - 1. Provide Temporary Fire Protection per CFC Chapter 33 during demolition and construction.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Site verification of conditions:
 - 1. Report unacceptable conditions to the Architect. Do not begin work until unacceptable conditions have been corrected.
 - 2. Execution of work under this specification section shall constitute acceptance of existing conditions.
 - 3. Obtain all necessary permits and authorizations by regulatory agencies required to perform the work under this section.

3.2 PREPARATION

- A. Coordination:
 - 1. Before proceeding, verify plans match existing conditions.

2. Coordinate work under this specification with work specified under other sections to ensure proper and adequate interface of work.

B. Protection:

1. The Contractor shall verify and protect existing landscaping, asphalt area, concrete walkways, and other site improvements to remain on the site before proceeding with the Work.
2. Prior to starting Work, hose bibbs, utility lines, etc., to be abandoned and removed within the construction area shall be stubbed off outside the limits of construction.
3. Verify and protect utilities to remain within the construction area and provide special construction for their protection.

3.3 IMPLEMENTATION

A. General:

1. Perform Work and provide and maintain Temporary Utilities and Temporary Facilities in accordance with the requirements of all regulatory authorities having jurisdiction.
2. Contractors shall cooperate with other contractors and the Owner in the use of the site, Temporary Utilities, Temporary Facilities and shall adjust their operations to maintain harmonious relations and uninterrupted progress of the Work.
3. The Contractor shall assume all responsibility for the provision and maintenance of these Temporary Utilities and Temporary Facilities and for the provisions of public safety where the operations under this Contract interface with public areas.
4. Relocate and modify Temporary Utilities and Temporary Facilities, as required by progress of the Work.
5. Remove Temporary Utilities and Temporary Facilities upon completion of the Project.
6. Temporary Utilities and Temporary Facilities are to be provided and maintained from commencement of Work until final acceptance.
 - a. The Contractor shall pay all charges required of him for the duration of the project, including a 1 month period following the date of the Notice of Substantial Completion.

B. Temporary Utilities:

1. Install temporary service or connect to existing service.
 - a. Arrange with utility company, Owner, and existing users for time when service can be interrupted, if necessary, to make connections for temporary services.
 - 1) Minimum forty-eight (48) hours prior notice to any interruption.
2. Sewers:
 - a. Provide temporary service to remove effluent lawfully.
3. Storm Drainage:
 - a. Provide temporary service as necessary to remove storm water. Work shall be performed in accordance with the requirements of the Storm Water Pollution Prevention Plan (SWPPP), if any. If no SWPPP is required, then follow local authorities having jurisdiction requirements.
4. Water:
 - a. The Owner will pay for all water supply for all purposes of construction at a location to be designated at the site. Extensions within the site shall be provided by the Contractor and maintained in a safe and efficient manner.
5. Electrical:
 - a. The Owner will pay and the Contractor shall provide for all electrical facilities and services for all purposes of power and lighting for construction at a location to be designated at the site. Extensions within the site shall be provided by the Contractor and maintained in a safe and efficient manner.

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- 1) The Contractor shall pay for cost of electrical energy required in connection with the testing of such equipment as generators, transformers, power machinery, and similar equipment installed in the work.
 - b. The Contractor will provide electrical energy to all subcontractors as required on or about the premises.
 - c. The Contractor will provide power outlets having adequate electrical characteristics and lighting of adequate intensity for the use of other contractors within reasonable distances from their needs and within a reasonable period of time after the other contractors have requested them.
 6. Heating:
 - a. Provide temporary heat required by construction activities, for curing or drying of completed installations or protection of installed construction from adverse effects of low temperatures or high humidity.
 - b. Select UL or FM approved equipment that will not have a harmful effect on completed installations or elements being installed.
 - 1) Except where use of the permanent heating system is authorized, provide temporary units that do not introduce moisture into the newly constructed building spaces.
 - 2) Use of gasoline-burning space heaters, open flame, or salamander type heating units is prohibited.
 - c. Coordinate ventilation requirements to produce the ambient condition required and minimize consumption of energy.
- C. Temporary Facilities:
 1. Support Facilities:
 - a. Offices and Storage:
 - 1) Provide temporary offices and storage facilities located within the construction area.
 - 2) Protect materials, construction work and their operations from weather, vandalism, and theft.
 - b. Sanitary Facilities:
 - 1) The Owner's sitework contractor shall supply self-contained toilets and wash station.
 - c. Temporary Roads and Paved Areas:
 - 1) Construct and maintain temporary roads and paved areas adequate for construction operations and fire protection during construction.
 - d. Traffic Controls:
 - 1) Implement procedures and measures outlined in the local jurisdiction's approved Traffic Control Plan.
 - 2) Maintain access for fire-fighting equipment and access to fire hydrants.
 - 3) Conduct work and comply with applicable building codes and regulations regarding the use of public streets and sidewalks and the proper barricading and lighting of public thoroughfares surrounding the construction activities.
 - 4) Provide and maintain access as required to perform work.
 - 5) Repair all damage as a result of work performed on the project to adjacent roads, streets, drives and walks. Restore to condition as good as existed at commencement of the Work.
 2. Protection Facilities:
 - a. Existing Facilities:
 - 1) Protect existing vegetation, equipment, structures, utilities, and other improvements at project site and on adjacent properties, except those indicated to be removed or altered. Damage occurring during the course of construction shall be repaired to condition at the start of the Work.
 - b. Environmental:

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- 1) Provide protection, operate temporary facilities, and conduct construction as required to comply with environmental regulations and that minimize possible air, waterway, and subsoil contamination or pollution or other undesirable effects.

3.4 **CLEANING**

A. Clean in accordance with Specification Section – PROJECT CLOSEOUT.

1. At all times, keep the premises free from accumulations of waste materials or rubbish caused by employees or the Work.
2. Clean all soiled surfaces to remain immediately.
3. At the completion of the Work, remove all rubbish from and about the building and all tools, scaffolding, and surplus materials and shall leave the Work "broom clean" or its equivalent.

END OF SECTION

SECTION 01 71 23 – FIELD ENGINEERING

PART 1 - GENERAL

1.1 SUMMARY

- A. This section includes the following: Section includes requirements governing execution of the work including, but not limited to, the following:
 - a. Construction layout
 - b. Field engineering and surveying
- B. Related Sections: The following Project Manual Sections contain requirements that relate to this section:
 - 1. DIVISION 00 SPECIFICATION SECTIONS
 - 2. DIVISION 01 SPECIFICATION SECTIONS
 - 3. SPECIFICATION SECTIONS IN THE FACILITY CONSTRUCTION SUBGROUP.

1.2 SUBMITTALS

- A. Submit in accordance with specification section – SUBMITTAL PROCEDURES:
 - 1. Quality Assurance/Control Submittal:
 - a. Qualification Data for Civil Engineer/Surveyor.
 - b. Final Certificate of Survey Compliance.
 - 2. Closeout Submittals in accordance with the following:
 - a. As-built Survey Drawing(s).
 - b. Project "Record" Survey Drawing.

1.3 QUALITY ASSURANCE

- A. Qualifications:
 - 1. Civil Engineer/Surveyor Qualifications:
 - a. A professional Civil Engineer or Land Surveyor who is licensed to practice in the State of California.
 - b. Has successfully completed three (3) projects of similar scope and size to that indicated for this project.
- B. Regulatory Requirements:
 - 1. In accordance with:
 - a. CARB Materials and equipment used for this project shall comply with the current applicable regulations of the California Air Resources Board and the Environmental Protection Agency (EPA), in the area where the project is located.
 - b. CF County of Fresno, codes and ordinances.
- C. Certificates:
 - 1. Final Certificate of Survey Compliance:
 - a. Provide certification letter on contractor's letterhead stating the project complies with the requirement of the contract documents at the completion of all above ground improvements and finish grading.
- D. Meetings:
 - 1. Pre-Installation: Scheduled by the Contractor prior to the start of work.
 - a. Coordinate the work with all other related work.
 - b. Identify any potential problems, which may impede planned progress and proper installation of work regarding quality of installation and warranty requirements.
 - 2. Progress: Scheduled by the Contractor during the performance of the work.

- a. Review for proper installation of work progress.
 - b. Identify any installation problems and acceptable corrective measures.
 - c. Identify any measures to maintain or regain project schedule if necessary.
3. Completion: Scheduled by the Contractor upon proper completion of the work.
 - a. Inspect and identify any problems which may impede issuance of warranties or guaranties.
 - b. Maintain installed work until the Notice of Substantial Completion has been filed.

1.4 PROJECT CONDITIONS OR SITE CONDITIONS

A. Existing Conditions:

1. Examine site and compare it with the drawings and specifications. Thoroughly investigate and verify conditions under which the work is to be performed. No allowance will be made for extra work resulting from negligence or failure to be acquainted with all available information concerning conditions necessary to estimate the difficulty or cost of the work.

PART 2 - PRODUCTS

NOT APPLICABLE

PART 3 - EXECUTION

3.1 EXAMINATION

A. Existing Conditions:

1. The existence and location of underground utilities indicated as existing are not guaranteed. Before beginning sitework, investigate and verify the existence, location, and elevation of all underground utilities and other construction affecting the Work.
 - a. Call a local utility locator service (such as USA – "Underground Service Alert") for the task of locating any project related utilities.
 - b. Verify the location and invert elevation at points of connection of sanitary sewer system and storm drainage system.
 - c. Accurately document vertical and horizontal measurements and elevations uncovered or verified.

B. Coordination:

1. Before proceeding to lay out the Work, verify layout information shown on the drawings in relation to the property survey, topographic survey, and existing benchmarks.
2. Drawings have been provided showing improvements and underground systems for foundations, storm drainage, sewer, water, gas, mechanical lines, electrical lines, and site improvements. Coordinate and verify the accuracy of the drawing locations and elevations as they relate to each other, with existing utility lines, and building pad earthwork zones of influence.
3. Coordinate Layout of Work performed under other sections of the Specifications.
4. If layout conflicts are encountered, report to Architect and then prepare recommendation(s) for correction.
5. Close and careful coordination is required between work of the Contract and that of any future work to follow.

3.2 PREPARATION

A. Existing Utility Information:

1. Furnish information to public utilities that is necessary to adjust, move, or relocate existing utility structures, utility poles, lines, services, or other utility appurtenances located in or affected by construction. Coordinate with authorities having jurisdiction.

3.3 CONSTRUCTION

A. Layout of Work:

1. Engage a Civil Engineer/Surveyor to Layout the Work using accepted surveying practices and be responsible for all reference points, benchmarks, lines, elevations, and measurements required for Work under this Contract.
2. Reference points:
 - a. Locate existing permanent benchmarks, control points, and similar reference points before beginning the work.
 - b. Do not change or relocate existing benchmarks or control points without approval of the Architect.
 - c. Replace lost or destroyed permanent benchmarks and control points. Base replacements on the original survey control points.
3. Benchmarks:
 - a. Establish and maintain a minimum of two (2) permanent benchmarks on the project site, referenced to data established by survey control points.
 - b. Where the actual location or elevation of layout points cannot be marked, provide temporary reference points sufficient to locate the Work.
 - c. Use established benchmarks and control points to set lines and levels at each floor of construction and elsewhere as needed to locate each element of the Project.
4. Locate construction access to site parking, storage areas, and temporary facilities and controls.
5. Locate and layout control lines and levels for structures, foundations, column and wall grids, and floor levels including those required for mechanical and electrical work. Transfer survey markings and elevations for use with control lines and levels.
 - a. Level foundations and piers from two or more locations.
6. Locate and layout site improvements, including grading, fill and topsoil placement, utility slopes, and rim and invert elevations.
7. Inform installers of lines and levels to which they must comply.
8. Check the location, level, and plumb of every major element as the Work progresses.
9. Remove temporary reference points when no longer needed. Restore marked construction to its original condition.

3.4 FIELD QUALITY CONTROL

- A. Maintain a log of layout control work. Record deviations from required lines and levels. Include beginning and ending dates and times of surveys, weather conditions, name and duty of each survey party member, and types of instruments and tapes used. Make the log available for reference by the Inspector and Architect.
- B. Maintain As-built Survey Drawing(s) of all underground, surface, and above ground improvements and grades with measurements for both vertical and horizontal dimensions.
 1. Record all addendum and issued change documents.
 2. Upon project completion stamp and sign As-built Survey Drawing(s).

- C. Check documented measurements and elevations at completion of building pads and underground utilities against contract documents. The Contractor shall correct out of compliance Work before proceeding with the next element of Work. As-built Survey Drawing(s) shall be current. When all Work at this stage is in compliance with the contract documents, issue the Intermediate Certificate of Survey Compliance.
- D. Check documented measurements and elevations at completion of finish grading and site improvements, except for landscape and irrigation work, against contract documents. The Contractor shall correct out of compliance Work before proceeding with the next element of Work. As-built Survey Drawing(s) shall be complete. When all Work at this stage is in compliance with the contract documents, issue the Final Certificate of Survey Compliance.
- E. The Civil Engineer/Surveyor shall prepare Project "Record" Survey Drawing.
 - 1. The Project "Record" Survey Drawing shall contain all of the vertical and horizontal measurements and elevations of reference points, benchmarks, utility lines, grade contours, grade breaks, building floors, major vegetation, and sitework improvements.
 - 2. The Project "Record" Survey Drawing shall be stamped and signed by the qualified Civil Engineer/Surveyor.
 - 3. The As-built Survey Drawing(s) shall be used in preparation of the Project "Record" Survey Drawing.

3.5 PROTECTION

- A. Preserve and protect permanent benchmarks, control points, reference points, and staking during construction operations.

END OF SECTION

SECTION 01 73 29 – CUTTING AND PATCHING

PART 1 - GENERAL

1.1 SUMMARY

- A. This Section includes the following:
 - 1. Provide all material, labor, equipment and services necessary for cutting and patching existing materials, accessories and other related items necessary to remodel the Project as indicated by the Contract Documents.
- B. Related Sections: The following Project Manual Sections contain requirements that relate to this section:
 - 1. DIVISION 00 SPECIFICATION SECTIONS.
 - 2. DIVISION 01 SPECIFICATION SECTIONS.
 - 3. SPECIFICATION SECTIONS IN THE FACILITY CONSTRUCTION SUBGROUP.

1.2 DEFINITIONS

- A. Cutting: Removal of existing construction necessary to permit installation or performance of Work.
- B. Patching: Fitting and repair work required to restore surfaces to original conditions after installation of Work.

1.3 SUBMITTALS

- A. Submit in accordance with Specification Section - SUBMITTAL PROCEDURES:
 - 1. Coordination Drawings:
 - a. Submit any installer's coordination drawings indicating the work of this section with that of related work of other sections for proper interface of the completed work. Installer shall coordinate and obtain approvals from the work of other related sections prior to submitting to the Architect.

1.4 QUALITY ASSURANCE

- A. Cutting and Patching Conference: Before proceeding, meet at Project site with parties involved in cutting and patching, including mechanical and electrical trades.
 - 1. Review areas of potential interference and conflict.
 - 2. Coordinate procedures and resolve potential conflicts before proceeding.
- B. Structural Elements: Do not cut and patch structural elements in a manner that could change their load-carrying capacity or load-deflection ratio.
- C. Operational Elements: Do not cut and patch operating elements and related components in a manner that results in reducing their capacity to perform as intended or that results in increased maintenance or decreased operational life or safety.
- D. Visual Requirements: Do not cut and patch construction in a manner that results in visual evidence of cutting and patching. Do not cut and patch construction exposed on the exterior or in occupied spaces in a manner that would, in Architect's opinion, reduce the building's aesthetic qualities. Remove and replace construction that has been cut and patched in a visually unsatisfactory manner.

- E. The Contractor shall do all cutting, fitting or patching of existing construction and his work as may be required to make the several parts come together properly and ready to receive or be received by work of other contractors as shown, or reasonably implied by the drawings and specifications for the completed structure. All work shall be as directed by the Architect to achieve the intended work and degree of finish shown.
- F. Any cost caused by defective or ill-timed work shall be borne by the party responsible therefor.

1.5 WARRANTY

- A. Existing Warranties: Remove, replace, patch, and repair materials and surfaces cut or damaged during cutting and patching operations, by methods and with materials so as not to void existing warranties.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. General: Comply with requirements specified in other Sections of these Specifications.
- B. Existing Materials: Use materials identical to existing materials. For exposed surfaces, use materials that visually match existing adjacent surfaces to the fullest extent possible.
 - 1. If identical materials are unavailable or cannot be used, use materials that, when installed, will match the visual and functional performance of existing materials.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine surfaces to be cut and patched and conditions under which cutting and patching are to be performed.
 - 1. Compatibility: Before patching, verify compatibility with and suitability of substrates, including compatibility with existing finishes or primers.
 - 2. Proceed with installation only after unsafe or unsatisfactory conditions have been corrected.

3.2 PREPARATION

- A. Temporary Support: Provide temporary support of Work to be cut.
- B. Protection: Protect existing construction during cutting and patching to prevent damage. Provide protection from adverse weather conditions for portions of Project that might be exposed during cutting and patching operations.
- C. Adjoining Areas: Avoid interference with use of adjoining areas or interruption of free passage to adjoining areas.
- D. Existing Services: Where existing services are required to be removed, relocated, or abandoned, bypass such services before cutting to avoid interruption of services to occupied areas.

3.3 FIELD QUALITY CONTROL

- A. General: Employ skilled workers to perform cutting and patching. Proceed with cutting and patching at the earliest feasible time, and complete without delay.
 - 1. Cut existing construction to provide for installation of other components or performance of other construction, and subsequently patch as required to restore surfaces to their original condition.

- B. Cutting: Cut existing construction by sawing, drilling, breaking, chipping, grinding, and similar operations, including excavation, using methods least likely to damage elements retained or adjoining construction. If possible, review proposed procedures with original Installer; comply with original Installer's written recommendations.
1. In general, use hand or small power tools designed for sawing and grinding, not hammering and chopping. Cut holes and slots as small as possible, neatly to size required, and with minimum disturbance of adjacent surfaces. Temporarily cover openings when not in use.
 2. Existing Finished Surfaces: Cut or drill from the exposed or finished side into concealed surfaces.
 3. Concrete or Masonry: Cut using a cutting machine, such as an abrasive saw or a diamond-core drill. **Do not overcut concrete corners** – hand chip all corners to prevent over-cutting lines. Cut any masonry pavers at grout lines, and **don't overcut** into adjacent brick that is to remain.
 4. Excavating and Backfilling: Comply with requirements in applicable Division 2 Sections where required by cutting and patching operations.
 5. Mechanical and Electrical Services: Cut off pipe or conduit in walls or partitions to be removed. Cap, valve, or plug and seal remaining portion of pipe or conduit to prevent entrance of moisture or other foreign matter after cutting.
 6. Proceed with patching after construction operations requiring cutting are complete.
- C. Grinding and Sandblasting: Where grinding and sandblasting is required of existing construction, perform in accordance with industry standards for proper preparation of new construction or finishes.
- D. Patching: Patch construction by filling, repairing, refinishing, closing up, and similar operations following performance of other Work. Patch with durable seams that are as invisible as possible. Provide materials and comply with installation requirements specified in other Sections of these Specifications.
1. Inspection: Where feasible, test and inspect patched areas after completion to demonstrate integrity of installation.
 2. Exposed Finishes: Restore exposed finishes of patched areas and extend finish restoration into retained adjoining construction in a manner that will eliminate evidence of patching and refinishing.
 - a. All hard paving and walk replacement shall be flush with adjacent existing construction. Compact existing subgrade so that there is no settling of adjacent horizontal surfaces greater than 1/4", and that all surfaces are ADA compliant.
 - b. When altering surfaces in brick paving, match nearby adjacent horizontal concrete surfaces in color and texture. Take care to protect adjacent brick surfaces from concrete slurry and finishing operations. Clean exposed surfaces of brick immediately so that no signs of adjacent concrete work is seen.
 - c. Match existing adjacent exposed aggregate concrete paving (color and texture) when construction is proposed for areas paved with exposed aggregate concrete.
 - d. Match existing adjacent colored concrete paving (color and texture) when construction is proposed for areas paved with colored concrete.
 3. Floors and Walls: Where walls or partitions that are removed extend one finished area into another, patch and repair floor and wall surfaces in the new space. Provide an even surface of uniform finish, color, texture, and appearance. Remove existing floor and wall coverings and replace with new materials, if necessary, to achieve uniform color and appearance.
 - a. Where patching occurs in a painted surface, apply primer and intermediate paint coats over the patch and apply final paint coat over entire unbroken surface containing the patch. Provide additional coats until patch blends with adjacent surfaces.

4. Ceilings: Patch, repair, or rehang existing ceilings as necessary to provide an even-plane surface of uniform appearance.
 5. Exterior Building Enclosure: Patch components in a manner that restores enclosure to a weathertight condition.
- E. Insert specific installation requirements if not specified elsewhere. Specific installation requirements are better specified in individual Sections.

END OF SECTION

SECTION 01 74 19 – CONSTRUCTION WASTE MANAGEMENT AND DISPOSAL

PART 1 - GENERAL

1.1 SUMMARY

- A. This section includes the following:
 - 1. Requirements governing execution of the work including, but not limited to, the following:
 - a. Salvaging non-hazardous demolition waste.
 - b. Recycling non-hazardous construction and demolition waste.
 - c. Disposing of non-hazardous construction and demolition waste.
- B. Related Sections: The following Project Manual Sections contain requirements that relate to this section:
 - 1. DIVISION 00 SPECIFICATION SECTIONS
 - 2. DIVISION 01 SPECIFICATION SECTIONS
 - 3. SPECIFICATION SECTIONS IN THE FACILITY CONSTRUCTION SUBGROUP

1.2 DEFINITIONS

- A. Construction Waste: Building and site improvement materials and other solid waste resulting from construction, modernization, remodeling, renovation, or repair operations. Construction waste includes packaging.
- B. Demolition Waste: Building and site improvement materials resulting from selective demolition and site operations.
- C. Disposal: Removal off-site of construction and demolition waste and subsequent sale, recycling, reuse, or deposit in landfill acceptable to authorities having jurisdiction.
- D. Recycle: Recovery of construction or demolition waste for subsequent processing in preparation for reuse.
- E. Salvage: Recovery of construction or demolition waste and subsequent sale or reuse in another facility.

1.3 SYSTEM DESCRIPTION

- A. Performance Requirements
 - 1. General:
 - a. Achieve end-of-project rate for salvage/recycling of minimum 75 percent by weight of total non-hazardous construction and demolition waste generated by the Work.
 - b. Practice efficient waste management in the use of materials in the course of the Work.
 - c. Use all reasonable means to divert construction demolition waste from landfills and incinerators.

1.4 SUBMITTALS

- A. Submit in accordance with Specification Section – SUBMITTAL PROCEDURES:
 - 1. Quality Assurance/Control Submittal:
 - a. Waste Management Plan.
 - b. Waste Management Progress Reports.

1.5 QUALITY ASSURANCE

A. Regulatory Requirements:

1. In accordance with Specification Section - REGULATORY REQUIREMENTS and the following:
 - a. CARB Materials and equipment used for this project shall comply with the current applicable regulations of the California Air Resources Board and the Environmental Protection Agency (EPA), in the area where the project is located.
 - b. CAL/OSHA California Division of Occupational Safety and Health Administration.
 - c. CF County of Fresno, codes and ordinances.
 - d. EPA Environmental Protection Agency.

B. Waste Management Plan:

1. Prior to commencing the Work, submit Waste Management Plan. The Plan must include, but not limited to, the following:
 - a. Contractor's name and project identification information.
 - b. Procedures to be implemented.
 - c. Materials to be salvaged, recycled, or disposed.
 - d. Estimated quantities of material broken down by material categories.
 - e. Names and locations of entities who receive salvaged and recycled materials.
 - f. Tonnage calculations that demonstrate that the Contractor will salvage, re-use, or recycle the minimum percentage by weight of the construction and demolition waste materials generated by the Work.

C. Waste Management Progress Reports:

1. Submit the Report with each application for progress payment.
 - a. Failure to submit the Report and its supporting documentation can render the application for progress payment incomplete and delay the progress payment.
2. Each Report must include, but not limited to, the following:
 - a. List of material categories.
 - b. Weight quantity of waste by material category.
 - c. Weight quantity of waste salvaged.
 - d. Weight quantity of waste recycled.
 - e. Total weight quantity of salvaged and recycled waste by material category.
 - f. Weight percentage of waste salvaged and recycled by material category.
 - g. Include manifests, weight tickets, receipts, and invoices specifically identifying the salvaged, reused, and recycled materials.
 - h. Signature line for Contractor.

D. Meetings:

1. Pre- Demolition.....Schedule prior to the start of work.
 - a. Coordinate the work with other work being performed.
 - b. Identify any potential problems, which may impede the proper disposal of materials.
 - c. Review areas where waste and recycle bins will be located.
 - d. Review where salvaged materials will be stored.
 - e. Review demolition waste disposal and material recycling procedures and environmental goals per Waste Management Plan with all subcontractors and waste haulers.
2. Progress:.....Scheduled by the Contractor during the performance of the work.
 - a. Review for maintaining proper procedures.
 - b. Inspect and identify any problems and acceptable corrective measures.
3. Completion:.....Scheduled by the Contractor upon proper completion of the work.
 - a. Inspect and identify any problems.

- b. Submit final Progress Report summarizing total construction and demolition waste weights, percentages salvaged, recycled, and disposed.

1.6 DELIVERY, STORAGE, AND HANDLING

- A. Cleaning, handling, and packing:
 - 1. Salvaged Items shall be handled in such a manner as to assure that they are free from damage.
 - 2. Salvaged Items shall be cleaned and packed or cleaned and palletized before off-site transport.
- B. Storage and protection
 - 1. Salvaged Items shall be stored in a dry, protected area prior to transport.
 - 2. Cover with protective waterproof covering providing for adequate air circulation and ventilation.

1.7 PROJECT CONDITIONS

- A. Environmental requirements;
 - 1. Comply with federal, state, and local regulations pertaining to solid waste, recycling, chemical waste, sanitary waste, and noise pollution.
 - 2. Perform work in a manner as to minimize the spread of dust and flying particles.
 - 3. No burning will be allowed on-site.
- B. Existing conditions:
 - 1. Examine project site and building(s) and compare it with the drawings and specifications. Thoroughly investigate and verify conditions under which the work is to be performed. No allowance will be made for extra work resulting from negligence or failure to be acquainted with all available information concerning conditions necessary to estimate the difficulty or cost of the work.
 - 2. Conduct work so as not to interfere unnecessarily with adjacent buildings, roads, streets, drives, and walks.
 - a. Do not close or obstruct streets, alleys, walks, or passageways without permission from authorities having jurisdiction and coordinating same with immediate neighbors whose business operation may be affected.
 - b. Safety measures shall be taken to insure an uninterrupted flow of traffic around the site as required by local Police and Fire Departments.
 - 3. Storage or sale of removed items on-site is not permitted.
 - 4. It is not expected that hazardous materials will be encountered in the Work.
 - a. If suspected hazardous materials are encountered, do not disturb; immediately notify Architect and Owner.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. Furnish all materials, tools, equipment, facilities, and services as required for performing the construction and demolition waste disposal work.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Verification of conditions:

1. Report unacceptable conditions to the Architect. Do not begin work until unacceptable conditions have been corrected.
2. Execution of work under this specification section shall constitute acceptance of existing conditions.
3. Obtain all necessary permits and authorizations by regulatory agencies required to perform the Work under this Section.

3.2 PREPARATION

A. Coordination:

1. Before proceeding, verify plans match existing conditions.
2. Review documents of existing construction provided by Owner against existing conditions.
3. If conflicts are encountered, report it to the Architect. Then prepare recommendation(s) for correction and submit to Architect for review.
4. Coordinate work under this specification section with work specified under other sections.

B. Protection:

1. Property:
 - a. Provide temporary weather protection to prevent damage to salvage and recycled items.
 - b. All damage inflicted on public and private property and the property of the Owner shall be repaired or restored to the original condition prior to the start of this Work. All repair or replacement work shall be done at no additional cost to the owner.

3.3 IMPLEMENTATION

A. General:

1. Implement waste management plan as submitted.
2. Provide handling, containers, storage, signage, transportation, and other items as required to implement waste management plan during the entire duration of the contract.
3. Designate and label specific areas on project site necessary for separating materials that are to be salvaged, recycled, reused, and donated.

B. Demolition Waste:

1. Salvaged items for delivery to Owner or other entity:
 - a. Clean salvaged items.
 - b. Pack or crate items after cleaning. Identify contents of containers.
 - c. Store items in a secure area until pick-up or delivery to Owner.
 - d. Transport item to Owner's storage area [on-site][off-site][list address].
 - e. Protect items from damage during transport and storage.
2. Salvaged items for reuse in the work:
 - a. Clean salvaged items.
 - b. Store items in a secure and dry area until ready for installation.
3. Recyclable materials:
 - a. Prepare and maintain recyclable waste materials according to recycling facility requirements.

- b. Maintain materials free of dirt, adhesives, solvents, petroleum contamination, and other substances deleterious to the recycling process.
- c. Separate recyclable demolition waste from other waste materials. Separate recyclable waste by material type at project site to the maximum extent practical according to approved waste management plan.
- d. Separate recyclable demolition waste from other waste materials. All recyclables may be co-mingled into one bin and separated off-site at the appropriate recycling facility.
 - 1) Provide appropriately marked containers or bins for controlling recyclable waste until they are removed from the project site.
 - 2) Include a list of acceptable and unacceptable materials at each container or bin.
 - 3) Inspect containers and bins for contamination and remove contaminated materials if found.
 - 4) Processed materials stockpiled on site shall not be mixed with other materials. Shape stockpiles to drain surface water. Cover stockpiles to prevent windblown dust.
 - 5) Processed material shall be stockpiled away from construction. Do not stockpile within drip line of remaining trees.
- e. Remove recyclable demolition waste off project property and transport to recycling receiver or processor.
- f. The following list is of common material types which can be recycled. The list of material types is in no way complete but is representative of materials that can be sorted and recycled as per the intent of this specification section.
 - 1) Concrete: Remove reinforcement and other metals from concrete and sort with other metals.
 - 2) Wood: Sort and stack members according to size, type, and length of member.
 - 3) Metals: Separate metal by type. Stack structural steel members according to size and length. Remove bolts, nuts, washers, and other hardware from members.
 - 4) Gypsum Board: Stack large clean pieces on wood pallets in a dry location. Remove edge trim and sort with other metals.
 - 5) Acoustical Ceiling Tile: Stack large clean pieces on wood pallets in a dry location.
 - 6) Metal Suspension System: Separate metal members including trim and other metals from acoustical ceiling tile and sort with other metals.
 - 7) Carpet: Roll large pieces tightly after removing debris, trash, adhesive, and any tack strips. Store carpet in a dry location.
 - 8) Piping: Reduce piping to straight lengths and store by type and size. Separate supports, hangers, valves, sprinklers, and other components by type and size.
 - 9) Conduit: Reduce conduit to straight lengths and store by type and size.
- 4. Site clearing waste:
 - a. Excavated soil not recycled and reused on-site shall be removed to an off-site recycling location or disposed of at a landfill that accepts inert material.
- C. Construction Waste:
 - 1. Recyclable materials:
 - a. Prepare and maintain recyclable waste materials according to recycling facility requirements.
 - b. Maintain materials free of dirt, adhesives, solvents, petroleum contamination, and other substances deleterious to the recycling process.

- c. Recycle paper and beverage containers used by on-site workers.
 - d. Separate recyclable construction waste from other waste materials. Separate recyclable waste by material type at project site to the maximum extent practical according to approved waste management plan.
 - e. Separate recyclable construction waste from other waste materials. All recyclables may be co-mingled into one bin and separated off-site at the appropriate recycling facility.
 - 1) Provide appropriately marked containers or bins for controlling recyclable waste until they are removed from the project site.
 - 2) Include a list of acceptable and unacceptable materials at each container or bin.
 - 3) Inspect containers and bins for contamination and remove contaminated materials if found.
 - f. Remove recyclable construction waste off project property and transport to recycling receiver or processor.
 - g. The following list is of common material types which can be recycled. The list of material types is in no way complete but is representative of materials that can be sorted and recycled as per the intent of this specification section.
 - 1) Cardboard Packaging: Breakdown into flat sheets. Bundle and store in a dry place.
 - 2) Polystyrene Packaging: Separate and bag materials.
 - 3) Pallets: As much as possible, require deliveries using pallets to remove pallets from the project site. For pallets that remain on-site, breakdown pallets into component wood pieces and comply with requirements for recycling wood.
 - 4) Crates: Break down crates into component wood pieces and comply with requirements for recycling wood.
 - 5) Wood: Clean Cut-Offs of lumber and grind or chip into small pieces.
 - 6) Gypsum Board: Stack large clean pieces on wood pallets in a dry location.
- D. Disposal of Waste:
- 1. Except for items or materials to be salvaged, recycled, or otherwise reused remove and transport waste materials from project site and legally dispose of them in a manner acceptable to authorities having jurisdiction.
 - 2. Do not allow waste material to accumulate on site.
 - 3. Transport waste in a manner that will prevent spillage on adjacent surfaces and areas.

3.4 CLEANING

- 1. Clean in accordance with Specification Section – PROJECT CLOSEOUT:
 - a. Immediately clean any soiled surfaces to remain.

END OF SECTION

SECTION 01 77 20 – PROJECT CLOSEOUT

PART 1 - GENERAL

1.1 SUMMARY

- A. This Section includes the following:
 - 1. Provide all material, labor, equipment and services necessary to completely install all materials, accessories and other related items necessary to complete the Project as indicated by the Contract Documents.
- B. Related Sections: The following Project Manual Sections contain requirements that relate to this section:
 - 1. DIVISION 00 SPECIFICATION SECTIONS.
 - 2. DIVISION 01 SPECIFICATION SECTIONS.
 - 3. SPECIFICATION SECTIONS IN THE FACILITY CONSTRUCTION SUBGROUP.
- C. Work Included:
 - 1. Project cleanup and coordination of all cleaning work required under all sections of this specification.
 - 2. Collection of and processing for delivery to the Architect of all Project Record Drawings required under this and other various Sections of the Specifications.
 - 3. Compile and assemble all required documents, operation data, maintenance manuals, and parts lists for all equipment items provided for this project.
 - 4. Start-up of all mechanical, electrical, and miscellaneous equipment items; and adjustment required for the performance specified.
 - 5. Compile and assemble all guarantees, warranties, or other written documentation to establish the requirements outlined under all sections of this specification.
 - 6. Repair and touch-up on all items damaged during the construction and handling processes.
 - 7. Furnish maintenance material and spare parts as specified.
 - 8. Deliver to the Architect all assembled copies of those items required in Articles 1 through 7 above for presentation to the Owner.
- D. It shall be the responsibility of the Contractor to provide all labor and materials necessary to achieve completion of the items listed under Paragraph A, B and C above, although certain items may be specified under the work of other trades. Periodic removal of debris, cleaning, repair, and testing of times in various areas of the construction site shall be carried out under the direction of the Contractor.

1.2 SUBMITTALS

- A. Submit:
 - 1. Quality Assurance/Control Submittals:
 - a. Design Data.
 - 1) All design data as required by the Contract Documents.
 - b. Test Reports:
 - 1) Submit four (4) copies of reports.
 - 2) Submit four (4) copies of reports required by regulatory requirements.
 - 3) Submit four (4) copies of ICC Evaluation Service Report.

- 4) Submit four (4) copies of Testing Laboratory's report.
 - 5) All other Test Reports as required by the Contract Documents.
- c. Certificates:
 - 1) Submit three (3) copies of certificates.
- d. Manufacturer's Instructions:
 - 1) Submit three (3) copies of manufacturer's instructions.
- e. Manufacturer's Field Reports:
 - 1) Submit three (3) copies of manufacturer's field reports.
- f. Engineering Calculations:
 - 1) Submit four (4) copies of engineering calculations computed and signed by a registered Civil or Structural Engineer in the State of California.
2. Closeout Submittals in accordance with Specification Sections in Division One:
 - a. Maintenance Data in accordance with Specification Section - PROJECT CLOSEOUT.
 - b. Operation Data in accordance with Specification Section - PROJECT CLOSEOUT.
 - c. Warranty in accordance with Specification Section - WARRANTIES.
3. Project Record Documents:
 - a. Various Sections of the detailed specifications require Project Record Drawings to be prepared by the Contractor(s). These drawings shall be collected by the Contractor, checked for conformance to the specific requirements, and when completed, delivered to the Architect. The Contractor shall also be responsible for collecting bound operating and maintenance manuals required of all trades supplying equipment, and for delivering them to the Architect.
4. Documents Required for Project Certification
 - a. Compile and neatly assemble with indexed and labeled tabs, three (3) sets of the required documents for project certification by the State Agencies. The required documents include, but are not limited to, the following:
 - 1) Document Required List "Form" for Project Certification ORS-6.
 - a) This document shall be used to organize and index the required documents.
 - 2) Project Information "Forms":
 - a) Project Site Inspector(s) SSS-5.
 - b) In-Plant Inspector(s), SSS-5.
 - c) Contract Information DSA-102.
 - 3) Final Verified Report "Forms" from the Architect and Engineers:
 - a) Architect's Final Verified Report DSA-6A/E.
 - 4) Final Verified Report "Forms" from the Contractor(s) and Inspector(s):
 - a) Project Site Inspector(s) Final Verified Report DSA-6.
 - b) Contractor(s) Final Verified Report DSA-6.
 - c) In-Plant Inspector(s) Final Verified Report DSA-6.
 - d) Special Inspector(s) Final Verified Report DSA-6.
 - 5) Other Final Verified Reports and Affidavits for:
 - a) Laboratory - To be signed by Licensed Professional Engineer.
 - b) Shop Welding and Fabrication - To be signed by AWS/CWI Welding Inspector
 - c) Field Welding - To be signed by AWS/CWI Welding Inspector
 - d) High Strength Bolt Installation
 - e) Glu-Laminated Fabrication
 - f) Manufactured Trusses
 - 6) Notices, Certificates, and Change Orders

- a) Notice of Completion - Signed by the Owner, Notarized and recorded with the County Recorders Office.
- b) Weighmaster Certificate(s)
- c) Automatic Fire Sprinkler System
- d) Fire Alarm System Components
- e) Change Orders - Signed and fully executed.
- f) Other documents and/or requirements required by the State Agencies
- 7) Field Visit Reports, Correction Reports, Punch Lists & Final Review Reports
 - a) Field Visit Reports from State Agencies
 - b) Field Visit Reports from Architect and Engineers
 - c) Inspector's Correction Reports
 - d) Contractor Punch Lists
 - e) Architect, Engineers and Owner Final Review Reports
 - f) A jointly signed and notarized Affidavit from the Contractor and Project Inspector (formerly the Inspector of Record), indicating that any and all items of correction noted in the above documents have been corrected (including Testing Laboratory Reports).

1.3 QUALITY ASSURANCE:

- A. Safety, Fire and Environmental Protection, and Insurance standards shall be strictly adhered to in all phases of the construction work. It shall be the responsibility of the Contractor to determine the standards applicable to this project as set forth in all codes, regulations, and ordinances having jurisdiction, and as set forth elsewhere in the Specifications.
- B. All specific requirements stipulated in, or required by code references included under all sections of DIVISIONS 02 through 49 inclusive of this specification, and as detailed under Article 3.4 of this Section, shall be required under this Contract.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. Cleaning Materials:
 - 1. Use only those specified materials or types of materials recommended and approved by the manufacturer of the item to be cleaned.
- B. Touch-Up Materials:
 - 1. Use only those materials furnished by or as recommended and approved by the manufacturer of the item to be touched up. Colors and finish characteristics shall exactly match the base material and extra materials, labor, and services required to achieve this result shall be provided by the Contractor(s).
- C. Replacement Materials:
 - 1. Materials that are damaged and not repairable, or materials that are destroyed shall be replaced with equal and identical materials of the same manufacture and shall function in conjunction with the remaining portions of that material. Items no longer manufactured or available shall be replaced with comparable materials as approved by the Architect and at no additional cost to the Owner.

2. Materials that are required for maintenance replacement by the owner after the guarantee period has expired, or by the contractor during the guarantee period shall exactly match those materials installed as to make, style, color lot, etc., under this contract, and shall be delivered to the owner in marked, identified containers.
- D. Extra Materials:
1. Carefully examine the requirements of the applicable Sections of all DIVISIONS and specifically of DIVISION 09 and deliver the materials required to the Owner.

PART 3 - EXECUTION

3.1 REPAIR AND RESTORATION

- A. All damaged items shall be repaired and replaced as directed using proper materials and craftsmen skilled in that particular trade. Materials shall be as follows:
1. All repair or replacement parts shall be of the same equality and manufacturer as the item being repaired.
 2. All touch-up paint shall be as provided by the item manufacturer for that purpose and shall exactly match the original color and finish.

3.2 FIELD QUALITY CONTROL

- A. Final Reviews:
1. In addition to all items covered the Contractor shall comply with the requirements stated herein.
 - a. The Contractor shall request in writing a final review (see Contractor's Request for Final Review form at the end of this Specification Section).
 - 1) The Contractor shall allow a forty-eight (48) hour time period of advance notification prior to the requested date and time indicated on the Review Request form.
 - 2) The Contractor represents that the work has been carefully inspected by the Contractor to determine that the work is complete and in compliance with all requirements set forth.
 - b. The Contractor shall prepare and shall submit the initial Contractor's Punch List identifying the items that remain uncompleted forty-eight (48) hours prior to the scheduled final review by the Architect.
 - c. Under no circumstances shall the Contractor ask the Architect or his representative to make these determinations for him.
 2. The Architect shall review the initial Contractor's Punch List along with the Owner's Project Inspector, and determine together whether or not the Project is ready for final review. If approved, the Architect or its representative will make the final review on the date and time requested in the Contractor's Request for Final Review form, except under the following conditions:
 - a. Upon reviewing a portion of the Project and finding quantities of work incomplete or not in compliance, the review shall cease, and the Architect will notify the Contractor.
 - b. If the Contractor has assured the Architect of the completeness and/or accuracy of the work, and the review does not bear this contention out.
 3. The above conditions will be adhered to rigidly to prevent the Architect from being required to act as a supervisory agent of the Contractor by being asked to determine the degree of completion,.

- a. When the Contractor requests additional reviews, he shall reimburse the Architect for all time and expense incurred as indicated on the Contractor's Request for Final Review form at the end of this Specification Section.
 - b. The Architect is herein defined as any of those firms or individuals listed by references on the drawings, including all consultants identified herein.
 - c. All requests for Project Final Review (and re-review) shall be made in writing on the form provided at the end of this Specification Section.
4. When the Architect does approve of the degree of readiness for the Project based on the initial Contractor's Punch List and the readiness of the Project, the Architect will make his final review, adding to the Contractor's Punch List any other items that require further completion.
 5. The Contractor shall take the initial Contractor's Punch List, together with the Architect's Punch List, and initial and date each item on each list as to when it was completed.
 6. Once both lists are completed and signed by the Project Inspector, the Contractor shall submit to the Architect the completed lists for final review and approval prior to filing for Substantial Completion.

3.3 CLEANING

A. During Construction:

1. Oversee cleaning and ensure that building and grounds are maintained free from accumulations of waste materials and rubbish.
2. Sprinkle dusty debris with water.
3. At reasonable intervals during progress of work, clean up site and access and dispose of waste materials, rubbish, and debris.
4. Provide suitable containers and locate on site for collection of waste materials, rubbish, and debris.
5. Do not allow waste materials, rubbish and debris to accumulate and become an unsightly or hazardous condition.
6. Remove waste materials, rubbish and debris from the site and legally dispose of at public or private dumping areas off the Owner's property.
7. Vacuum clean interior building areas when ready to receive finish painting and continue vacuum cleaning on an as-needed basis until building is ready for acceptance or occupancy.
8. Lower waste materials in a controlled manner with as few handling as possible; do not drop or throw materials from heights.
9. Schedule cleaning operations so that dust and other contaminants resulting from cleaning process will not fall on wet, newly painted surfaces.

B. Final Cleaning:

1. Use experienced professional cleaners for final cleaning.
2. At completion of construction and just prior to acceptance or occupancy, conduct a final review of exposed interior and exterior surfaces.
3. Remove grease, dust, dirt, stains, labels, fingerprints, and other foreign materials from interior and exterior surfaces.
4. Repair, patch, and touch-up marred surfaces to match adjacent finishes.
5. Broom clean paved surfaces; rake clean other surfaces of grounds.
6. Replace air conditioning filters if units were operated during construction.
7. Clean ducts, blowers, and coils if air conditioning units were operated during construction.
8. Maintain cleaning until the building, or portion thereof, is accepted by the Owner.

3.4 DEMONSTRATION

- A. During Construction and as each piece of equipment is installed, provide the following tests:
 - 1. Verify that all external service connections have been properly completed, and that piping and/or wiring is properly sized, and contain all necessary safety devices.
 - 2. Verify that the equipment is free of shipping materials, tie downs, or other internal obstructions.
 - 3. Conduct tests employing the manufacturer's operating instructions as a sequential guide.
 - 4. Verify that all portions of the equipment function properly and that the total performance criteria is satisfied.
 - 5. Make adjustments, replacements, or repairs necessary to achieve full operational capability and repeat tests until performance is achieved and approval obtained.
- B. Prior to acceptance, verify that all conditions have been satisfied and that equipment is ready for continuous use. Provide the following services preparatory to acceptance:
 - 1. Clean or replace all filters and/or strainers.
 - 2. Adjust all belts and drive mechanisms.
 - 3. Lubricate all moving parts as required by manufacturer's operating instructions.
 - 4. Demonstrate to the Owner's representative and the Architect or Engineer the method and sequence of operation, and provide testing devices and/or data to verify that performance equals that specified.
 - 5. Provide operating instructions in bound form along with manufacturer's parts list and written warranties.

3.5 SCHEDULES

- A. See next page for Request for Final Review from the Contractor(s):

(The rest of this page is left intentionally blank)

**CONTRACTOR'S REQUEST
FOR
FINAL REVIEW FORM**

PROJECT: _____
(Name of Project and DA Project Number)

TO: **DARDEN ARCHITECTS, INC.**
6790 N. West Avenue
FRESNO, CA 93711

FROM: _____
(Contractor)

(Address)

WE HEREBY request Final Review on _____ **and** _____.
(Date) (Time)

WE HEREBY, request and certify:

1. The project is ready for Final Review.
2. The undersigned will compensate the Architect at a rate of \$176.00 an hour for further review, investigation and comments if it is determined that the Project is not ready for final review as indicated earlier within this Specification Section. The Architect is herein defined as any of those firms or individuals listed by reference on the Drawings, including all Consultants identified herein.

Submitted By (Contractor)

Signature _____
Firm _____
Address _____
Date _____
Telephone _____

Below is

for Use by Design Consultant only

___ Conditions for Final Review Accepted
___ Final Review Accepted as Noted
___ Final Review Not Accepted

By _____

Date _____

Remarks _____

END OF SECTION

SECTION 01 78 36 – WARRANTIES

PART 1 - GENERAL

1.1 SUMMARY

- A. In addition to providing all other warranties specified in the Project Manual and without affecting any rights of Owner under State or Federal law, Contractor shall warrant that the Work done under this Project Manual will be free from faulty materials or workmanship and hereby agrees, upon receiving notification from the Owner or his Agent, to immediately remedy, repair or replace, without cost to the Owners and to his entire satisfaction, all defects, damages or imperfections appearing in said work within a period of one (1) year unless specified otherwise, after date of final acceptance by the Owner of all work done under this Project Manual, regardless of whether or not the Owner or persons operating under contract with the Owner partially or wholly occupies any portion of the work prior to acceptance. For work performed after completion, the one (1) year period shall be extended by the period of time between the date of final acceptance by Owner and actual performance of the work. This obligation shall survive acceptance of the work and termination of the Contract.
1. Warranties shall be in the form outlined below and shall be submitted in duplicate to the Contractor and submitted on his own letterhead.
- B. Related Sections: The following Project Manual Sections contain requirements that relate to this section:
1. DIVISION 00 SPECIFICATION SECTIONS.
 2. DIVISION 01 SPECIFICATION SECTIONS.
 3. SPECIFICATION SECTIONS IN THE FACILITY CONSTRUCTION SUBGROUP.

1.2 SUBMITTALS

Warranty Form: (following page.)

(Contractor's Letterhead)

Project Number: _____

Project Name: _____

WARRANTY FOR

We hereby warrant and the General Contractor warranties that

has been done in accordance with the Drawings and the Specifications and that the Work as installed will fulfill the requirements of the warranty included in the Project Manual. We agree to repair, replace any or all of our work together with any other adjacent work which may be displaced or damaged by so doing that may prove to be defective in its workmanship or materials within a period of _____ years from date of acceptance of the above-named without any expense to the Owner, ordinary wear and tear and unusual abuse or neglect excepted. In the event of our failure to comply with above-mentioned conditions within ten (10) days after being notified in writing by the Owner or his agent, we collectively or separately, do hereby authorize the Owner to proceed to have said defects repaired and made good at our expense and we will honor and pay the costs and charges therefor upon demand.

(Signature of Subcontractor)

(Signature of Contractor)

Date: _____

- A. Submit 2 copies of all manufacturer's or installer/applicator's warranties and bonds as specified within Division 02 –49.
- B. Submit to Architect together with Project Record Documents.
- C. Accompany submittals with transmittal letter in duplicate.
- D. When Product Submittals are required, submit copy of warranty with product submittal.

PART 2 - PRODUCTS - NOT APPLICABLE

PART 3 - EXECUTION - NOT APPLICABLE

END OF SECTION

SECTION 01 78 39 – PROJECT DOCUMENTS

PART 1 - GENERAL

1.1 SUMMARY

- A. This Section includes the administrative and procedural requirements for Project Record Documents, including the following:
 - 1. Project As-Built Drawings.
 - 2. Project Record Drawings.
 - 3. Record Specifications.
 - 4. Record Product Data.
- B. Related Requirements:
 - 1. DIVISION 00 SPECIFICATION SECTIONS.
 - 2. DIVISION 01 SPECIFICATION SECTIONS.
 - 3. SPECIFICATION SECTIONS IN THE FACILITY CONSTRUCTION SUBGROUP.
 - 4. SPECIFICATION SECTIONS IN THE FACILITY SERVICES SUBGROUP.
 - 5. SPECIFICATION SECTIONS IN THE SITE AND INFRASTRUCTURE SUBGROUP.

1.2 DEFINITIONS

- A. CONTRACT DOCUMENTS: Contract Documents include Contract Forms, Project Manual (Contract Requirements and Specifications), Drawings, Addenda, Change Orders and Modification Documents (Supplemental Instructions, Request for Information, Construction Change Directives).
- B. PROJECT "AS-BUILT" DOCUMENTS: A set of Contract Documents used during construction for recording of actual construction information during construction. The recording of construction information shall be maintained on the Contract Drawings and in the Project Manual.
- C. PROJECT "RECORD" DOCUMENTS: A set of Contract Documents used at the completion of construction for transferring and documenting the actual construction information recorded on the PROJECT "AS-BUILT" DOCUMENTS.
- D. RECORD PRODUCT DATA: A set of Submittals and Shop Drawings that have documentation of field changes made after review.
- E. AGENCY DOCUMENTATION: Documents required by the Agency Having Jurisdiction to be prepared and submitted by the contractor.

1.3 SUBMITTALS:

- A. Submit the following in accordance with specification Section SUBMITTAL PROCEDURES.
- B. Format for Submittals:
 - 1. Accompany each submittal with a SHOP DRAWING AND SUBMITTAL TRANSMITTAL:
 - 2. PDF electronic file names shall match the Sheet Numbers of the Contract Documents.
 - 3. Provide labels on DVD's and DVD Cases and include the following:
 - 4. First Line: CLOSE-OUT DOCUMENTS
 - 5. If submittal contains multiple disks append to first line Disk, i.e. (1 of 2)
 - 6. Second Line: Project Name and Year
 - 7. Third Line: Architect Firm Name and Architect's Project Number
 - 8. Fourth Line: DSA or HCAI Number (if applicable)
 - 9. Fifth Line: Contractor Company Name
 - 10. PDF files for Project "Record" Documents and Record Product Data shall be combined with PROJECT CLOSEOUT, Maintenance Data and Operations Data, and WARRANTIES on a single set of DVD's.
- C. PROJECT "AS-BUILT" DOCUMENTS: Comply with the following:
 - 1. Number of Copies: Submit one paper-copy set of marked-up as-built drawings and one paper-copy of marked-up as-built specifications.

2. Clearly Label each copy "PROJECT 'AS BUILT' DOCUMENTS" in two-inch-high printed letters.
 - D. PROJECT "RECORD" DOCUMENTS: Comply with the following:
 1. Number of copies: Submit copies of the Record Documents as follows:
 - a. Initial Submittal:
 - 1) Submit one paper-copy of marked-up record drawings and one paper copy of marked-up record specifications,
 - 2) Alternatively, submit PDF electronic files of scanned marked-up record drawings and marked-up record specifications on one set of DVD's
 - 3) Architect will indicate whether general scope of changes, additional information recorded, and quality of drafting are acceptable.
 2. Final Submittal:
 2. Submit one paper-copy of marked-up record drawings, one paper copy of marked-up record specifications, and PDF electronic files of scanned marked-up record drawings and marked-up record specifications on three sets of DVD's.
 4. Each record drawing sheet shall be labeled, "PROJECT "RECORD" DOCUMENT.
 5. Print each drawing, whether or not changes and additional information were recorded.
 6. Clearly Label each copy "PROJECT "RECORD" DOCUMENTS in two-inch-high printed letters in a prominent location.
 - E. RECORD PRODUCT DATA: Comply with the following:
 1. Number of Copies:
 - a. Submit one paper-copy set of marked-up shop drawings.
 - b. Submit three DVD's of PDF electronic files of scanned marked-up shop drawings.
 - F. AGENCY DOCUMENTATION: Comply with the following:
 1. Submit Documentation Required by the Agency Having Jurisdiction utilizing the format and system established by the Agency.
- 1.4 SYSTEM DESCRIPTION
- A. The Architect considers the Project Record Documents to be of significant importance to the Owner.
 - B. Project Record Documents provide important information for the Owner's records, they form an invaluable record for future reference for concealed conditions, facilities management processes, and future additions and renovations.

PART 2 - PRODUCTS

- 2.1 General:
- A. All costs (including the time) required for recording, transferring, and copying all documentation shall be part of the Contractor's Overhead Expense.
 - B. Provide red pencil or ink (contrasting color) for all marking of the PROJECT "AS-BUILT DOCUMENTS, PROJECT "RECORD" DOCUMENTS, and RECORD PROJECT DATA.
 - C. Do not permanently conceal any work until required information has been recorded.
- 2.2 RECORD DRAWINGS
- A. PROJECT "AS-BUILT" DOCUMENTS: Maintain one set of marked-up paper copies of the Contract Drawings: and Specifications, incorporating new and revised drawings as modifications are issued.
 1. Preparation: Mark record prints to show the actual installation where installation varies from that shown originally. Require individual or entity who obtained record data, whether individual or entity is Installer, subcontractor, or similar entity, to provide information for preparation of corresponding marked-up record prints.
 - a. Give particular attention to information on concealed elements that would be difficult to identify or measure and record later.
 - b. Accurately record information in an acceptable drawing technique.
 - c. Record data as soon as possible after obtaining it.

- d. Record and check the markup before enclosing concealed installations.
2. Content: Types of items requiring marking include, but are not limited to, the following:
 - a. Elevation for finish grade for all points indicated on Site Grading Plan.
 - b. Depths of various elements of foundation in relation to first floor finish elevation.
 - c. Horizontal and vertical location of underground utilities and appurtenances referenced to visible and accessible features of structure.
 - d. Location of internal utilities and appurtenances concealed in construction referenced to visible and accessible features of structure.
 - e. Revisions to routing of piping and conduits.
 - f. Revisions to electrical circuitry.
 - g. Actual equipment locations.
 - h. Duct size and routing.
 - i. Locations of concealed internal utilities Field changes of dimensions and details.
 - j. Changes made by Addenda, Change Orders and other Modification Documents.
 - k. Details not on original Contract Documents.
 - l. Changes made on Shop Drawings.
3. Mark Specifications to indicate the actual product installation where installation varies from that indicated in Specifications, addenda, and contract modifications.
 - a. Give particular attention to information on concealed products and installations that cannot be readily identified and recorded later.
 - b. Mark copy with the proprietary name and model number of products, materials, and equipment furnished, including substitutions and product options selected.
 - c. Record the name of manufacturer, supplier, Installer, and other information necessary to provide a record of selections made.
 - d. For each principal product, indicate whether record Product Data has been submitted in operation and maintenance manuals instead of submitted as record Product Data.
 - e. Note related Changes Orders, record Product Data, and record Drawings where applicable.
4. Mark the Contract Drawings and Specifications completely and accurately. Use personnel proficient at recording graphic information in production of marked-up record prints.
5. Note Request for Information numbers, Supplemental Instruction numbers, Construction Change Directive numbers, Change Order numbers, and similar identification, where applicable.

2.3 PROJECT "RECORD" DOCUMENTS:

- A. General: Transfer all changes, notations, etc. from the "AS-BUILT" PROJECT DOCUMENTS to the "PROJECT RECORD" DOCUMENTS in the same quality as the original Contract Documents.

2.4 RECORD PRODUCT DATA

- A. Maintain one set of marked-up paper copies of the Shop Drawings and Product Data, incorporating any modifications to the reviewed documents.
- B. Preparation: Mark Product Data to indicate the actual product installation where installation varies from that indicated in Product Data submittal.
 1. Give particular attention to information on concealed products and installations that cannot be readily identified and recorded later.
 2. Include significant changes in the product delivered to Project site and changes in manufacturer's written instructions for installation.
 3. Note related Change Orders and record Drawings where applicable.
 4. Include record Product Data directory organized by Specification Section number and title, electronically linked to each item of record Product Data.

2.5 AGENCY DOCUMENTATION

- A. Contractor shall prepare and upload all applicable forms pertaining to the Contractor as required by the Division of State Architect DSA Procedure 13-02, including but not limited to:
 - 1. DSA 6-C - Contractor Verified Report.
 - 2. NFPA System Record of Completion.

PART 3 - EXECUTION

3.1 RECORDING AND MAINTENANCE:

- A. Recording:
 - 1. Keep all documents current, PROJECT "AS-BUILT" DOCUMENTS shall be kept current at all times. Post changes and revisions to project as-built documents as they occur; do not wait until end of Project.
 - 2. The Project Inspector will review the PROJECT "AS-BUILT" DOCUMENTS periodically for the Architect at the time Payment Requests are processed. Should the PROJECT "AS-BUILT" DOCUMENTS not be current and up to date, the Owner reserves the right to hold the Payment Request until compliance with the Contract Documents has occurred.
- B. Maintenance of Documents:
 - 1. Maintain at job site the following:
 - a. Contract Drawings.
 - b. Project Manual/Specifications.
 - c. Addenda.
 - d. Reviewed shop drawings.
 - e. Change Orders.
 - f. All Modification Documents.
 - g. Field test records.
 - 2. Store documents in field office apart from documents used for construction.
 - 3. Provide files and racks for storage of documents.
 - 4. File documents in accordance with Project Filing Format or Uniform Construction Index.
 - 5. Maintain documents in clean, dry, legible condition.
 - 6. Do not use record documents for construction purposes.
 - 7. Make documents available at all times for inspection by Architect, Owner and Owner's Inspector.

END OF SECTION

SECTION 02 41 19 - SELECTIVE DEMOLITION

PART 1 - GENERAL

1.1 SUMMARY

- A. Section includes requirements governing execution of the work including, but not limited to, the following:
 - 1. Demolition and removal of selected portions of building or structure.
 - 2. Demolition and removal of selected site elements.
 - 3. Salvage of existing items to be reused or recycled.
- B. Related Sections: The following Project Manual Sections contain requirements that relate to this section:
 - 1. DIVISION 00 SPECIFICATION SECTIONS
 - 2. DIVISION 01 SPECIFICATION SECTIONS
 - 3. SPECIFICATION SECTIONS IN THE FACILITY SERVICES SUBGROUP
 - 4. SPECIFICATION SECTIONS IN THE SITE AND INFRASTRUCTURE SUBGROUP

1.2 REFERENCES

- A. Standards:
 - 1. ANSI A10.6 American National Standards Institute

1.3 DEFINITIONS

- A. Remove: Detach items from existing site or building (s) and legally dispose or recycle off-site.
- B. Remove and Salvage to Owner: Carefully detach from existing site or building (s), in a manner to prevent damage, and deliver to Owner.
- C. Remove and Reinstall: Detach items from existing site or building (s), prepare for reuse, and reinstall where indicated.
- D. Existing to Remain: Existing item(s) within project site that are not to be permanently removed and that are not otherwise indicated to be removed, removed and salvaged, or removed and reinstalled.

1.4 SUBMITTALS

- A. Submit in accordance with Specification Section - SUBMITTAL PROCEDURES:
- B. Shop Drawings:
 - 1. Proposed Protection Measures - Submit report and drawings that indicates the measures proposed for protecting individuals and property for dust and noise control.
 - a. Indicate proposed locations and construction of barriers.
 - b. Indicate occupant paths of egress and travel.
 - c. Indicate how long utility services will be interrupted.
 - 2. Salvaged Item Inventory List
 - a. Indicate items to be salvaged and delivered to Owner.
- C. Closeout Submittals:
 - 1. Existing Warranties
 - 2. Pre-demolition Photographs

1.5 QUALITY ASSURANCE

- A. Regulatory Requirements:
 - 1. In accordance with Specification Section - REGULATORY REQUIREMENTS and the following:

- a. CAL/OSHA California Division of Occupational Safety and Health Administration.
 - b. CM County of Merced, codes and ordinances
 - c. EPA Environmental Protection Agency
- B. Meetings:
 - 1. Pre- Demolition: Schedule prior to the start of work.
 - a. Coordinate the work with other work being performed.
 - b. Review requirements of work performed by others that rely on substrates exposed by selective demolition work.
 - c. Identify any potential problems that may impede planned progress and proper demolition of work.
 - d. Review structural load limitations of existing structure.
 - e. Review areas where existing construction is to remain and requires protection.
 - f. Review demolition waste disposal and material recycling procedures.
 - 2. Progress: Scheduled by the Contractor during the performance of the work.
 - a. Review for proper work progress.
 - b. Identify any problems and acceptable corrective measures.
 - c. Identify any measures to maintain or regain project schedule if necessary.
 - 3. Completion: Scheduled by the Contractor upon proper completion of the work.
 - a. Inspect and identify any problems.
 - b. Establish method and procedures to maintain protections while progressing to project completion.

1.6 DELIVERY, STORAGE, AND HANDLING

- A. Cleaning, handling, and packing:
 - 1. Salvaged Items and Reinstalled Items shall be handled in such a manner as to assure that they are free from damage.
 - 2. Salvaged Items shall be cleaned and packed or cleaned and palletted.
 - 3. Reinstalled Items shall be cleaned.
- B. Storage and protection
 - 1. Salvaged Items and Reinstalled Items shall be stored in a dry, protected area.
 - 2. Salvaged Items and Reinstalled Items shall be stored above ground on level platforms, six (6) inches above ground, allowing air circulation underneath.
 - 3. Cover with protective waterproof covering providing for adequate air circulation and ventilation.
- C. Waste Management and Disposal:
 - 1. Disposal of all selective demolition items shall be per Specification Section - CONSTRUCTION WASTE MANAGEMENT AND DISPOSAL.

1.7 PROJECT CONDITIONS

- A. Environmental requirements:
 - 1. Dust control - perform site, exterior, and interior work in a manner as to minimize the spread of dust and flying particles.
 - a. Thoroughly moisten appropriate surfaces as required to prevent dust from being a nuisance to the occupants, public, and neighbors.
 - 2. Noise control - perform work in a manner as to minimize construction noise.
 - a. When a certain level of noise is unavoidable and is objectionable to the occupants of the adjacent spaces, buildings, or premises, coordinate with Owner and make arrangements to perform such work at the most appropriate time periods of the day.
- B. Existing conditions:

1. Examine project site and building(s) and compare it with the drawings and specifications. Thoroughly investigate and verify conditions under which the work is to be performed. No allowance will be made for extra work resulting from negligence or failure to be acquainted with all available information concerning conditions necessary to estimate the difficulty or cost of the work.
2. Conduct work so as not to interfere unnecessarily with adjacent buildings, roads, streets, drives, and walks.
 - a. Do not close or obstruct streets, alleys, walks, or passageways without permission from authorities having jurisdiction and coordinating same with immediate neighbors whose business operation may be affected.
 - b. Safety measures shall be taken to insure an uninterrupted flow of traffic around the site as required by local Police and Fire Departments
3. Owner will occupy portions of building immediately adjacent to selective demolition area. Conduct selective demolition so Owner's operations will not be disrupted.
4. Maintain existing utilities indicated to remain in service and protect against damage during selective demolition work.
 - a. Maintain fire-protection facilities in service during the work.
5. Demolition waste becomes the property of the Contractor.
6. Storage or sale of removed items on-site is not permitted.
7. It is not expected that hazardous materials will be encountered in the Work.
 - a. If suspected hazardous materials are encountered, do not disturb; immediately notify Architect and Owner.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. Furnish all materials, tools, equipment, facilities, and services as required for performing the selective demolition and removal work.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Verification of conditions:
 1. Report unacceptable conditions to the Architect. Do not begin work until unacceptable conditions have been corrected.
 2. Execution of work under this specification section shall constitute acceptance of existing conditions.
 3. Obtain all necessary permits and authorizations by regulatory agencies required to perform the Work under this Section.
 4. Verify that utilities have been disconnected and capped before starting selective demolition operations.
 5. Verify that rooftop utilities and service piping have been shut-off prior to roof selective demolition.
 6. Record existing conditions by use of Pre-demolition Photographs.
 - a. Inventory and record the condition of items to be salvaged and/or re-installed.

3.2 PREPARATION

- A. Coordination:
 1. Before proceeding, verify plans match existing conditions.

2. Review documents of existing construction provided by Owner against existing conditions.
3. If conflicts are encountered, report it to the Architect. Then prepare recommendation(s) for correction and submit to Architect for review.
4. Coordinate work under this specification section with work specified under other sections.
5. Coordinate any utility and HVAC unit shut-down with owner 48 hours in advance of the anticipated shut-down.
 - a. Do not interrupt utilities and HVAC units serving occupied or used facilities, except when authorized in writing by the Owner.
 - b. Provide temporary service during interruptions to existing facilities, as may be required by the Owner to maintain essential services.
6. Prior to site selective demolition, review status of trees and shrubs with Architect and Owner. The Owner may wish to relocate trees or shrubs outside the limits of construction.
7. Prior to roofing selective demolition, coordinate with Owner to shut down air intake equipment and service piping in the vicinity of work.

B. Protection:

1. Structure and Property:
 - a. Provide temporary barricades and other protection required to prevent injury to people and damage to adjacent buildings, landscape, and facilities to remain.
 - b. All damage inflicted on public and private property and the property of the Owner shall be repaired or restored to the original condition prior to the start of this Work. All repair or replacement work shall be done at no additional cost to the owner.
 - c. Provide protection to ensure safe passage of people around selective demolition area and to and from occupied portions of building and site.
 - d. Provide temporary weather protection, during interval between selective demolition of existing construction on exterior surfaces and new construction, to prevent water leakage and other weather damage to building envelope, structure, and interior areas.
 - e. Protect walls, ceilings, floors, and other existing finish work that are to remain or that are exposed during selective demolition operations.
 - f. Protect and maintain utility services and mechanical/electrical systems to remain.
 - g. Cover and protect furniture, furnishings, and equipment that have not been removed.
 - h. Cover all air supply and return ducts to remain before proceeding with demolition work.
 - i. Cover air intake louvers before proceeding with work that will affect indoor air quality.
 - j. During roof selective demolition have sufficient and suitable materials on-site to facilitate rapid installation of temporary protection in the event of unexpected rain.
2. Temporary Shoring:
 - a. Provide and maintain shoring, bracing, and structural supports as required to preserve stability and prevent movement, settlement, or collapse of construction and finishes to remain, and to prevent unexpected or uncontrolled movement or collapse of construction being demolished.
 - 1) Strengthen or add new supports when required during progress of selective demolition.

3.3 APPLICATION

A. General:

1. Selective demolition shall include the removal of all components of the existing building and/or site described in the documents to be removed. Unless otherwise specified, the component identified for removal shall include all materials, accessories and fabrications associated with that component.
 2. Neatly cut openings and holes plumb, square, and true to dimensions required. Use cutting methods least likely to damage construction to remain or adjoining construction.
 - a. Temporarily cover opening to remain.
 - b. Use hand tools or small power tools designed for sawing or grinding, not hammering and chopping, to minimize disturbance of adjacent surfaces.
 3. Cut or drill from the exposed or finished side into concealed surfaces to avoid marring existing finished surfaces.
 4. When removing structural framing members, lower to ground by method suitable to avoid free fall and to prevent ground impact or dust generation.
 5. Locate selective demolition equipment and demolished debris so as not to impose excessive loads on supporting walls, floors, or framing.
 6. Locate, identify, disconnect, and seal or cap off indicated utility services and mechanical/electrical systems.
 7. Demolished items and materials that are recyclable or slated for disposal shall be promptly dealt with per Specification Section - CONSTRUCTION WASTE MANAGEMENT AND DISPOSAL.
 8. Removed and Salvaged items:
 - a. Clean salvaged items.
 - b. Pack or crate items after cleaning. Identify contents of containers.
 - c. Store items in a secure area until delivery to Owner.
 - d. Transport item to area as designated by Owner.
 - e. Protect items from damage during transport and storage.
 - f. In addition to items indicated elsewhere, salvaged items that the Owner wants to retain in usable condition are as follows:
 - 1) All door hardware
 - 2) All unit heater and controls
 - 3) All energy management controls
 - 4) All security system devices
 9. Removed and Reinstalled items:
 - a. Clean and repair items to functional condition adequate for intended reuse.
 - b. Pack or crate items after cleaning and repairing. Identify contents of containers.
 - c. Protect items from damage during transport and storage.
 - d. Reinstall items in locations indicated. Comply with installation requirements for new materials and equipment. Provide connections, supports, and miscellaneous materials necessary to make item functional for use indicated.
 10. Existing Items to Remain:
 - a. Protect construction indicated to remain against damage and soiling during selective demolition.
- B. Site Selective Demolition:
1. Utility lines to be abandoned within the construction area shall be removed and stubbed off outside the limits of construction.
 2. Maintain existing storm drainage system to remain in functioning condition. Prevent debris from entering or blocking drains and piping. Use drain plugs specifically for this purpose. Remove drain plugs at the end of each work day.
 3. Refer to drawings for trees and shrubs to be removed. Protect certain trees as indicated.
 - a. Remove tops, trunks, and roots of trees and shrubs to a minimum depth of 3 feet or to a depth required to remove all roots 1/4 inch diameter and larger.
 - b. Chip removed trees, shrubs, and roots.
 - 1) Removed chipped material to recycling station.
 - 2) Recycle chipped material into mulch for this project. Refer to Specification Section - LANDSCAPE PLANTING for treatment.

4. Remove debris, concrete, asphalt, and any other obstruction to the extent indicated.
 5. Remove all:
 - a. Buried objects which will interfere with the Work.
 - b. Irrigation lines, irrigation risers, and irrigation valves.
 - c. Stand pipes.
 - d. Water wells and pumps.
 - e. Electrical service and power poles.
 6. At building pads, site improvements, or trenching, strip topsoil which contains:
 - a. Grass, weeds, and natural vegetation to a minimum depth of **12** inches.
 - b. Stumps and roots 1/4 inch and larger.
 7. Remove non-soil materials from topsoil, including clay lumps, gravel, trash, debris, weeds, roots, other waste materials, and objects more than 1/2 inch in diameter.
 8. Stockpile reusable topsoil away from excavation and where work is to proceed.
 - a. Do not stockpile topsoil within drip line of remaining trees.
 9. Non-soil materials removed from topsoil shall be separated into like materials and recycled either within the project or removed from the project site to a recycling station.
 - a. Those waste materials that are non-recyclable shall be legally disposed off of the project site.
- C. Roofing Selective Demolition:
1. Maintain roof drains in functioning condition to ensure roof drainage at end of each work day. Prevent debris from entering or blocking roof drains and conductors. Use roof drain plugs specifically for this purpose. Remove roof drain plugs at end of each work day, when no work is taking place, or when rain is forecast.
 2. Remove existing roofing membrane and other roofing system membrane components down to the deck including flashings, copings, and roof accessories.
 - a. Bitumen and felts that are firmly bonded to concrete decks are permitted to remain if felts are dry. Remove un-adhered bitumen and felts.
- 3.4 CLEANING
- A. Clean in accordance with Specification Section - PROJECT CLOSEOUT:
1. Clean any soiled surfaces to remain immediately.
 2. Existing substrates shall be clean and ready for the installation of any additional materials.
 3. Leave site areas level and free of any ruts or debris. Appearance of earth surface shall be equal to or better than adjacent undisturbed surfaces.

END OF SECTION

SECTION 21 05 00 - GENERAL PROVISIONS FOR FIRE SPRINKLERS

PART 1: - GENERAL

1.1 GENERAL CONDITIONS:

- A. The preceding General and Special Conditions and Divisions 00 and 01 requirements shall form a part of this Section with the same force and effect as though repeated here. The provisions of this Section shall apply to Sections 21 11 00 of these Specifications and shall be considered a part of these sections.

1.2 CODES AND REGULATIONS:

- A. All work and materials shall be in full accordance with current rules and regulations of all applicable codes. Nothing in these Drawings or Specifications is to be construed to permit work not conforming to these codes. Should the Drawings or Specifications call for material or methods of construction of a higher quality or standard than required by these codes, the Drawings and Specifications shall govern. Applicable codes and regulations include, but are not necessarily limited to, the following:
 - 1. California Code of Regulations (CCR):
 - a. Title 8, Industrial Relations
 - b. Title 24, Part 1, Administrative Regulations
 - c. Title 24, Part 6, California Energy Code, 2022 Edition
 - d. Title 24, Part 11, California Green Building Code, 2022 Edition
 - 2. California Building Code - CBC - 2022
 - 3. California Plumbing Code - CPC - 2022
 - 4. California Fire Code - CFC - 2022
 - 5. California Electrical Code - CEC - 2022
 - 6. American National Standards Institute - ANSI
 - 7. American Society of Mechanical Engineers - ASME
 - 8. American Society for Testing and Materials - ASTM
 - 9. American Water Works Association - AWWA
 - 10. National Electrical Manufacturers Association - NEMA
 - 11. National Fire Protection Association - NFPA
 - 12. National Sanitation Foundation - NSF
 - 13. Occupational Safety and Health Act - OSHA
 - 14. Plumbing and Drainage Institute - PDI
 - 15. Sheet Metal and Air Conditioning Contractors National Association - SMACNA
 - 16. Underwriters' Laboratory – UL

1.3 PERMITS AND FEES:

- A. The Contractor shall take out all permits and arrange for all tests in connection with his work as required. All charges are to be included in the work. Permits for equipment connected to a particular system are to be considered as part of the work included under each system. All charges or fees for service connections, meters, etc. shall be included in the work.

1.4 COORDINATION OF WORK:

- A. Layout of materials, equipment and systems is generally diagrammatic unless specifically dimensioned. Some work may be shown offset for clarity. The actual locations of all materials, piping, ductwork, fixtures, equipment, supports, etc. shall be carefully planned prior to installation of any work in order to avoid all interference with each other, or with structural, electrical, architectural or other elements. Verify the proper voltage and phase of all equipment with the electrical plans. If discrepancies are discovered between drawing and specification requirements, the more stringent requirement shall apply. All conflicts shall be called to the attention of the Architect and the Engineer prior to the installation of any work or the ordering of any equipment. No work shall be prefabricated or installed prior to this coordination. No costs will be allowed to the Contractor for any prefabrication or installation performed prior to this coordination.
- B. Mandatory Coordination and Shop Drawings:
1. Prepare or have prepared high level detailed Shop Drawings in plan view, with cross-sections as necessary, indicating the proposed installation plan for all fire sprinkler, installations for the project. These Drawings should depict actual elevations and linear dimensions, as well as all routing changes, transitions, major offsets, deck and structural attachments deemed necessary to accomplish the installation. Individual Shop Drawings may be prepared for each trade working within the designated space or area; however, the coordination of the consolidated installation shall remain the responsibility of the Contractor. These Shop Drawings shall be provided to each Subcontractor having Work in each area for coordination. Any fittings, offsets or other changes due to coordination shall be at no additional cost to Owner.
 2. Whereas the Drawings are diagrammatic, showing only the general arrangement of the systems, Contractor shall have responsibility for the fitting of materials and equipment to other parts of the equipment and structure, and to make adjustments as necessary or required to resolve space problems, preserve service room, and avoid architectural and structural elements and the Work of other trades. Contractor may be required to identify certain areas to relocate installations within the spaces depicted on the Drawings, e.g., ductwork and/or piping may be shifted within the space shown to accommodate other systems. Such functional relocations shall not be deemed a change to the requirements of the Contract. In the event a major re-routing of a system appears necessary, Contractor shall prepare and submit for approval, Shop Drawings of the proposed rearrangement.
 3. Because of the diagrammatic nature and small scale of the Drawings, all necessary offsets, adjustments, and transitions required for the complete installation are not shown. Contractor shall carefully investigate the conditions affecting all the Work and shall arrange such Work accordingly, furnishing such fittings, equipment, valves, accessories, offsets, etc., as may be required, regardless of size or cost, to meet such conditions, at no additional cost to the Owner.
 4. Coordination changes are not design changes and shall be provided at no additional cost to Owner. Any guidance, drawing or clarification issued by the Architect or Engineer to assist the Contractor or their sub-contractors in their coordination during construction are not design changes and shall be provided at no additional cost to Owner.
 5. Resolve differences or disputes between subcontractors and materials suppliers concerning coordination, interference, or extent of work between sections. The Contractor's decisions, if consistent with the Contract Documents, shall be final.

The Architect and their Consultants are not required to coordinate work between sections and will not do so. Any changes required that affect the design intent shall be presented to and approved by the Architect and Engineer of Record.

6. The coordinated Shop Drawings must be signed off by HVAC, Plumbing, Fire Sprinkler, Electrical, Framing, Ceiling Installation, and Data and Low Voltage Subcontractors.
7. The signed off Shop Drawings shall be submitted to the Owner's Representative for review and approval prior to commencement of installation.
8. Provide reviewed Shop Drawings to each Subcontractor having Work in each area.

1.5 GUARANTEE:

- A. Guarantee shall be in accordance with the General Conditions. These Specifications may extend the period of the guarantee for certain items. Where such extensions are called for, or where items are normally provided with guarantee periods in excess of that called for in the General Conditions, the certificate of guarantee shall be furnished to the Owner through the Architect. Equipment that is started and operated prior to acceptance shall have the guarantee extended to cover that period. Owner guarantee shall start at acceptance.

1.6 QUIETNESS:

- A. Piping, ductwork and equipment shall be arranged and supported so that vibration is a minimum and is not transmitted to the structure.

1.7 DAMAGES BY LEAKS:

- A. The Contractor shall be responsible for damages caused by leaks in the temporary or permanent piping systems prior to completion of work and during the period of the guarantee, and for damages caused by disconnected pipes or fittings, and the overflow of equipment prior to completion of the work.

1.8 EXAMINATION OF SITE:

- A. The Contractor shall examine the site, compare it with Plans and Specifications, and shall have satisfied himself as to the conditions under which the work is to be performed. No allowance shall subsequently be made in his behalf for any extra expense to which he may be put due to failure or neglect on his part to make such an examination.

1.9 MATERIALS AND EQUIPMENT:

- A. Materials and equipment shall be new unless otherwise noted. Materials and equipment of a given type shall be by the same manufacturer. Materials and equipment shall be free of dents, scratches, marks, shipping tags and all defacing features at time of project acceptance. Materials and equipment shall be covered or otherwise protected during construction as required to maintain the material and equipment in new factory condition until project acceptance.

1.10 SUBMITTALS:

- A. Shop Drawings: Within 30 days of contract award, the Contractor shall submit six copies of shop drawings for all materials, equipment, etc. proposed for use on this project (this includes deferred approval items). Material or equipment shall not be ordered or installed until written review is processed by the Engineer. Any item omitted from the submittal shall be provided as specified without substitution.

All shop drawings must comply with the following:

1. Shop drawings are required for all material and equipment items and shall include manufacturer's name and catalog numbers, dimensions, capacities, performance curves, and all other characteristics and accessories as listed in the specifications or on the drawings. Descriptive literature shall be current factory brochures and submittal sheets. Capacities shall be certified by the factory. FAX submittals are not acceptable.
2. All shop drawings shall be submitted at one time in a neat and orderly fashion in a suitable binder with title sheet including Project, Engineer and Contractor, table of contents, and indexed tabs dividing each group of materials or item of equipment. All items shall be identified by the specification paragraph number for which they are proposed. All equipment shall also be identified by the mark number as indicated on drawings.
3. All capacities, characteristics, and accessories called for in the specifications or on the drawings shall be high-lighted, circled or underlined on the shop drawings. Calculations and other detailed data indicating how the item was selected shall be included for items that are not scheduled. Data must be complete enough to permit detailed comparison of every significant characteristic which is specified, scheduled or detailed.
4. Drawings shall be submitted in both hard copy and electronic form, electronic files shall be in their native format (i.e. DWG for AutoCAD, RVT for Revit, etc).
5. Electronic Submittals: Where allowed by Division 01, electronic submittals are acceptable providing the following requirements are met. Electronic submittals which do not comply with these requirements will be rejected.
 - a. Submittal shall be in PDF format, with bookmarks for table of contents and each tab, and sub-bookmarks for each item.
 - b. All text shall be searchable (except text that is part of a graphic).
 - c. Submittal shall include all items noted in 1 through 3 above, except a binder is not required.
 - d. Electronic submittals shall be processed through normal channels. Do not submit directly to the Engineer unless the Engineer is the prime consultant for the project.
 - e. Contractor shall provide Owner and Owner's Representative with hard copies of the final submittal. Coordinate exact number required with Owner through Architect/Engineer.

- B. Substitutions: Manufacturers and model numbers listed in the specifications or on the drawings represent the standard of quality and features desired (where equipment is scheduled on the drawings, any equipment submitted other than scheduled equipment is considered a substitution). Unless otherwise noted, alternate manufacturers may be submitted for review by the Engineer. Calculations and other detailed data indicating how the item was selected shall be included. The Contractor shall assume full responsibility that substituted items or procedures will meet the specifications and job requirements and shall be responsible for the cost of redesign and modifications to the work caused by these items. At the Engineer's request, furnish locations where equipment similar to the substituted

equipment is installed and operating along with the user's phone numbers and contact person. Satisfactory operation and service history will be considered in the acceptance or rejection of the proposed substitution.

- C. Review: Submittals will be reviewed for general conformance with the design concept, but this review does not guarantee quantity shown, nor does it supersede the responsibility of the Contractor to provide all materials, equipment and installation in accordance with the drawings and specifications. The Contractor shall agree that shop drawing submittals processed by the Engineer are not Change Orders; that the purpose of shop drawing submittals by the Contractor is to demonstrate to the Engineer that the Contractor understands the design concept, that he demonstrates his understanding by indicating which equipment and material he intends to furnish and install and by detailing the fabrication and installation methods he intends to use. The Contractor shall agree that if deviations, discrepancies or conflicts between shop drawings and design drawings and specifications are discovered either prior to or after shop drawing submittals are processed by the Engineer, the design drawings and specifications shall control and shall be followed. If a resubmittal is required, submit a complete copy of the Engineer's review letter requiring such with the resubmittal.

1.11 MANUFACTURER'S RECOMMENDATIONS:

- A. All material, equipment, devices, etc., shall be installed in accordance with the recommendations of the manufacturer of the particular item. The Contractor shall be responsible for all installations contrary to the manufacturer's recommendations. The Contractor shall make all necessary changes and revisions to achieve such compliance. Manufacturer's installation instructions shall be delivered to and maintained at the job site through the construction of the project.

1.12 SCHEDULING OF WORK:

- A. All work shall be scheduled subject to the review of the Architect, Engineer and the Owner. No work shall interfere with the operation of the existing facilities on or adjacent to the site. The Contractor shall have at all times, as conditions permit, a sufficient force of workmen and quantity of materials to install the work contracted for as rapidly as possible consistent with good work, and shall cause no delay to other Contractors engaged upon this project or to the Owner.

1.13 OPENINGS, CUTTING AND PATCHING:

- A. The locations and dimensions for openings through walls, floors, ceilings, foundations, footings, etc. required to accomplish the work under this Specification Division shall be provided under this Division. Except as noted below, the actual openings and the required cutting and patching shall be provided by other Divisions. Coring through existing concrete or masonry walls, floors, ceilings, foundations, footings, etc., and saw cutting of concrete floors or asphaltic concrete required to accomplish the work under this Specification Division shall be provided under this Division. Patching of these surfaces shall be provided by other Divisions. Cutting or coring shall not impair the strength of the structure. Any damage resulting from this work shall be repaired at the Contractor's expense to the satisfaction of the Architect.

1.14 EXCAVATION AND BACKFILL:

- A. General: Barrel of pipe shall have uniform support on sand bed. Sand shall be free from clay or organic material, suitable for the purpose intended and shall be of such size that 90 percent to 100 percent will pass a No. 4 sieve and not more than 5 percent will pass a No. 200 sieve. Unless otherwise noted, minimum earth cover above top of pipe or tubing outside building walls shall be 24", not including base and paving in paved areas.
- B. Excavation: Width of trenches at top of pipe shall be minimum of 16", plus the outside diameter of the pipe. Provide all shoring required by site conditions. Where over excavation occurs, provide compacted sand backfill to pipe bottom. Where groundwater is encountered, remove to keep excavation dry, using well points and pumps as required.
- C. Backfill:
 - 1. 6" Below, Around, and to 12" Above Pipe: Material shall be sand. Place carefully around and on top of pipe, taking care not to disturb piping, consolidate with vibrator. Native soil may be used where allowed by Geotechnical (Soils) Report. Where native soil is used, trenching for gravity drain pipe shall be done using a laser-level and trencher.
 - 2. One Foot Above Pipe to Grade: Material shall be sandy or silty loam, free of lumps, laid in 6" layers, uniformly mixed to proper moisture and compacted to required density. If backfill is determined to be suitable and required compaction is demonstrated by laboratory test, water compaction in 6" layers may be used, subject to review by Engineer.
- D. Compaction: Compact to density of 95% within building and under walkways, driveways, traffic areas, paved areas, etc. and to 90% elsewhere. Demonstrate proper compaction by testing at top, bottom and one-half of the trench depth. Perform these tests at three locations per 100' of trench.

1.15 PROTECTIVE COATING FOR UNDERGROUND PIPING:

- A. All ferrous pipe below grade (except cast iron) shall have a factory applied protective coating of extruded high density polyethylene, 35 to 70 mils total thickness, X-Tru-Coat, Scotchkote. All fittings and areas of damaged coating shall be covered with two layer double wrap of 10 mil polyvinyl tape to total thickness of 40 mils. Johns-Manville. Protective coating shall be extended 6" above surrounding grade.

1.16 CONCRETE ANCHORS:

- A. Steel bolt with expansion anchor requiring a drilled hole - powder driven anchors, adhesive anchors and concrete screws are not acceptable. Re-use of screw anchor holes shall not be permitted. Minimum concrete embedment shall be 4-1/2 diameters. Minimum spacing shall be 12 diameters center to center and 6 diameters center to edge of concrete. Post-installed anchors in concrete used for component anchorage shall be pre-qualified for seismic application in accordance with ACI 355.2 and ICC-ES AC193. Post-installed anchors in masonry used for component anchorage shall be pre-qualified for seismic applications in accordance with ICC-ES AC01. Maximum allowable loads for tension and shear shall be as determined by Calculation in compliance with ACI 318-14, Chapter 17, and the anchor's ICC or IAPMO evaluation report. Hilti, Powers, Red Head

1.17 EQUIPMENT ANCHORING:

- A. All equipment shall be securely anchored in accordance with CBC Section 1617A. All equipment mounted on concrete shall be secured with a concrete anchor as specified above at each mounting point.

1.18 SUPPORTS AND SEISMIC RESTRAINTS:

- A. Shall comply with 2022 NFPA #24 and with ASCE 07-16, Chapter 13, as amended by CBC Section 1617A.1, as applicable.

1.19 ASBESTOS CONTAINING MATERIALS:

- A. No materials or material coatings containing asbestos shall be allowed on this project.

1.20 SYSTEM IDENTIFICATION:

- A. Above Grade Piping: Provide markers on piping which is either exposed or concealed in accessible spaces. For piping systems, other than drain and vent lines, indicate the fluid conveyed or its abbreviation, either by pre-printed markers or stenciled marking, and include arrows to show direction of flow. Pre-printed markers shall be the type that wrap completely around the pipe, requiring no other means of fastening such as tape, adhesive, etc. Comply with ANSI A13.1 for colors. Locate markers at ends of lines, near major branches and other interruptions including equipment in the line, where lines pass through floors, walls or ceilings or otherwise pass into inaccessible spaces, and at 50' maximum intervals along exposed portions of lines. Marking of short branches and repetitive branches for equipment connections is not required.
- B. Below Grade Piping: Bury a continuous, pre-printed, bright-colored, metallic ribbon marker capable of being located with a metal detector with each underground pipe. Locate directly over buried pipe, 6" to 8" below finished grade.
- C. Equipment: All equipment shall be identified with a plastic laminated, engraved nameplate which bears the unit mark number as indicated on the drawings (e.g. AC-4) and identifies the area or space served by the equipment. Provide 1/2" high lettering - white on black background. Nameplates shall be permanently secured to the exterior of the unit.
- D. Valves: Provide stamped brass valve tags with brass hooks or chains on all valves of each piping system, excluding check valves, valves within equipment, faucets, stops and shut-off valves at fixtures and other repetitive terminal units. Prepare and submit a tagged-valve schedule, listing each valve by tag number, location and piping service. Deliver to Owner through Architect.

1.21 CLEANING:

- A. Progressively and at completion of the job, the Contractor shall thoroughly clean all of his work, removing all debris, stain and marks resulting from his work. This includes but is not limited to building surfaces, piping, equipment and ductwork, inside and out. Surfaces shall be free of dirt, grease, labels, tags, tape, rust, and all foreign material.

- B. At the end of each work day, the Contractor shall cover all open ends of piping with protective plastic.

1.22 OPERATION AND MAINTENANCE INSTRUCTIONS:

- A. Printed: Three copies of Operation and Maintenance Instructions and Wiring Diagrams for all equipment and parts list for all faucets, trim, valves, etc. shall be submitted to the Engineer. All instructions shall be clearly identified by marking them with the same designation as the equipment item to which they apply (e.g. AC-3). All Wiring Diagrams shall agree with reviewed Shop Drawings and indicate the exact field installation. All instructions shall be submitted at the same time and shall be bound in a suitable binder with tabs dividing each type of equipment (e.g. Pumps, Fans, Motors, etc.). Each binder shall be labeled indicating "Operating and Maintenance Instructions, Project Title, Contractor, Date" and shall have a Table of Contents listing all items included. Electronic O & M's shall comply with the Electronic submittal requirements in this Section.
- B. Verbal: The Contractor shall verbally instruct the Owner's maintenance staff in the operation and maintenance of all equipment and systems. The controls contractor shall present that portion of the instructions that apply to the control system. The Engineer's office shall be notified 48 hours prior to this meeting.

1.23 RECORD DRAWINGS:

- A. The Contractor shall obtain one set of blue line prints for the project, upon which a record of all construction changes shall be made. As the work progresses, the Contractor shall maintain a record of all deviations in the work from that indicated on the drawings. Final location of all underground work shall be recorded by depth from finished grade and by offset distance from permanent surface structures, i.e. building, curbs, walks. In addition, the water, gas, sewer, underfloor duct, etc. within the building shall be recorded by offset distances from building walls. As part of the Contractor's overhead expense, request a full set of reproducible drawings to transfer the changes, notations, etc. from the marked-up prints to the reproducible drawings. The record drawings (marked-up prints and reproducibles) shall be submitted to the Engineer for review.

PART 2: - PRODUCTS (not used)

PART 3: - EXECUTION (not used)

END OF SECTION

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SECTION 21 11 00 - FACILITY FIRE SUPPRESSION WATER SERVICE PIPING

PART 1 - GENERAL

1.1 GENERAL MECHANICAL PROVISIONS:

- A. The General Provisions for Fire Sprinklers, Section 21 05 00, shall form a part of this Section with the same force and effect as though repeated here.

1.2 SCOPE:

- A. General: Provide all labor, materials and services necessary for complete, lawful and operating systems as shown or noted on the drawings or as specified here.
- B. Design/Calculations: The sprinkler system has been designed in accordance with 2022 NFPA No. 24 and fire authority requirements. Provide current fire flow information from flow test at nearest fire hydrant. Fire flow test shall be done within 6 months of installation of sprinkler system.
- C. Coordination Drawings: Contractor shall submit coordination drawings with Contractor title block to Engineer for review, in addition to materials submittals. Deviations between bid documents and coordination drawings shall be specifically noted on drawings (highlighted, clouded, etc.). Any contractor requested design changes to these documents, including layout, materials, or calculations, may be considered a substitution and shall comply with paragraph 1.4 below.

1.3 WORK SPECIFIED ELSEWHERE:

- A. Electrical wiring.
- B. Fire alarm system.
- C. Painting of exposed piping.

1.4 DESIGN CHANGES/SUBSTITUTIONS:

- A. General: Design changes or substitutions of fire sprinkler system shall be submitted to Engineer for review and approved by Fire Authority.
- B. Significant changes in design or substitution of materials may require a change order, requiring resubmission to the authority having jurisdiction, as determined by the Engineer. Contractor shall bear all expenses incurred due to preparation and processing of design substitutions, up to and including submission to, and obtaining approval from, authority having jurisdiction. Refer to Section 23 00 00, 1.11, B.

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- C. Contractor shall submit design or field change(s) through proper channels. Engineer shall have a minimum of 5 working days after receipt of design or field change(s) to submit to Fire Authority. Architect and Engineer shall not be liable for any delays due to Fire Authority review time scheduling, or Contractor's failure to identify changed areas and/or substituted materials in shop drawings and submittals.

PART 2 - PRODUCTS

2.1 STANDARDS:

- A. Underground mains shall be in accordance with 2022 NFPA No. 24 "Standard for the Installation of Private Fire Service Mains and Their Appurtenances".

2.2 PIPING MATERIALS:

- A. General: The pressure rating of all piping, valves, flanges and other piping accessories shall be in accordance with code and fire authority requirements. Pressure ratings shall exceed the highest possible working pressure.
- B. Piping:
1. Underground: Polyvinyl chloride, FM Class 200, DR 14, AWWA C900, with rubber ring joints, ASTM D1869. Cast or ductile iron fittings, AWWA C110 or C153, Class 250 or higher, with rubber ring joints, ASTM D1869.
 2. Above Grade:
 - a. 2" and Smaller: Threaded black steel pipe, ASTM A53, schedule 40. 175 psi WOG (min.) black cast iron threaded fittings, ANSI B16.4, UL listed. Unions shall be Class 150 malleable iron threaded, ANSI B16.3.
 - b. 2-1/2" and Larger: Welded black steel pipe, ASTM A53, schedule 10. Standard weight carbon steel welding fittings, ANSI B16.9. Flanges shall be steel, ANSI B16.5. Roll grooved pipe couplings may be used for assembling welded sections, Victaulic, Grinnell, Gruvlok.
- C. Gate Valve:
1. 2" and Smaller: All bronze, rising stem. UL listed.
 2. 2-1/2" and Larger: Iron body, bronze mounted, outside screw and yoke. UL listed. (UL listed butterfly valves may be substituted for 4" and larger gate valves above grade.)
- D. Check Valve:
1. 2" and Smaller: All bronze swing check. UL listed.
 2. 2-1/2" and Larger: Iron body, bronze mounted swing check. UL listed.
- E. Anchors and Hangers: Shall comply with 2022 NFPA No. 13.

PART 3 - EXECUTION

3.1 PIPING INSTALLATION:

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- A. General: Piping shall be concealed in walls, above the ceilings or below grade unless otherwise noted. Exposed piping shall run parallel to room surfaces; location shall be approved by the Architect. No structural member shall be weakened by cutting, notching, boring or otherwise, unless specifically allowed by structural drawings and/or specifications. Where such cutting is required, reinforcement shall be provided as specified or detailed. Depth of cover in traffic areas shall be 36 inches (minimum).
 - 1. Installer Certification: Installation shall be performed by certified fire sprinkler fitter(s) as required by CCR, Title 19, Divisions 1, Chapter 5.5. See CAL FIRE – Office of the State Fire Marshall Information Bulletin 17-002 for more information. The Bulletin can be downloaded from the following:
<https://osfm.fire.ca.gov/what-we-do/fire-engineering-and-investigations/automatic-fire-extinguishing-systems>
- B. Standards: Underground mains shall be installed in accordance with 2022 NFPA No. 24 "Standard for the Installation of Private Fire Service Mains and Their Appurtenances".
- C. Miscellaneous:
 - 1. Escutcheons: Provide chrome plated metal escutcheons where piping penetrates walls, ceilings or floors in finished areas.
 - 2. Pipe Sleeves: All piping passing through concrete shall be provided with pipe sleeves. Allow 1" annular clearance between sleeve and pipe for piping 3" and smaller and 2" annular clearance for piping 4" and larger. Piping through walls and footings below grade shall be sealed with Link Seal.
 - 3. Concrete Thrust Blocks: Shall be constructed at all valves, tees, elbows, bends, crosses, reducers and dead ends in loose-joint pipe. Blocks shall cure a minimum of 7 days before pressure is applied. Concrete shall be 3000 psi mix.

3.2 IDENTIFICATION:

- A. All controls, piping, valves and equipment shall be labeled for function and service in accordance with NFPA No. 24.

3.3 TESTS AND ADJUSTMENTS:

- A. Unless otherwise directed, tests shall be witnessed by a representative of the Architect and an inspector of the authority having jurisdiction. Contractor shall notify fire authority at least 48 hours prior to testing. At various stages and upon completion, the system must be tested in the presence of the enforcing agency. Work to be concealed shall not be enclosed until prescribed tests are made. Should any work be enclosed before such tests, the Contractor shall, at his expense, uncover, test and repair all work to original conditions. Leaks and defects shown by tests shall be repaired and the entire work retested. Test all systems in accordance with fire authority requirements and NFPA No. 24.

3.4 CERTIFICATION:

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- A. At completion of the project, a Contractor's Material and Test Certificate, indicating installation and testing in accordance with referenced standards, shall be completed. Copies shall be prepared by Contractor for the approving authorities, Owner and Contractor. Deliver certificates to Owner through Architect.

END OF SECTION

SECTION 26 00 00 – ELECTRICAL**PART 1 – GENERAL****1.01 DESCRIPTION:**

- A. This Section provides the Basic Electrical Requirements, which supplement the General Requirements of Division 1 and apply to all Sections in Division 26.

1.02 BASIC ELECTRICAL REQUIREMENTS:

A. Drawings and Specifications coordination:

1. For purposes of clearness and legibility, the electrical drawings are essentially diagrammatic. The size and location of equipment is shown to scale whenever possible. The Contractor shall verify all conditions, data and information as indicated on the drawings and in Specifications Sections where electrical work is required prior to installation.
2. The Electrical Drawings show size and points of termination of the conduits, the number and size of wires, and suggest the proper route for the conduit. It shall be the responsibility of the Contractor to install the conduits with minimum number of bends to conform to the structure, avoid obstructions, preserve headroom, keep openings and passageways clear, and meet all applicable Code requirements. The routing of conduits may be changed, if approved by the District Electrical Inspector.

If the length of a conduit run is increased more than 10% of the length shown on the drawings, the Contractor shall consider worst case voltage drop and adjust wire and conduit size accordingly in compliance with Code. If the length of a conduit run is decreased more than 10% of the length shown on the drawings, the Contractor shall offer a credit to the District for the length and size of the conduit and wire deleted.

3. It is intended that outlets be located symmetrical with Architectural elements notwithstanding the fact that locations shown on the drawings may be distorted for clarity.
4. The Architectural and Structural Drawings take precedence over the electrical drawings in the representation of the general construction work. The drawings of the various trades take precedence in the representation of the work of those trades. The Contractor shall refer to all drawings to coordinate the electrical work with the work of other trades to eliminate all conflicts.

B. Terminology:

1. The term “signal system” shall apply to the clock, bell, fire alarm, annunciator, sound, public address, buzzer, public telephone, television, inter-communication, and security systems.
2. The term “low voltage” shall apply to systems operating at 600 volts and under.
3. The term “provide” used on the drawings and elsewhere in the Specifications shall be considered to mean furnish and install.

4. The term "U.L." means Underwriters Laboratories, Inc.

C. Ordinances and Regulations:

1. Electrical work shall meet requirements of local authorities having jurisdiction, including municipal ordinances, City and/or County Building Codes, the California Administrative Code Title 24, the Safety Orders of the State Division of Industrial Safety, and the Fire and Panic Safety Standards of the State Fire Marshal. Material and labor shall conform to the Regulations of the National Board of Fire Underwriters for Electrical Wiring and Apparatus. All new material shall be U.L listed. The latest Electrical Ordinance of the local jurisdiction, including amendments thereto, effective on the date of opening bids for the work, is hereby made a part of this Specification, and shall apply to all work, except for those portions which conflict with the requirements of the local authorities.
2. Meet the requirements of the latest National Electrical Code adopted by the local jurisdiction.
3. Electrical work shall comply with the American National Standards Institute (ANSI), which includes the National Electrical Installation Standards (NEIS).

D. Structural Considerations for Conduit Routing:

1. Where conduits are to pass through or will interfere with any structural member, or where notching, boring or cutting of the structure is necessary, or where special openings are required through walls, floors, footings, or other building elements to accommodate the electrical work, such work shall conform to State Building Code, Title 24, for conduits and pipes embedded in concrete and for notches and bored holes in wood; for steel and when detailed on the Structural Drawings.
2. Where a concrete encasement for underground conduit abuts a foundation wall or underground structure which the conduits enter, the encasement shall rest on a haunch integral with the wall or structure, or shall extend down to the footing projection, if any, or shall be doweled into the structures unless otherwise indicated. Underground structures shall include manholes, pull boxes, vaults or buildings.

E. Electrically Operated Equipment and Appliances:

1. Equipment and appliances furnished by the Contractor:
 - a. The electrical work shall include furnishing and installing wiring enclosures for and the complete connection of all electrically operated equipment and appliances and any electrical control devices which are specified to be furnished and installed in this or other electrical Sections of the Specifications, except electrical work specified or indicated, to be in the Mechanical Work. All wiring enclosures shall be installed concealed, except where exposed work is indicated on the electrical drawings.
 - b. Connections shall be made as necessary to completely install the equipment ready for use. The equipment shall be tested for proper operation and, if motorized, for proper rotation. If outlets of incorrect electrical characteristics or if any equipment fails to operate properly, the Contractor shall report to the District's Inspector in writing, listing

the buildings and rooms in which located, the name, make and serial number of the equipment, and a description of the defect.

2. Equipment and appliances furnished by others:

- a. Equipment and appliances shown on the drawings as Not in Contract, Furnished by Others, or Furnished by the District, will be delivered to the Site. Required electrical connections shall be made for all such equipment and appliances in accordance with accepted trade practices under the direction of the District Inspector. All motorized equipment will be furnished factory wired to a motor starter or junction box, unless otherwise indicated. Appliances will be furnished equipped with portable cord and cap. Provide disconnect switches where required.
- b. Connections to equipment furnished under other Sections shall be part of the electrical Work. Work shall include internal wiring, installation, connection and adjustment of bolted drive motors in which the motor is supplied as a separate unit and connections only for equipment furnished with factory installed internal wiring, except as further limited by the drawings and other portions of the Specifications. Work shall include furnishing and installing suitable outlets, disconnecting devices, starters, push-button stations, selector switches, conduit, junction boxes, and the wiring necessary for a complete electrical installation. The work shall also include furnishing and installing the conduit and outlet box, if needed for the control system, furnished under Mechanical. Devices and equipment furnished shall be of the same type used elsewhere on the job or as specified.
- c. Electrical equipment furnished under other Sections for installation and connection under work of this Section shall be delivered to the installation location by the Contractor furnishing the equipment.
- d. Mechanical equipment furnished under other Sections and requiring electrical connection under this Section, will be set in place by Contractor furnishing the equipment.
- e. Suitability and condition of equipment furnished by other Sections shall be determined in advance of installation. Immediate notice shall be given to the District of damage, unsuitability or lack of parts.

F. Protection of materials:

1. Provide for the safety and good condition of all materials and equipment until final acceptance of the project by the District. Protect all materials and equipment from damage and provide adequate and proper storage facilities during the progress of the work. All damaged and defective work shall be replaced prior to final inspection.

G. Cleaning:

1. Exposed parts of the electrical work shall be left in a neat, clean, usable condition. Finished painted surfaces shall be un-blemished and metal surfaces shall be polished.
2. Thoroughly clean all parts of the apparatus and equipment. Exposed parts, which are to be painted, shall be thoroughly cleaned of cement, plaster and other materials. Remove grease

and oil spots with solvent. Such surfaces shall be wiped and all corners and cracks scraped out. Exposed rough metal work shall be smooth, free of sharp edges, carefully steel brushed to remove rust and other spots, and left in proper condition to receive finish painting.

3. The Contractor shall remove from the Site all debris and rubbish occasioned by the electrical work. He shall thoroughly clean the building of dirt, debris, rubbish, and marks caused by the performance of the work.

PART 2 – PRODUCTS – Not used.

PART 3 – EXECUTION

3.01 INSTALLATION OF EQUIPMENT AND APPLIANCES:

- A. Conduit stubs for equipment shall be terminated in a coupling flush with the finished floor and shall be extended with minimum 6" high rigid conduit to a motor starter, receptacle, or junction box. Flexible conduit as applicable shall be installed from the rigid conduit to motors and other vibrating equipment.
- B. If the connection is from a flush wall-mounted junction box, install a weatherproof universal box extension and adaptor by Bell Electric Company, and extend with rigid steel conduit to the motor starter or junction box on the equipment.
- C. All exposed final connections to equipment shall be by a water tight flexible metal conduit, unless otherwise indicated. A maximum of 36" of flexible metal conduit may be used except that all extensions from the flush floor couplings shall be rigid conduit to a distance not less than 6" above the floor.
- D. Flexible conduit for all motors, cafeteria equipment and other equipment, including HVAC equipment, shall be liquid-tight flexible metal conduit and shall contain a Code size insulated green bond wire.
- E. All exposed conduit shall be run vertically and horizontally following the general configuration of the equipment, using cast threaded hub conduit fittings where required and shall be clamped to the equipment with suitable iron brackets and one-hole pipe straps.
- F. Connectors for flexible steel conduit shall be the type, which threads into the convolutions of the conduit or clamp type. Connectors for water-tight flexible metal conduit shall be approved for such use and shall be installed to make a watertight connection.

END OF SECTION

SECTION 26 05 00 – COMMON WORK RESULTS FOR ELECTRICAL**PART 1 – GENERAL****1.01 DESCRIPTION:****A. Work Included:**

1. Raceways, fittings and supports.
2. Wires, cables and connectors.
3. Boxes, enclosures, keys and locks.
4. Receptacles and switches.
5. Identifications and signs.

1.02 SUBMITTALS:

All submittals shall be made in accordance with Section 013300.

PART 2 – PRODUCTS**2.01 RACEWAYS, FITTINGS, AND SUPPORTS:****A. Conduit Materials:**

1. Metallic conduit and tubing shall be manufactured under the supervision of Underwriters' Laboratory, Factory Inspection and Label Service Program. Each 10' length of conduit and tubing shall bear the Underwriters' Laboratory label and manufacturer's name.
2. Rigid steel conduit shall be heavy wall, mild steel, zinc coated, with an inside and outside protective coating. Couplings, elbows, bends and other fittings shall be the same materials and finish as the rigid steel conduit. Fittings, connectors, and couplings shall be threaded type.
3. Electrical metallic tubing shall be steel tubing, zinc coated with a protective enamel coating inside. Fittings, couplings and connectors shall be gland compression type. Electrical metallic tubing is designated herein after as "EMT□".
4. Flexible steel conduit shall be of flexible interlocking steel strip construction with continuous zinc coating on the strips. Connectors and couplings shall be approved fittings of the type which thread into the convolutions of the flexible conduit or clamp type.
5. Liquid-tight flexible metal conduit shall be galvanized, heavy wall, flexible locked steel strip construction with a smooth moisture and oil proof, abrasion-resistant, extruded plastic jacket. Connectors shall be approved for use with liquid-tight flexible conduit and shall be installed to provide a liquid-tight connection.
6. Acceptable Manufacturers: Crouse Hinds or Appleton.
7. No metal clad (MC) cable allowed as alternate.

B. Sleeves for Conduits:

Sleeves shall be adjustable type, of 26 gauge galvanized iron, Adjusto Crete Company, Adjusto-Crete, or Jet Line Products Inc., Jet-Line.

C. Expansion Joints:

Where conduits embedded in masonry or concrete cross seismic separations between buildings, expansion joints or at locations indicated, the Contractor shall provide sliding or a sliding and deflecting fitting, as conditions require in each conduit. Sliding fittings shall be O-Z Electrical Manufacturer Company, Inc., Type AX, with bonding strap and clamps. At exterior locations use O-Z Electrical Manufacturer Company Inc., Type EX.

D. Penetration in Fire Rated Structures:

Provide Dow Corning No. 3-6548, RTV silicone foam for making fire rated seals around penetrations through floors or walls.

2.02 WIRES, CABLES AND CONNECTOR:

A. Pull Wires: A 1/8" polypropylene cord shall be installed in each empty conduit. A 1/8" polypropylene cord shall be installed in each underground service conduit unless otherwise required by the utility company.

B. 600 Volts or Less Wires:

1. Wire shall be NEC type THHN/THWN-2. All wire shall have copper conductors. Wires No. 14 and larger shall be stranded. Wires smaller than 12 gauge shall not be used in the light and power systems.
2. Wire adjacent to ovens and boilers, in range hoods, and at other dry locations where the operating temperature of the wire may be expected to exceed 60°C, but not to exceed 90°C, shall be National Electric Code Standard Type THHN. Where the temperature may be expected to exceed 90°C, wire shall be a type approved by Underwriters' Laboratory for the temperature and installed conditions involved, silicone type wire 200°C or equivalent.

C. Color Code, Signal and Communications Systems:

All wires for signal and communication systems shall be color coded per District standards and shall be installed under the direction of the District's Electrical Inspector. Request a copy of the District Standards for color coding prior to ordering wiring—black, red, blue, white – 208-240; brown, orange, yellow – 480/277.

2.03 BOXES, ENCLOSURES, KEYS AND LOCKS:

A. Outlet Boxes and Fittings:

1. Outlet boxes used in concealed work shall be galvanized or sherardized steel, pressed or welded type, with knockouts.
2. In exposed work, outlet boxes and conduit fittings required and where conduit runs change direction or size, shall be cast metal with threaded cast hubs cast integral with the box or fitting. Boxes and fittings shall not have unused spare hubs, except as otherwise indicated or approved manufacturer.
3. Fittings shall be cast metal and non-corrosive. Ferrous metal fittings shall be cadmium plated or zinc galvanized. The castings shall be true to pattern, smooth, straight, with even edges and corners, of uniform thickness of metal and shall be free of cracks, gas holes, flaws, excessive shrinkage and burnt out sand.
4. Covers for fittings shall be galvanized steel or non-corrosive aluminum and shall be designed for the fitting with which used.
5. Light fixture outlets shall be 4" octagon, 4" square, or larger, depending upon the number of wires or conduits therein, and shall be equipped with 3/8" malleable iron fixture studs, and

plaster rings. Plaster rings shall have round opening with two ears drilled 2 23/32" center to center.

6. For local switch outlets use 4" square boxes for single gang, 4 11/16" square boxes for two-gang, and special solid gang boxes with gang plaster ring for more than two switches.
7. For all receptacle, clock, bell, fire station, speaker, security and telephone outlets, use 4" square boxes or larger with single gang plaster rings. For television outlets, use 4-gang deep boxes and 4-gang plaster rings. For communication switch, use 4" square boxes with single gang or larger plaster rings.
8. Plaster rings shall be provided on all flush mounted outlet boxes, except where otherwise indicated or specified. All plaster rings shall be same depth as the finished surface.
9. Factory made knock-out seals shall be installed to seal all box knock-outs, which are not intact.
10. At each location where flexible conduit is extended from a flush outlet box, provide and install a weatherproof universal box extension adapter by Bell Electric Company.
11. No more than one box extension or cuffs used anywhere.

B. Junction and Pull Boxes:

1. Junction and pull boxes, in addition to those indicated, shall only be used where absolutely necessary with the specific approval of the District's Electrical Inspector in each case.
2. Interior and non-weatherproof boxes shall be constructed of blue or galvanized steel with ample laps, spot welded and shall be rigid under torsional and deflecting forces. Boxes shall have auxiliary angle iron framing where necessary to ensure rigidity. Covers shall be fastened to the box with a sufficient number of brass or stainless steel machine screws to ensure continuous contact all around. Flush type boxes shall be drilled and tapped for cover screws at the site if the boxes are not installed plumb. All surfaces of pull and junction boxes and covers shall be given one coat of metal primer, and one coat of aluminum paint, and shall have permanent labels with box designation or system or circuit numbers.
3. Weatherproof pull and junction boxes shall conform to the foregoing for interior boxes with the following modifications: The cover of flush mounting boxes shall have a weather-tight gasket cemented to and trimmed even with the cover all around. Surface or semi-flush mounting pull and junction boxes shall be Underwriters' Laboratory approved as rain-tight and shall be complete with threaded conduit hubs. All exposed portions of boxes shall be galvanized and finished with a prime coat and standard coat of baked-on enamel. For underground pull-boxes, the cast iron cover shall be permanently marked Electrical, Power, Signal, Telephone or Ground.
4. All junction and pull-boxes shall be rigidly fastened to the structure and shall not depend on the conduits for support.

C. Floor Outlets:

1. All flush floor outlet boxes shall be adjustable, cast iron, set flush with the finished floor material, Hubble No. B-2503.
2. Telephone, microphone and similar floor outlets shall be equipped with a brass cover plate with 2 1/8" flush cap, Hubble No. S-3061.
3. Receptacle floor outlets shall be equipped with a flush brass cover plate with screw-in caps, appropriate for the type of receptacle shown on the drawings.

D. Floor Pockets:

1. Single Gang: Receptacle floor pockets shall be single gang, flush floor type, with cast iron floor plate, hinged cast iron door notched for cable and cast iron box, C.W. Cole No. TLS-362-1-FE. Equip each pocket with a standard single grounding type receptacle, unless otherwise indicated. Use C.W. Cole No.

TLA-362-1 in wood floors.

2. Microphone, speaker or projector sound floor pockets shall be single gang flush floor type with cast iron floor plate, hinged cast iron door, notched for cable and cast iron box, C. W. Cole No. TLA-362-3-FE. Use C. W. Cole No. TLS-362-3 in wood floors.

2.04 RECEPTACLES AND SWITCHES:

- A. Receptacle shall be industrial Specifications grade, back and side wired with binding screws and plaster ears with captive mounting screws. Receptacle bodies shall be phenolic, plastic or bakelite with ivory colored faces, unless otherwise indicated. Receptacles shall have heavy duty, current carrying contacts and double wipe flat ground contacts. Receptacles shall be Hubbell, Arrow-Hart, Bryant or Leviton.

1. Duplex receptacles shall be 20 amps (NEMA 5-20R), 125 volts, two-pole, three-wire with parallel slots, U-ground.
2. Single receptacles shall be of the voltage, rating and configuration shown on the drawings.
3. Ground fault interrupting type receptacles shall consist of a duplex receptacle with a test and a reset device manufactured in a standard configuration for use with a duplex cover plate. Receptacles shall be 20 amps (NEMA 5-20R) or as indicated on the drawings. Exterior receptacles shall be weatherproof.
4. Weatherproof receptacles, except where otherwise indicated or specified, shall consist of a duplex receptacle, as specified herein, and a metal plate with die cast hinged lid and weatherproof mat.

B. Switches:

1. Local Switches:

- a. Local switches shall be tumbler type, industrial specification grade, rated 20 amps at 120-277 volts AC only, with plaster ears, binding screws for back and side wiring and standard size composition cups which fully enclose the mechanism. Switches shall be approved for use at currents up to the full rating on resistive, inductive, tungsten filament lamp and fluorescent lamp loads, and for up to 80% of the rating for motor loads. Switches shall be single pole, double pole, three-way, four-way, non-lock type, (or lock type when indicated). Non-lock type switches shall have ivory handles. Switch shall be Hubbell 1221I or approved manufacturer specified by the District.
- b. All lock type switches shall have metal or nylon key guides with ON/OFF indication, and shall be operable by the same key. Keys for lock type switches shall be forked type, cut from 1/16" stock. Fork dimensions shall be: External 1/4", Internal 5/32", depth 3/16" and radius 5/64". Key switches shall be Hubbell 1221L only. Where pilot light is required for key switch see paragraph on Pilot Lights. Provide minimum ten keys to District.
- c. Pilot light switches shall be rated 20 amps and shall conform to the Specifications for local switches. The switches shall have red, rugged lexan handles that are lighted by long lasting neon lamps. Pilot light shall light when load is on. Single pole, 120 volts switches shall be Hubbell 1221-PL
- d. Remote control switches for mechanically held contractors arranged for three-wire control shall be tumbler type, momentary contact, single pole, three-position with center "OFF" rated 20 amps at 120/277 volts AC only, with plaster ears, binding screws for side wiring, standard size composition cups which fully enclose the mechanism and ivory handles. Lock type switches shall be Hubbell 1557L.

2. Time Switches and Photo Electric Controls:

- a. Time switches shall be 7-day Intermatic or approved manufacturer specified by the District.

- b. Photo electric Control: Photo electric control shall be rated 2000 watts with single pole, single throw, normally closed contact, enclosed in a die cast aluminum gasket enclosure, Torq Series, Intermatic or approved manufacturer by the District.

2.05 IDENTIFICATION AND SIGNS:

A. Name Plates:

1. The following equipment shall be provided with name plates unless otherwise specified: Switchboards, motor control centers, control panels, push button stations, time switches, contractors, motor starters, motor switches, relays, panel boards and terminal cabinets.
2. Name plates shall give equipment designation and adequately describe the function, voltage and phase of the particular equipment involved. For panel boards, the nameplates shall indicate the panel designation, voltage and phase of the panel. For terminal cabinets, the nameplates shall indicate the system housed therein.
3. Nameplates shall be black and white nameplate stock of bakelite with characters cut through the black exposing the white. Plates shall have beveled edges and shall be securely fastened in place with No. 4 Phillips head, cadmium plated steel, self tapping screws. Characters shall be 3/16" high, unless otherwise indicated.

B. Markings:

The following equipment and controls shall have markings: Pull and junction boxes, and other devices controlling motors and appliances. Abbreviations acceptable to the District's Electrical Inspector, along with an identifying number, shall be used. Markings shall be done with locking type stencils using paint of a contrasting color. Figures shall be 3/8" high unless otherwise indicated.

C. Warning Signs:

1. Provide a warning sign firmly secured to the outside of each door or gate to enclosures containing high voltage equipment over 600 volts A.C. The signs shall read: "Danger High Voltage Keep Out ". Signs shall be 7" x 14" with all lettering 1" high, except the word "Danger", which shall have 1 1/2" high letters.
2. Signs shall be of standard manufacturer 18 gauge steel, with porcelain enamel finish. Letters shall be red on white background.

PART 3 - EXECUTION

3.01 CONDUIT INSTALLATION:

A. General Requirements:

1. Provide complete and continuous systems of rigid steel conduit, outlet boxes, junction boxes, fittings and cabinets for all systems of electrical wiring including lighting, power, communications, control and signal systems, except as otherwise specified.
 - a. Site electrical distribution conduit sizes shall be:
 1. Electrical power and lighting, and control systems distribution - 1" minimum.
 2. Signal and communications distribution - 2" minimum and separate conduit for each system.
 - b. Site underground pullboxes minimum – Christy N30.

2. Within buildings EMT may be used in lieu of rigid steel conduit where permitted by ordinance. EMT shall not be used in the following cases: exposed below 8 feet elevations; in concrete; underground.
3. Within buildings flexible steel conduit may be used in lieu of rigid steel conduit where permitted by ordinance, but no metal clad (MC) cable. Flexible steel conduit shall not be used for runs longer than 6 feet or for exposed conduits.
4. Flexible steel conduit shall be used, except where otherwise specified, for final connection of all motor terminal boxes and shall be of sufficient length (not to exceed 36") to allow full travel or adjustment of the motor on its base.
5. Underground feeder distribution conduits for all systems may be nonmetallic polyvinyl chloride (PVC) Schedule 40 conduit in lieu of rigid steel conduit, except where otherwise specified or indicated.
6. Conduit shall be concealed, unless otherwise indicated. Conduits exposed to view (except those in attic spaces and under buildings) shall be installed parallel or at right angles to structural members, walls, or lines of the building. Conduits shall be routed to clear access openings.
7. Bends or offsets will not be permitted, unless absolutely necessary. The radius of each conduit bend or offset shall be as required by ordinance, except for underground conduits, for public telephone conduits, and where otherwise indicated or specified. Bends and offsets shall be made with standard tools and equipment made especially for the purpose or may be factory made bends or elbows complying with the requirements for radius of bend specified herein. Public telephone conduit bends and offsets shall have a radius, which is not less than ten times the trade size of the conduit, unless otherwise approved by the telephone company. Refer to "Underground Conduit Installation" for the radius of bends and offsets required for underground installations.
8. Running threads will not be permitted. Provide approved conduit unions where union joints are necessary. Conduits shall be kept at least 6" from the coverings on hot water and steam pipes and 18" from flues and breechings. The open ends of conduits shall be kept closed with approved conduit seals during construction of the buildings and during the installation of underground systems.
9. The joints in conduits installed in concrete, wet locations, exposed to the weather or underground shall be made liquid tight.
10. Conduits run exposed on roofs shall be rigid conduit (no EMT).
11. Where auxiliary supports, saddles and brackets are required to meet special conditions, they shall be made rigid and secure before the conduit is attached thereto.
12. Conduit in ceiling spaces, in stud walls and under floors, shall be supported with factory made pipe straps or shall be suspended with pipe hangers or pipe racks. The pipe straps shall be attached to and shall hold the conduit tight at the point of support against the ceiling, floor joists, rafters, wall studs or 2" x 4" headers fitted between the joists or wall studs.
13. Conduits installed on exposed steel trusses and rafters shall be fastened with factory made conduit straps or clamps, which shall hold the conduit tight against the supporting member at the point of support.
14. Conduits under buildings shall be buried below the surface of the ground.
15. Pipe hangers for individual conduits shall be factory made, consisting of a pipe ring and threaded suspension rod. The pipe ring shall be malleable iron, split and hinged, and shall securely hold the conduit, or shall be springable wrought steel. Rings shall be bolted to or interlocked with the suspension rod socket. Rods shall be 3/8" for 2" conduit hangers and smaller and shall be 1/2" for 2 1/2" conduit hangers and larger.
16. Pipe racks for groups of parallel conduits and for supporting total weights not exceeding 500 pounds shall be trapezed type and shall consist of a cross channel, Steel City Kindorf No. B-900 or Unistrut No. P-1000 suspended with a 3/8" minimum diameter steel rod at each

end. Each rod shall be fastened with nuts, top and bottom to the cross channel and with a square washer on top of the channel. Each conduit shall be clamped to the top for the cross channel with conduit clamps, Steel City Kindorf No. C-105 or Unistrut Nos. P-1111 through P-1124. Conduits shall not be stacked one on top of the other, but a maximum of two tiers may be on the same rack by providing an additional cross channel. Where a pipe rack is to be longer than 18" or if the weight it is to support exceeds 500 pounds, submit details of the installation to the Architect for approval.

17. Conduits, which are suspended on rods more than 2' long, shall be rigidly braced per State Seismic Regulations to prevent horizontal motion or swaying.
18. Factory made pipe straps shall be one- or two-hole formed galvanized clamps, heavy duty type, except as otherwise specified.
19. Hangers, straps, rods or pipe supports under concrete shall be attached to inserts set at the time the concrete is poured. Under wood, use bolts, lag bolts or lag screws; under steel joists or trusses, use beam clamps.
20. Conduits shall be supported at intervals required by ordinance, but not to exceed 10'. One inch and smaller conduits installed exposed shall be fastened with 2-hole straps. Perforated strap and plumber's tape shall not be used in the support of conduits.
21. Each conduit stubbed up through a roof or an arcade shall be flashed with a waterproof flashing. The base of the flashing shall extend on the roof not less than 10" from the conduit. Flashing shall extend up the conduit not less than 6" and shall be in contact with the conduit for minimum 1" at the top. Refer to Division 7, Sections 07310, 07510, and 07541.
22. Bushings for all sizes of rigid steel conduits shall be threaded insulating type. Set screw bushings are not acceptable.
23. All flex conduits shall be cut square and not at an angle.
24. It shall be the responsibility of the Contractor to install the conduits with a minimum number of bends in such a manner as to conform to the structure and meet all applicable code requirements.
25. The routing of conduits may be changed if approved by the District Inspector, providing the length of any conduit run is not decreased more than 10% of the length shown on the drawings.
26. Minimum size conduit for all signal and communication systems shall be 3/4".
27. A minimum of two 1" conduits shall be installed (stubbed) into nearest accessible ceiling space from each panelboard, terminal cabinet, distribution panelboard, backboard or switchboard. Cap conduits with appropriate conduit caps.
28. Conduits installed vertically on the outside surface of buildings shall be strapped tight to the building surface with no space behind.

B. Underground Requirements:

1. All conduits installed underground shall be entirely encased in concrete 3" thick on all sides with multiple conduits spaced not less than 1 1/2" apart, unless otherwise specified. Provide approved conduit spacers as required to prevent any deflection of the conduits when concrete is poured and to preserve the position and alignment of the conduits in the concrete. Conduits shall be tied to the spacers. Anchors shall be installed to prevent floating of conduits during pouring of concrete. Red colored concrete shall be used to encase conduits of systems operating above 600 volts.
2. All underground conduits shall be buried to a depth of not less than 24" below finished grade to the top of the concrete envelope, unless otherwise specified.
3. Assemble the sections of conduit with approved fittings and stagger all joints. Cut ends of conduit shall be reamed to remove all rough edges. The joints in all conduits shall be made liquid tight. All bends at risers shall be completely below the surface where possible.

4. Two or more conduit runs in a common trench shall be separated by at least 1 1/2" of concrete. Electric conduit runs installed in a common trench with other utility lines shall be separated from such lines by at least 12" horizontally. Public telephone conduits shall be separated from electric conduits or other utility lines by not less than 3" of concrete, 2' horizontally and 1' vertically.
 5. The District's Electrical Inspector shall be called to the site for approval of all underground installations before and during concrete pour. Where considered necessary by the District's Electrical Inspector, a mandrel shall be drawn through each run of conduit in the presence of the Inspector, before and after pouring concrete. The mandrel shall be 6" in length minimum and have a diameter which is within 1/4" of the diameter of the conduit to be tested.
 6. Nonmetallic conduit installations shall comply with the following additional requirements: All joints in PVC conduit shall be sealed by means of approved solvent-weld cement supplied by the conduit manufacturer. All nonmetallic conduit bends and deflections shall comply with the requirements of the applicable Electrical Code, except that the minimum radius of any bend or offset for conduits sized from 1/2" to 1 1/2" inclusive shall not be less than 24". All 90° Ell's, 1" and larger, shall be rigid conduit. All 90 degree bends, bends at risers, and the risers shall be rigid steel conduit and shall comply with the requirements specified herein for underground rigid steel conduit installations. The radius of the curve of any bend or offset in non-metallic conduit for the Public Telephone System shall be not less than ten times the trade size of the conduit, unless otherwise specifically approved by the Public Telephone Utility Company.
 7. Rigid steel conduit installations shall comply with the following additional requirements: Where sweeps are specified or indicated, the radius shall be not less than 10'. The radius of the curve of the inner edge of any bend or offset shall be not less than is permitted in the Conduit Bend Radii table for rigid steel conduit field bends in the applicable Electrical Code, unmodified by any exemptions, bulletins, or amendments. The radius of the curve of bends or offsets for the Public Telephone System shall be not less than ten times the trade size of the conduit, unless otherwise specifically approved by the Telephone Utility Company. Rigid conduit underground to be double wrapped with 10 mill tape.
- C. In Slabs on Grade:
1. Unless specifically approved by the Office of the State Architect, conduits 1 1/4 size and larger shall not be installed in structural concrete slabs. Where conduits are permitted, and are installed in concrete slabs on grade, the slabs shall be thickened at the bottom where conduits occur to provide 3" of concrete between the conduit and earth. Conduits shall clear all rebar. The required excavation shall be part of the work of this Section.
 2. If the concrete slab is 5" or more in thickness with a moisture barrier plastic sheet between the earth and the slab, the 1" and smaller conduits shall be installed in the slab with a minimum of 1" concrete between earth and conduit.
- D. Penetration in Concrete Walls, Beams and Floors: Provide sleeves where conduits pierce concrete walls, beams and floors, except floor slabs on earth. Sleeves shall have 1/2" clearance around conduits. Sleeves shall not extend beyond the exposed surfaces of the concrete and shall be securely fastened to the forms. Where conduits pass through walls below grade, calk with District approved sealant and provide backer materials between the conduit and the sleeve to obtain a water tight joint.

3.02 STUBS:

- A. Floor: At each point where floor stubs are indicated in open floor areas for connections to equipment, the conduits shall be terminated with couplings, the tops flush with the finished floor.

Stubs shall extend above the couplings the indicated distance, but in no case less than 6" high. Where capped stubs are called for, the couplings shall be closed with cast iron plugs with screw drive slots.

B. Underground:

1. Underground conduit stubs shall be terminated at the locations indicated, but minimum 5' beyond building foundations, steps, arcades, concrete walks and paving, unless otherwise noted. Rigid steel conduit stubs and nonmetallic conduit stubs shall be capped by installing a coupling flush in the end wall of the concrete encasement and plugging with an approved plug or terminated stub in a concrete box (Christy). The As-Built Record drawings shall show the location of the ends of underground conduit stubs fully dimensioned with reference to the buildings or permanent landmarks. These dimensions, including depth below finished grade, shall be marked on the "As-Built" Record Drawings in the presence of the District's Inspector before backfilling in the trench.

3.03 WIRE INSTALLATION:

- A. Wire shall not be installed until all plastering throughout the building is completed, and all debris and moisture removed from the conduits, boxes, and cabinets.
- B. Wire-pulling compounds used as lubricants in installing conductors in raceways shall only be compounds approved and listed by Underwriters' Laboratory. No oil, grease, graphite, or similar substances may be used. Pulling of No. 1/0 or larger conductors shall be done only with an approved cable pulling machine.
- C. The District's Inspector shall be called to the site and shall supervise the installation of all feeder cables. The District shall be notified not less than two working days in advance of the proposed time of installation.
- D. At all outlets for light, power, communications, control, and signal equipment, pigtail splices with 8" circuit conductor leads shall be provided for connection to fixtures, equipment and devices.
- E. Pressure cable connectors, pre-insulated "Scotchlok" Type "Y", "R", or "B" spring loaded twist-on type, may be used for splicing 8 gauge or smaller conductors, in lieu of soldered connectors for all wiring systems, except the public address, District owned telephone system, or system clocks.
- F. All joints, splices, taps and connections for cables 6 gauge and larger, shall be made with high-pressure cable connectors approved for use with copper conductors.
- G. Wire in switchboards, panels, terminal cabinets, pull boxes and other cabinets (except public address) shall be neatly grouped and tied in bundles with nylon ties at 10" maximum intervals. At switchboards, panels and terminal blocks, wires shall be fanned out to the terminals.
- H. Each neutral conductor larger than 6 gauge which is not color identified throughout its entire length shall be painted white or taped white wherever it appears in a switchboard, cabinet, gutter or box. Neutral conductors 6 gauge and smaller shall be white color identified throughout their entire length.
- I. All systems of wiring shall be so installed that when completed, the systems will be free from short circuits and from grounds, other than required grounds. The Contractor shall provide all

instruments for testing and shall demonstrate in the presence of the District's Electrical Inspector that each system of wiring meets the following minimum requirements for insulation resistance:

1. For circuits of No. 12 AWG wiring or smaller: 1,000,000 ohms.
2. For circuits of No. 10 or larger conductors, a resistance shall be based on the following allowable current-carrying capacities of conductors:

25 to 50 amperes inclusive	250,000 ohms
51 to 100 amperes inclusive	100,000 ohms
101 to 200 amperes inclusive	50,000 ohms
201 to 400 amperes inclusive	25,000 ohms
401 to 800 amperes inclusive	12,000 ohms
Over 800 amperes inclusive	5,000 ohms

3. The above values shall be obtained with all switchboards, panel boards, fuse holder, switches, and overcurrent devices in place and connected, and with all switches closed.
4. If lamp holders, receptacles, fixtures and appliances for a system are also connected, the minimum insulation resistance permitted shall be one-half the values specified above.

J. The Contractor shall provide a "Meager" insulation tester, which will apply a minimum of 500 volts direct current for these tests when requested by the District's Inspector.

K. 120 volts and 277 volts circuits shall be routed in separate conduits, raceways and enclosures.

L. Other conductors in raceway or cable: Conductors, other than service conductors, shall not be installed in the same service raceway or service cable.

All low voltage wiring regardless of insulation voltage rating shall be in a separate raceway. It shall not be in the same raceway or pullbox with systems 100 volt or more.

3.04 FEEDER IDENTIFICATION:

Lighting, power, and low voltage feeder wires and cables shall be identified at each point of termination and at each point the conduit run is broken by a cabinet, box and gutter. Identification shall be by means of wrap around type markers, E-Z Code or Brady Perma-Code, and shall include the feeder designation, size and description.

3.05 TAPE:

Splices, joints and connectors joining conductors shall be covered with insulation equivalent to that on the conductors. Free ends of conductors connected to an energized source shall be taped. The voids in irregular connectors shall be filled with insulating compound before taping. Thermo plastic insulating tape approved by Underwriters' Laboratory for use as the sole insulation of splices shall be used and shall be applied according to the manufacturer's printed specifications. Heat shrink tubing may be used as per manufacturer's specifications.

3.06 BOXES INSTALLATION AND SUPPORT:

A. Outlet boxes shall be flush with finished surface of wall or ceiling. They shall be plumb and securely fastened to the structure independent of the conduit. Except where otherwise indicated, factory made bar hangers shall be used to support outlet boxes.

- B. Outlet boxes installed in ceilings suspended or furred with steel runner and/or furring channels shall be supported (except where otherwise indicated) by a Unistrut No. P-4000 channel spanning the main ceiling runner channels. Each box shall be supported from its channel by a 3/8" 16 threaded steel rod with a Unistrut No. P-4008 nut and a Tomic No. 711-B Adapta-Stud. The rod shall be tightened to a jamb fit with the channel and its nut. The box shall be locked to the rod by means of a 1/2" locknut on the stud and a 3/8" 16 hex nut locking the stud to the rod.
- C. The heights of outlets and equipment indicated on the drawings shall govern, but in the absence of such indications, the following heights shall be maintained. Heights are to centerline from finished floor surface, unless otherwise noted:
 - 1. Communication switch, pushbutton, light switch, other switches, and fire station outlets: 48".
 - 2. Bell and/or horn outlets in corridors: 12" below ceiling.
 - 3. Clock, speaker, and bell outlets in classrooms and offices: 8' 0".
 - 4. Outside bell and yard light outlets: 12" below the top plate level for one-story buildings without covered porch or arcade, and 12" below covered porch and arcade ceilings.
 - 5. Desk public telephone, television, desk interphones, and receptacle outlets 12".
 - 6. Panel boards and terminal cabinets: 6' 6" to top.
- D. Receptacle outlet boxes shall not be located within 6' of water sinks, except where a ground fault interrupter circuit breaker or ground fault type receptacle is provided to protect receptacle outlets located within 6' of water sinks.

3.07 PLATES:

- A. Provide an appropriate plate on each outlet. Plates shall be of stainless steel, unless otherwise specified. Public telephone plates shall have single bushed openings. Sectional plates will not be accepted.
- B. Flush wiring device and signal system outlets indicated to be blank covered, shall be covered with blank stainless steel plates. Flush lighting outlets to be capped shall be covered with Wire mold No. 5736 steel covers, painted to match the surrounding finish. Surface-mounted outlets indicated to be capped shall be covered with blank stainless steel covers.
- C. Switch and receptacle plates shall be provided with engraved designations under any one of the following:
 - 1. Switches so located that the operator cannot see one of the fixtures or items for equipment controlled with his hand on the switch.
 - 2. Receptacles operating at other than 120 volts.
 - 3. Where so indicated on the drawings.
- D. The designations shall be as indicated on the drawings or as specified and shall be engraved in the plates with 3/16" high block type letters filled with black enamel. Where designations are not indicated or specified they shall be requested from the Engineer. For estimating purposes, they may be assumed 12", not to exceed more than ten letters per gang.

3.08 IDENTIFICATION OF CIRCUITS AND EQUIPMENT:

- A. Switchboards, motor control centers, transformers, panel boards, circuit breakers, disconnecting switches, starters, pushbutton control stations and other apparatus used for the operation or

control of circuits, appliances or equipment, shall be properly identified by means of descriptive nameplates or tags permanently attached to the apparatus or wiring.

- B. Nameplates shall be engraved laminated bakelite. Shop Drawings with dimensions and format shall be submitted to the District or Architect for approval before installation. Attachment to equipment shall be with self-tapping screws. Self-adhering or adhesive backed nameplates shall not be used.
- C. Tags shall be attached to feeder wiring in conduits at every point where runs are broken or terminated, including pull wires in empty conduits. Circuit, phase and function shall be indicated. Branch circuits shall be tagged in distribution boards, panel boards, and motor control centers. Tags shall be made of pressure sensitive plastic or embossed self-attached stainless steel or brass ribbon.
- D. Cardholders and cards shall be provided for circuit identification in panel boards. Cardholders shall consist of metal frame retaining a clear plastic cover permanently attached to the inside of panel door. List of circuits shall be typewritten on a card. Circuit description shall include name or number of circuit, area and connected load.
- E. Junction and pull boxes shall have covers stenciled with box number when shown on the drawings, or circuit numbers according to panel schedules. Data shall be lettered in a conspicuous manner with a color contrasting with finish.
- F. Name as described in part 2A shall be correctly engraved with a legend showing function or areas when required by Codes or shown on the drawings.
- G. Provide identity tags as to source and destination of all underground feeder cables in underground boxes.
- H. Underground feeder cables not to exceed 200 feet without a pull box.

END OF SECTION

SECTION 26 05 26 – GROUNDING AND BONDING FOR ELECTRICAL SYSTEMS**PART 1 – GENERAL****1.01 DESCRIPTION:****A. Work Included:**

1. Provide and install a grounding system as specified and indicated.

B. Related Work:

1. See related Sections for their system grounding requirements.
2. Electrical: Section 260000.
3. Common Work Results for Electrical: Section 260500.

1.02 SYSTEM REQUIREMENT:

- A. Grounding shall be as approved by the State of California, Division of Industrial Safety.
- B. Electrical continuity to ground for metal raceways and enclosures, which are isolated from the equipment ground by use of non-metallic conduit or fittings, shall be provided with a Code sized green insulated grounding conductor within each raceway connected to the isolated metallic raceways or enclosures at each end. Each flexible conduit shall be provided with a green insulated grounding conductor of Code approved size.
- C. Cold water or other utility piping systems shall not be used as the main system grounding electrodes due to the possible use of insulating couplings and nonmetallic pipe in such installations. All grounding electrodes shall be made electrodes as indicated on the drawings. Within every building the panels shall be bonded to a 1" or larger underground cold water service line with minimum 1" conduit, and one No. 6 wire. All metallic piping systems (gas, fire sprinkler) shall be bonded to the cold water line with 3/4" conduit with one No. 8 wire.
- D. Non-current carrying metal parts of all high voltage, light and/or power, communications, control, and signal conduit systems, supports, cabinets, switchboards, enclosures, fixed equipment, portable equipment and motor frames shall be permanently and effectively grounded.
- E. Service neutral conductors of light and/or power alternating current systems shall be grounded as indicated on the drawings and as required by the Utility Company.
- F. Secondary neutral conductors of all light, power and signal alternating current systems shall be grounded.
- G. Provide a "made electrode" bonded to the equipment enclosure at each separate building, including portable buildings, for each light and/or power system. Grounded (neutral) conductors shall be terminated at the neutral bus of the first panel or switchboard encountered within the

building, and the neutral bus, equipment enclosure and "made electrode" shall be bonded together.

1.03 SUBMITTALS:

Submit a material list in accordance with Section 013000.

PART 2 – PRODUCTS

2.01 MATERIALS:

- A. Yard boxes for "made electrodes" shall be precast concrete as detailed on the drawings. Boxes shall be equipped with bolted down, checkered, cast iron covers and a cast iron frame cast into the box. Yard boxes shall be Brooks 36 or approved manufacturer.
- B. "Made electrodes" shall be approved copper clad steel ground rods, minimum 3/4" diameter 10' 0" long or a copper "Ufer" conductor encased in the concrete building foundation as indicated on the drawings.

PART 3 – EXECUTION

3.01 INSTALLATION:

- A. Grounding "made electrode" rods shall be located in the nearest usable planting area, where not otherwise indicated on the drawings, and each electrode shall terminate within a concrete yard box installed flush with finish grade. In planting areas, concrete yard box shall be 2" above planting surfaces.
- B. Rods shall be driven to a depth of not less than 8' 0". Electrodes shall have a resistance to ground of not more than 25 ohms if practicable. If the resistance exceeds 25 ohms, two or more electrodes connected in parallel shall be provided. The minimum number and size of ground rods shall be as required by State Electrical Safety Orders. Electrodes shall be separated from one another by not less than 6' 0". Parallel electrodes shall be connected together with approved fittings and approved grounding conductors in galvanized rigid steel conduit, buried not less than 12" below finish grade.
- C. The grounding resistance shall be tested by an approved independent testing laboratory in the presence of the District Inspector, District Electrical Maintenance Supervisor and the District Engineer. The test results shall be submitted to the District Maintenance Supervisor on an official form for file with copies distributed to the District Inspector and Engineer.

END OF SECTION

SECTION 26 05 53 – IDENTIFICATION FOR ELECTRICAL SYSTEMS**PART 1 – GENERAL****1.01 RELATED DOCUMENTS:**

- A. Drawings and general provisions of the Contract, including General Section 00700 and Division 1 Specification Sections, apply to this Section.

1.02 SUMMARY:

- A. This Section includes identification of electrical materials, equipment, and installations.

1.03 SUBMITTALS:

- A. General: Submit each item in this Paragraph according to the Conditions of the Contract and Division 1 Specification Sections.
- B. Product Data for each type of product specified.
- C. Schedule of identification nomenclature to be used for identification signs and labels.
- D. Samples for each color, lettering style, and other graphic representation required for identification materials; samples of labels and signs.

1.04 QUALITY ASSURANCE:

- A. Comply with California Electrical Code.
- B. Comply with ANSI C2.

1.05 SEQUENCING AND SCHEDULING:

- A. Coordinate installing electrical identification after completion of finishing where identification is applied to field-finished surfaces.
- B. Coordinate installing electrical identifying devices and markings prior to installing acoustical ceilings and similar finishes that conceal such items.

PART 2 – PRODUCTS**2.01 MANUFACTURERS**

- A. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - 1. Brady USA, Inc.; Industrial Products Division.

2. Carlton Industries, Inc.
3. Cole-Flex Corp.
4. EMED Co., Inc.
5. Ideal Industries, Inc.
6. Panduit Corp.

2.02 RACEWAY AND CABLE LABELS

- A. Manufacturer's Standard Products: Where more than one type is listed for a specified application, selection is Installer's option, but provide single type for each application category. Use colors prescribed by ANSI A13.1, California Electrical Code, and these Specifications.
- B. Conform to ANSI A13.1, Table 3, for minimum size of letters for legend and minimum length of color field for each raceway or cable size.
 1. Color: Black legend on orange field.
 2. Legend: Indicates voltage and services.
- C. Adhesive Labels: Preprinted, flexible, self-adhesive vinyl. Legend is over-laminated with a clear, weather- and chemical-resistant coating.
- D. Pretensioned, Wraparound Plastic Sleeves: Flexible, preprinted, color-coded, acrylic bands sized to suit the diameter of the line it identifies and arranged to stay in place by pretensioned gripping action when placed in position.
- E. Colored Adhesive Tape: Self-adhesive vinyl tape not less than 3 mils thick by 1 to 2 inches wide (0.08 mm thick by 25 to 51 mm wide).
- F. Underground Line Warning Tape: Permanent, bright-colored, continuous-printed, vinyl tape with the following features:
 1. Size: Not less than 6 inches wide by 4 mils thick (152 mm wide by 0.102 mm thick).
 2. Compounded for permanent direct-burial service.
 3. Embedded continuous metallic strip or core.
 4. Printed Legend: Indicates type of underground line.
- G. Tape Markers: Vinyl or vinyl-cloth, self-adhesive, wraparound type with preprinted numbers and letters.
- H. Aluminum, Wraparound Marker Bands: Bands cut from 0.0140-inch (0.4 mm) thick aluminum sheet, with stamped or embossed legend, and fitted with slots or ears for permanently securing around wire or cable jacket or around groups of conductors.

- I. Plasticized Card-Stock Tags: Vinyl cloth with preprinted and field-printed legends. Orange background, except as otherwise indicated, with eyelet for fastener.
- J. Aluminum-Faced Card-Stock Tags: Weather-resistant, 18-point minimum card stock faced on both sides with embossable aluminum sheet, 0.002 inch (0.05 mm) thick, laminated with moisture-resistant acrylic adhesive, and punched for the fastener. Preprinted legends suit each application.
- K. Brass or Aluminum Tags: Metal tags with stamped legend, punched for fastener. Dimensions: 2 x 2 inches (51 x 51 mm) x 0.05 inch (1.3 mm).

2.03 ENGRAVED NAMEPLATES AND SIGNS:

- A. Manufacturer's Standard Products: Where more than one type is listed for a specified application, selection is Installer's option, but provide single type for each application category. Use colors prescribed by ANSI A13.1, California Electrical Code, and these Specifications.
- B. Engraving stock, melamine plastic laminate, 1/16-inch (1.6 mm) minimum thick for signs up to 20 sq. in. (129 sq. cm), 1/8-inch (3.2 mm) thick for larger sizes.
 - 1. Engraved Legend: Black letters on white face.
 - 2. Punched for mechanical fasteners.
- C. Baked-Enamel Signs for Interior Use: Preprinted aluminum signs, punched for fasteners, with colors, legend, and size as indicated or as otherwise required for the application. 1/4-inch (6.4 mm) grommets in corners for mounting.
- D. Exterior, Metal-Backed, Butyrate Signs: Weather-resistant, nonfading, preprinted, cellulose acetate butyrate signs with 0.0396 inch (1 mm) galvanized steel backing, with colors, legend, and size appropriate to the application. 1/4-inch (6.4 mm) grommets in corners for mounting.
- E. Fasteners for Plastic-Laminated and Metal Signs: Self-tapping stainless-steel screws or No. 10/32 stainless-steel machine screws with nuts and flat and lock washers.

2.04 MISCELLANEOUS IDENTIFICATION PRODUCTS:

- A. Cable Ties: Fungus-inert, self-extinguishing, 1-piece, self-locking, Type 6/6 nylon cable ties with the following features:
 - 1. Minimum Width: 3/16 inch (5 mm).
 - 2. Tensile Strength: 50-lb. (22.3 kg) minimum.
 - 3. Temperature Range: Minimum 40-85°F (minimum 4-85°C).
 - 4. Color: As indicated where used for color-coding.
- B. Paint: Alkyd-urethane enamel over primer as recommended by enamel manufacturer.

PART 3 – EXECUTION**3.01 INSTALLATION:**

- A. Install identification devices according to manufacturer's written instructions.
- B. Install labels where indicated and at locations for best convenience of viewing without interference with operation and maintenance of equipment.
- C. Lettering, Colors, and Graphics: Coordinate names, abbreviations, colors, and other designations used for electrical identification with corresponding designations used in the Contract Documents or required by codes and standards. Use consistent designations throughout the Project.
- D. Sequence of Work: Where identification is to be applied to surfaces that require finish, install identification after completion of finish work.
- E. Self-Adhesive Identification Products: Clean surfaces of dust, loose material, and oily films before applying.
- F. Install painted identification as follows:
 - 1. Clean surfaces of dust, loose material, and oily films before painting.
 - 2. Prime Surfaces: For galvanized metal, use single-component, acrylic vehicle coating formulated for galvanized surfaces. For concrete masonry units, use heavy-duty, acrylic-resin block filler. For concrete surfaces, use clear, alkali-resistant, alkyd binder-type sealer.
 - 3. Apply one intermediate and one finish coat of silicone alkyd enamel.
 - 4. Apply primer and finish materials according to manufacturer's instructions.
- G. Identify Raceways and Exposed Cables of Certain Systems with Color Banding: Band exposed and accessible raceways of the systems listed below for identification.
 - 1. Bands: Pretensioned, snap-around, colored plastic sleeves; colored adhesive tape; or a combination of both. Make each color band 2 inches (51 mm) wide, complete encircling conduit, and place adjacent bands of two-color markings in contact, side by side.
 - 2. Locate bands at changes in direction, at penetrations of walls and floors, at 50-foot (15 m) maximum intervals in straight runs, and at 25 feet (7.6 m) in congested areas.
 - 3. Colors—as follows:
 - a. Fire-Alarm System: Red.
 - b. Fire-Suppression Supervisory and Control System: Red and yellow.

- c. Combined Fire-Alarm and Security System: Red and blue.
 - d. Security System: Blue and yellow.
 - e. Mechanical and Electrical Supervisory System: Green and blue.
 - f. Telecommunications System: Green and yellow.
- H. Install Circuit Identification Labels on Boxes: Label externally as follows:
- 1. Exposed Boxes: Pressure-sensitive, self-adhesive plastic label on cover.
 - 2. Concealed Boxes: Plasticized card-stock tags.
 - 3. Labeling Legend: Permanent, waterproof listing of panel and circuit number or equivalent.
- I. Identify Paths of Underground Electrical Lines: During trench backfilling, for exterior underground power, control, signal, and communications lines, install continuous underground plastic line marker located directly above line at 6 to 8 inches (150 to 200 mm) below finished grade. Where multiple lines installed in a common trench or concrete envelop, do not exceed an overall width of 16 inches (400 mm); use a single line marker.
- 1. Limit use of line markers to direct-buried cables.
 - 2. Install line marker for underground wiring, both direct buried and in raceway.
- J. Color-Code Conductors: Secondary service, feeder, and branch circuit conductors throughout the secondary electrical system.
- 1. 208/120-V System--as follows:
 - a. Phase A: Black.
 - b. Phase B: Red.
 - c. Phase C: Blue.
 - d. Neutral: White.
 - e. Ground: Green.
 - 2. 480/277-V System--as follows:
 - a. Phase A: Yellow.
 - b. Phase B: Brown.
 - c. Phase C: Orange.
 - d. Neutral: White.
 - e. Ground: Green.
 - 3. Factory-apply color the entire length of the conductors, except the following field-applied, color-coding methods may be used in lieu of factory-coded wire for sizes larger than No. 10 AWG.
 - a. Colored, pressure-sensitive plastic tape in half-lapped turns for a distance of 6 inches (150 mm) from terminal points and in boxes where splices or taps are made. Apply

the last two turns of tape with no tension to prevent possible unwinding. Use 1-inch (25 mm) wide tape in colors as specified. Adjust tape bands to avoid obscuring cable identification markings.

- b. Colored cable ties applied in groups of 3 ties of specified color to each wire at each terminal or splice point starting 3 inches (76 mm) from the terminal and spaced 3 inches (76 mm) apart. Apply with a special tool or pliers, tighten to a snug fit, and cut off excess length.
 4. For all system voltages:
 - a. Isolated ground conductors: Green with yellow stripe.
 - b. Mark with a 1" band of green tape, followed by a 1" band of yellow tape, followed by a 1" band of green tape.
- K. Power Circuit Identification: Use metal tags or aluminum wraparound marker bands for cables, feeders, and power circuits in vaults, pull boxes, junction boxes, manholes, and switchboard rooms.
1. Legend: 1/4 inch (6.4 mm) steel letter and number stamping embossing with legend corresponding to indicated circuit designations.
 2. Fasten tags with nylon cable ties; fasten bands using integral ears.
- L. Apply identification to conductors as follows:
1. Conductors to be extended in the future: Indicate source and circuit numbers.
 2. Multiple power or lighting circuits in the same enclosure: Identify each conductor with source, voltage, circuit number, and phase. Use color-coding for voltage and phase indication of secondary circuit.
 3. Multiple control communications circuits in the same enclosure: Identify each conductor by its system and circuit designation. Use a consistent system of tags, color-coding, or cable marking tape.
- M. Apply warning, caution, and instruction signs and stencils as follows:
1. Install warning, caution, and instruction signs where indicated or required to ensure safe operation and maintenance of electrical systems and of items to which they connect. Install engraved, plastic-laminated instruction signs with approved legend where instructions or explanations are needed for system or equipment operation. Install butyrate signs with metal backing for outdoor items.
 2. Emergency-Operating Signs: Install engraved laminate signs with white legend on red background with minimum 3/8 inch (9 mm) high lettering for emergency instructions on power transfer, load shedding, and other emergency operations.

N. Install Identification as follows:

1. Apply equipment identification labels of engraved plastic laminate on each major unit of equipment, including central or master unit of each system. This includes communication, signal, and alarm systems, unless units are specified with their own self-explanatory identification. Except as otherwise indicated, provide a single line of text with 1/2 inch (13 mm) high lettering on a 1 1/2 inch (38 mm) high label; where two lines of text are required, use lettering 2 inches (51 mm) high. Use white lettering on black field. Apply labels for each unit of the following categories of equipment.
 - a. Panel boards, electrical cabinets, and enclosures.
 - b. Access doors and panels for concealed electrical items.
 - c. Electrical switchgear and switchboards.
 - e. Motor control centers.
 - f. Motor starters.
 - g. Push-button stations.
 - h. Contactors.
 - i. Remote-controlled switches.
 - j. Dimmers.
 - k. Control devices.
 - l. Transformers.
 - m. Telephone switching equipment.
 - n. Clock/program master equipment.
 - o. TV/audio monitoring master station.
 - p. Fire-alarm master station or control panel.
 - q. Security-monitoring master station or control panel.
2. Apply designation labels of engraved plastic laminate for disconnect switches, breakers, push-buttons, pilot lights, motor control centers, and similar items for power distribution and control components above, except panel boards and alarm/signal components where labeling is specified elsewhere. For panel boards, provide framed, typed circuit schedules with explicit description and identification of items controlled by each individual breaker.

END OF SECTION

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SECTION 311100 - SITE CLEARING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. This Section includes the following:

- 1. Provide all material, labor, equipment and services necessary to completely clear and demolish all materials, accessories and other related items necessary to complete the Project as indicated by the Contract Documents.

- B. RELATED SECTIONS:

- 1. Contract General Conditions and Division 1, General Requirements
 - 2. Section 31 20 00 – Earthwork: Excavation, Filling, and Grading
 - 3. Section 31 22 22 – Soil Materials
 - 4. Section 31 23 33 – Trench Excavation and Backfill

1.3 QUALITY ASSURANCE

- A. Regulatory Requirements:

- 1. In accordance with Specification Section GENERAL REQUIREMENTS, and the following:
 - a. Materials and equipment used for this project shall comply with the current applicable regulations of the California Air Resources Board [CARB] and the Environmental Protection Agency [EPA].

- B. Meetings:

- 1. Minimum agenda shall be to discuss coordination of upcoming work, review the work progress, discuss field observations, identification of any potential problems which may impede planned progress; corrective measures to regain projected schedule; and maintenance of quality and work standards.
 - 2. Meetings shall include Pre-Clearing and Demolition Meetings.
 - 3. Participants (or designated representative of) invited to attend each of the above meetings shall be as follows:

- a. Contractor.
- b. Owner.
- c. Architect.
- d. Testing Laboratory.
- e. Local Governing Authorities as applicable.
- f. Utility Representatives as applicable.
- g. Owner's Inspector.
- h. Clearing and Demolition Subcontractor.
- i. Other subcontractors, as appropriate (including any accessory subcontractors).

1.4 PROJECT CONDITIONS OR SITE CONDITIONS

A. Dust Control

1. Contractor shall comply with all requirements of the San Joaquin Valley Air Pollution Control District (SJVAPCD) for construction activity related to this project.
2. A Dust Control Plan, as required by the SJVAPCD, may be required for this project. Contractor shall be responsible for preparing said Dust Control Plan, submitting to the SJVAPCD for review and approval, and paying all SJVAPCD review and permitting fees related to the Dust Control Plan.
3. No construction activity related to this project may begin until Contractor has secured an approved Dust Control Plan, if one is required.
4. Contractor shall be solely responsible to implement all requirements of the Dust Control Plan throughout the life of this contract.
5. Should fines or fees be levied against the Project for violations of the Dust Control Plan and/or related SJVAPCD regulations, Contractor shall be responsible to pay all said fines or fees and to implement all mitigation measures required by SJVAPCD in order to bring the construction activity into compliance with SJVAPCD regulations. The costs for any such fines or fees shall be included in the lump sum price bid for work under this contract and no additional payment will be made therefor.

B. Existing Conditions:

1. Examine site and compare it with the drawings and specifications. Thoroughly investigate and verify conditions under which the work is to be performed. No allowance will be made for extra work resulting from negligence or failure to be acquainted with all available information concerning conditions necessary to estimate the difficulty or cost of the work.
2. Conduct work so as not to interfere unnecessarily with adjacent roads, streets, drives, walks or occupied facilities.
 - a. Do not close or obstruct streets, walks, or other adjacent occupied or used facilities without permission from Owner and Authorities having jurisdiction.
 - b. Provide alternate routes around closed or obstructed traffic ways if required by Authorities having jurisdiction.

3. Locate and identify utilities.
 - a. Call a Local Utility Locator Service (USA – “Underground Service Alert” – [800] 227-2600) for the task of locating any applicable utilities in the area where the Project is located.
4. Carefully remove items indicated to be salvaged and store on Owner’s premises at the Owner’s direction.

PART 2 - PRODUCTS

(NOT APPLICABLE)

PART 3 - EXECUTION

3.1 PREPARATION

A. Coordination:

1. Coordinate work under this specification section with work specified under other sections to ensure proper and adequate interface of work.

B. Protection:

1. Protect and maintain all benchmarks and survey control points from disturbance during clearing and demolition operations.
2. Provide erosion-control measures to prevent soil erosion and discharge of soil-bearing water runoff or airborne dust to adjacent properties.
3. Furnish and install temporary protection/barrier fencing surrounding the limits of demolition.
4. Protect trees, plant growth, and features not specifically designated for removal. Locate and clearly flag trees and vegetation to remain or to be relocated.
5. Protect existing improvements designated to remain from damage during construction.
 - a. Restore damaged improvements to their original condition, as acceptable to the Owner.

3.2 CONSTRUCTION

A. Vegetation, Shrub, Topsoil, Weed Removal:

1. Remove weeds and rooted topsoil to a minimum three (3) inch depth and temporarily stockpile as needed for re-use in finished grading of landscape areas. Remove excess material from the site.
2. Where existing vegetation is to be replaced by new materials, remove contaminated or excess soil from the site and legally dispose of off-site.

B. Existing Site Improvements Removal:

1. Remove existing above and below grade improvements as necessary to facilitate new construction.
 - a. Remove concrete slabs, sidewalk, curbs, mow strips, gutters, and fence post footings.
 - 1) Neatly saw-cut length of existing pavement to remain before removing existing pavement unless existing full-depth joints coincide with line of demolition. Saw-cut faces vertically.
 - b. Remove indicated utility improvements within the limits of construction.
 - 1) Excavate for and disconnect utilities designated to be removed. Seal or cap off underground.
 - 2) Coordinate removal and/or relocation of utilities with the appropriate utility agencies.
 - c. Where existing underground utilities, irrigation pipes, wells, leach fields, or underground tanks are encountered, they must be removed or moved to a point at least 5 feet horizontally outside the proposed building and 3 feet horizontally outside the concrete flatwork or pavement construction areas. All resultant cavities must be backfilled with engineered fill.
 - d. Remove concrete slabs, foundations, and utilities within building footprint.

C. Existing Utilities to Remain or be Relocated:

1. Do not interrupt utilities serving facilities occupied by Owner or others unless permitted under the following conditions and then only after arranging to provide temporary utility services according to requirements indicated:
 - a. Notify Architect and the Owner not less than seven (7) days in advance of proposed utility interruptions.
 - b. Arrange to shut off indicated utilities with utility companies and Owner.

D. Disposal:

1. Legally dispose of all debris (surplus soil materials, unsuitable topsoil, obstructions, demolished materials, waste materials, trash, etc.) resulting from clearing, grubbing, demolition and from construction. Disposal of all materials shall be at a location secured by the Contractor off of the Owner's property.

END OF SECTION

SECTION 312000 - EARTHWORK: EXCAVATION, FILLING AND GRADING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. This Section includes the following:
 - 1. Excavating soil and other material for surface improvements
 - 2. Placing fill
 - 3. Compaction of existing ground and fill
 - 4. Preparation of subgrade for other improvements
 - 5. Grading of soil
- B. RELATED SECTIONS
 - 1. Contract General Conditions and Division 1, General Requirements
 - 2. Section 31 11 00 – Site Clearing
 - 3. Section 31 22 22 – Soil Materials
 - 4. Section 31 23 33 – Trench Excavation and Backfill

1.3 REFERENCES

- A. ANSI/ASTM D1557 - Test Methods for Moisture-Density Relations of Soils and Soil Aggregate Mixtures Using 10 lb (4.54 Kg) Rammer and 18-inch (457 mm) Drop.
- B. A Geotechnical Engineering Investigation Report has been prepared for the project by BSK Associates; BSK Project G24000166, dated April 10, 2024. A copy of the report is available (for reference only) at the cost of reproduction. Contact BSK Associates if a copy of the report is desired.

1.4 DEFINITIONS

- A. Utility: Any buried or above ground pipe, conduit, cable, associate device or appurtenances, or substructure pertaining thereto.

1.5 SUBMITTALS

A. Product Data:

1. Information indicating the source of all import material, the fill material type and where it is to be used, and approval of the District's Inspector of Record for incorporation of import material into the Work.

B. Material Test Reports:

1. Classification of Soils
2. Compaction Characteristics of Soils
3. Density and Unit Weight of Soils in Place
4. Imported fill shall be tested and approved by the Owner's Geotechnical Engineer prior to import to the site, including testing for compliance with Department of Toxic Substances Control (DTSC) guidelines. Said testing and certification documents shall be paid for by the Owner.

C. Project Closeout: In accordance with Specification Section PROJECT CLOSEOUT.

1. Drawings indicating the extent and depth of all engineered fill, and overexcavation and recompaction. This information shall be a part of the Project "As-Built" and Project "Record" Documents in accordance with the Specification Section PROJECT DOCUMENTS.

1.6 QUALITY ASSURANCE

A. Installer:

1. Qualifications:

- a. Engage an experienced Installer who has successfully completed three (3) projects of similar scope and size to that indicated for this project within the past 5 years.

B. Regulatory Requirements:

1. In accordance with Specification Section REGULATORY REQUIREMENTS and the following:
 - a. CARB Materials and equipment used for this Project shall comply with the current applicable regulations of the California Air Resources Board [CARB].
 - b. CM City of Mendota, Codes and Ordinances
 - c. EPA Environmental Protection Agency.

- d. CAL/OSHA Comply with all provisions of the Construction Safety Orders and the General Safety Orders of the California Division of Occupational Safety and Health, as well as all other applicable regulations as they pertain to the protection of workers from the hazard of caving ground excavations.
- e. DTSC Comply with all recommendations of the California Department of Toxic Substance Control (DTSC) regarding soil testing for potential contaminants.

C. Certificates:

- 1. Installer's certification that all Earthwork installation meets or exceeds the requirements of this specification.
- 2. Contractor's certification (on Contractor's letterhead paper) that the Earthwork materials and installation meets or exceeds the requirements of this specification.

D. Meetings:

- 1. Pre-Installation: Schedule prior to the start of work.
 - a. Coordinate the work with other work being performed.
 - b. Identify any potential problems, which may impede planned progress and proper installation of work regarding quality of installation and warranty requirements.
- 2. Progress: Scheduled by the Contractor during the performance of the work.
 - a. Review for proper installation of work progress.
 - b. Identify any installation problems and acceptable corrective measures.
 - c. Identify any measures to maintain or regain project schedule if necessary.
- 3. Completion: Scheduled by the Contractor upon proper completion of the work.
 - a. Inspect and identify any problems which may impede issuance of warranties or guaranties.
 - b. Maintain installed work until the Notice of Substantial Completion has been filed.

1.7 COORDINATION

- A. Coordinate work with Owner's personnel.
- B. Provide required notification to the Owner and Geotechnical Engineer or the Engineer of Record so that a representative from the Owner's Geotechnical Engineering consultant can be present for all excavation, filling and grading operations to test and observe earthwork construction.
- C. Verify that the location of existing utilities has been indicated at work site by utility authorities, by Owner, and as specified on the Plans.

1.8 EXISTING CONDITIONS

A. Existing Conditions:

1. Examine the site and verify conditions with the Drawings and Specifications. Contractor shall familiarize himself with existing site conditions and any changes that have occurred at the site since the preparation of the contract documents and shall be responsible to account for any such changes in the price bid for this work.
2. Thoroughly investigate and verify conditions under which the Work is to be performed.
3. Locate and identify utilities:
 - a. Call a Local Utility Locator Service (USA - "Underground Service Alert" – [800] 227-2600) for the task of locating any applicable off-site and on-site utilities in the area where the Project is located.
4. No allowance for Extra Work will be granted resulting from negligence or failure to meet requirements of this Section.

B. Where subsurface work involves more than the normal depth of excavation required for the removal and/or construction of surface improvements (surface improvements such as concrete flatwork, paving, landscaping, signs, etc.), the Engineer will have made a diligent attempt to indicate on the plans the location of all main and trunk line utility facilities which may affect the Work. In many cases, however, the only available information relative to the existing location of said facilities may have been small scale undimensioned plats. The locations of said facilities, therefore, shall be considered approximate only, until exposed by the Contractor.

C. Under similar circumstance, service laterals and appurtenances will have also been shown where information was available as to their location. In many cases, however, the only available information relative to the existing location of said facilities may have been small scale undimensioned plats. The locations of said facilities, therefore, shall be considered approximate only, until exposed by the Contractor.

D. Determine exact location of existing buried utilities by:

1. Marking on ground or pavement surface the alignment and extent of the facilities and the probable location of existing utilities using construction plans and existing surface features.
2. Requesting Underground Service Alert (USA) to indicate location of existing buried facilities (phone 1-800-227-2600). Provide USA a minimum of two (2) working days notice of request for locations and notify Owner of said request concurrently.
3. Confirm exact location of existing utilities by hand methods of excavation, or by use of vacuum equipment.

E. At proposed work location, expose by hand methods (or vacuum equipment) all existing utilities along the route of the proposed work prior to using any mechanical equipment. If mechanical equipment is allowed at a particular location, it may only be used after the completion by the Contractor of a successful exhaustive search by hand (or vacuum equipment) methods to locate all existing facilities as indicated on the plans, and/or as indicated on the ground by USA or Owner's personnel.

- F. Provide Field Engineering to record the location of all utilities encountered. Where locational conflicts exist between existing utilities and the planned location of facilities to be constructed under this Contract, submit detailed information to the Engineer for review and direction.
- G. Maintain all existing utility mains and service lines in constant service during construction of the Work.
- H. Where service disruptions are allowed, minimize the length of such disruptions by proper scheduling and diligent pursuit of the work, and coordinate the timing of any such disruptions in advance with the District.
- I. Existing soils are considered to have a severely corrosive potential to unprotected buried metal objects.
- J. Existing soils are considered to have a low expansion potential.

1.9 ENVIRONMENTAL REQUIREMENTS

- A. Dust control: Perform work in a manner as to minimize the spread of dust and flying particles. Thoroughly moisten all surfaces as required to prevent dust from being a nuisance to the public, neighbors and concurrent performance of other on-site work.
 - 1. All disturbed areas, including storage piles, which are not being actively utilized for construction purposes, shall be effectively stabilized of dust emissions using water, chemical stabilizer/suppressant, or vegetative ground cover.
 - 2. All land clearing, demolition, grubbing, scraping, excavation, land leveling, grading, and cut and fill activities shall be effectively controlled of fugitive dust emissions utilizing application of water or by pre-soaking.
 - 3. When materials are transported off-site, all material shall be covered, effectively wetted to limit visible dust emissions or at least six inches of freeboard space from the top of the container shall be maintained.
 - 4. All operations shall limit or expeditiously remove the accumulation of mud or dirt from adjacent public streets at least once every 24 hours when operations are occurring. The use of dry rotary brushes is expressly prohibited except where preceded or accompanied by sufficient wetting to limit the visible dust emissions. The use of blower devices is expressly forbidden.
 - 5. Following the addition of materials to, or the removal of materials from, the surface of outdoor storage piles, said piles shall be effectively stabilized of fugitive dust emissions utilizing sufficient water or chemical stabilizer/ suppressant.
 - a. Contractor shall comply with all requirements of the San Joaquin Valley Air Pollution Control District (SJVAPCD) for construction activity related to this project.
 - b. A Dust Control Plan, as required by the SJVAPCD, may be required for this project. If required, Contractor shall be responsible for preparing said Dust Control Plan, submitting to the SJVAPCD for review and approval, and paying all SJVAPCD review and permitting fees related to the Dust Control Plan.
 - c. If a dust control plan is required, no construction activity related to this project may begin until Contractor has secured an approved Dust Control Plan.
 - d. Contractor shall be solely responsible to implement all requirements of the Dust

Control Plan throughout the life of this contract.

- e. Should fines or fees be levied against the Project for violations of the Dust Control Plan and/or related SJVAPCD regulations, Contractor shall be responsible to pay all said fines or fees and to implement all mitigation measures required by SJVAPCD in order to bring the construction activity into compliance with SJVAPCD regulations. The costs for any such fines or fees shall be included in the lump sum price bid for work under this contract and no additional payment will be made therefore
 - B. Burning: No burning will be allowed on-site.
 - C. Rain: Work under this section shall not be started or maintained under threat of rain, unless the work is not affected by the rain.
 - D. Do not place fill during weather conditions which will alter moisture content of fill materials sufficiently to make compaction to the specified densities difficult or impossible.
 - E. When reference is made to SWPPP (Storm Water Pollution Prevention Plan), if any within this Project Manual, then comply with all environmental protection requirements included therein.
 - F. In accordance with EPA, CARB and CM.
 - G. Protection:
 - 1. Protect cut and fill areas to prevent water running into excavation. Maintain areas free of water. Remove seeping water immediately by pumps. Provide dewatering as necessary.
 - 2. Protect cut slopes from erosion due to precipitation and other sources of runoff.
 - 3. Protect utilities to remain within the construction area and special construction. If utility lines are uncovered (water, electric, sewer, etc.) not shown on the drawings during excavation of site, notify the Architect promptly for its review and action.
 - 4. Do not permit access to undeveloped portions of the site, nor to areas that are outside of the limits of grading.
 - H. Before being brought onto the site, all import soil must be sampled, tested and approved by Owner's Geotechnical Engineer. All import material must comply with DTSC recommendations and guidelines for environmentally clean soil suitable for school construction. Import testing will be provided and paid for by the Owner.
- 1.10 PROJECT RECORD DOCUMENTS
- A. Submit under provisions of GENERAL CONDITIONS and DIVISION 1, GENERAL REQUIREMENTS.
 - B. Accurately record actual locations of utilities encountered including depth and horizontal location, as measured from permanent site features.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. Fill in Turf or Other Planting Areas: Type S2 or S3 per Division 31 Specification Section SOIL MATERIALS.
- B. Fill in Non-planting Areas: Type S1, S2 or S4 per Division 31 Specification Section SOIL MATERIALS.
- C. Imported material: Type S3, S4 or S5 per Division 31 Specification Section SOIL MATERIALS.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Verify site conditions.

3.2 PREPARATION

- A. Layout of Work:
 - 1. Contractor shall be responsible for all lines and grades. Layout shall be provided by a California registered Land Surveyor or Civil Engineer, at Contractor's expense.
 - 2. Check all benchmarks, monuments and property lines and verify locations.
 - 3. Locate and maintain all grade stakes.
 - 4. Monuments moved or displaced during grading operation are to be replaced by a California Registered Civil Engineer or Surveyor, at Contractor's expense.
- B. Locate, identify, and protect existing above and below grade utilities from damage.
- C. Protect plant life, lawns, trees, shrubs, and other features not authorized for removal.
- D. Protect existing structures, fences, curbs, sidewalks, paving and other improvements to remain from damage from excavation equipment and vehicular traffic.
- E. Employ equipment and methods appropriate to the work site.
- F. Protect excavated areas from drainage inflow and provide for drainage of all excavated areas.
- G. Comply with all provisions of the Construction Safety Orders and General Safety Orders of the California Division of Industrial Safety, as well as all other applicable regulations as they pertain to the protection of workers from the hazard of caving ground in excavations.

3.3 SITE STRIPPING:

- A. Reference is made to Division 31 Specification Section SITE CLEARING.
- B. Within the areas of planned surface improvements and structures, the near surface soils containing vegetation, roots, organics, or other objectionable material must be stripped and removed from the site. Upon approval of the Geotechnical Engineer, suitable materials stripped from the site may stockpiled and incorporated into the finish fill for planting areas.
- C. All areas to receive surface improvements shall be stripped to remove turf, shrubs, trees and other vegetation, along with associated root systems, concrete, wood, metal, rubbish and other unsuitable debris, and any loose, saturated or unconsolidated soil material. Minimum stripping depth is expected to be 3-inches below existing site grades. Stripping shall continue to the depth required to expose acceptable basement soils that are free from deleterious which are not suitable for Engineered Fill, as required by the Geotechnical Engineer.

3.4 EXCAVATION

- A. Following clearing and stripping operations, excavate planned construction areas as specified in this Section.
- B. Areas within the planned building shall be over-excavated 12 inches below the stripped subgrade surface or 12 inches below the bottom of footings, whichever is deeper. The over-excavation shall extend a minimum of 5 feet beyond footings and building columns.
- C. Areas of exterior concrete improvements located outside the building pad over-excavation limits shall be over-excavated 12 inches below the stripped subgrade surface or 12 inches below the bottom of slab, whichever is deeper. The over-excavation shall extend a minimum of 5 feet beyond limits of the concrete improvements.
- D. Areas of asphalt concrete improvements shall be over-excavated 12 inches below the stripped subgrade surface or 12 inches below the bottom of pavement structural section, whichever is deeper. The over-excavation shall extend a minimum of 5 feet beyond limits of the asphalt concrete.
- E. Provide additional excavation as required to conform to the lines, grades and cross-sections shown on the plans.
- F. When excavating through tree roots, perform work by hand and cut roots, where authorized, with a saw. Remove all roots 1/2" in diameter and greater.
- G. Remove excess soil not to be used as fill in the Work from the site. Unless requested by Owner to be deposited at a site designated by Owner on the property, obtain a disposal site and legally dispose of said excess material, all at no additional cost to the Owner.
- H. Areas disturbed by demolition must be excavated to expose undisturbed soils.
- I. Excavated soils free of deleterious substances (organic matter, demolition debris, tree roots, etc.) and with less than 3% organic content by weight, may be returned to the excavations as Engineered Fill.

3.5 FILLING AND COMPACTING

- A. Once clearing, stripping and over-excavation operations are complete, scarify the surface to receive fill material or improvements to a depth of 6-inches, moisture condition to at least 2% above optimum moisture content, and compact to a minimum of 90%, but no more than 95%, of maximum dry density (relative compaction) based on ASTM Test Method 1557.
- B. Place and compact soil to finish subgrade of improvements to be placed thereon, or to finished surface grade where no improvements are to be placed thereon.
- C. All fill required shall be placed as Engineered Fill.
- D. The Contractor shall be solely responsible for securing an acceptable source of import material as required to grade the site. Reference is made to 31 20 00 1.9.H
- E. On-site soils are suitable for re-use as Engineered Fill, providing they are cleansed of excessive organics (less than 3 percent by weight, ASTM D2974), debris, and fragments larger than three (3) inches in maximum dimension and meet the requirements of soil Type S4, Division 31 Specification Section SOIL MATERIALS.
- F. Engineered Fill shall be moisture conditioned to at or above optimum moisture content and compacted to at least 92% of the maximum dry density, placed in uncompacted layers not exceeding eight (8) inches in thickness, and compacted as specified, based on ASTM Test Method D1557.
 - 1. Non-vegetative surface improvement areas (structures and site concrete improvements) - To a minimum of 92% of maximum dry density (relative compaction).
 - 2. Vegetative surface improvement areas (turf and planters) - Below top twelve (12) inches - to a minimum of 90% of maximum dry density (relative compaction). Top twelve (12) inches - 85% of maximum dry density (relative compaction).
 - 3. Pavement areas: to a minimum 95% of maximum dry density (relative compaction) in top twelve (12) inches.
- G. Maintain optimum moisture content of fill materials to attain required compaction density.
- H. Additional lifts shall not be placed if the previous lift did not meet the required dry density (relative compaction), or if soil conditions are not stable.
- I. Conform fill to the lines, grades and cross-sections shown on the plans.
- J. Fill materials to conform to Division 31 Specification Section SOIL MATERIALS.
- K. Provide, at no additional cost to Owner, imported soil material conforming to the requirements of Division 31 Specification Section SOIL MATERIALS, as needed to attain finished grades of Work.
- L. Utilize equipment which will not disturb or damage existing utilities and other improvements.

3.6 PREPARATION OF SUBGRADE FOR SURFACE IMPROVEMENTS

- A. Where concrete, asphalt-concrete, aggregate base, or other non-vegetative surface improvements, or a layer of said surface improvements, are to be constructed on the soil surface, prepare the subgrade for said improvements in accordance with section 3.5 above.
- B. Scarify the soil as specified and remove and dispose of (off the project site) all rocks, hardpan chunks or otherwise unsuitable material over 3-inches in size.
- C. Thoroughly moisture condition and compact as described above.
- D. Prior to commencing construction of surface improvements, pass a test roller of size and weight as approved by the Owner over the subgrade to establish the extent of soft or spongy areas requiring repairs.
- E. Conform finished subgrade surface to the lines, grades and cross-sections shown on the plans.

3.7 FINE GRADING

- A. Fine grade all finished surfaces to the lines, grades and cross-sections shown on the plans, and to blend to hard surface improvements.
- B. Rake and smooth all finished surfaces not to receive hard surface improvements.
- C. Use suitable stockpiled or imported topsoil for the top 12-inches of areas to receive landscape improvements.
- D. Import topsoil meeting the requirements of Division 31 Specification Section SOIL MATERIALS, as required to complete finish grading.
- E. Topsoil may not be used in areas requiring Engineered Fill.

3.8 TOLERANCES

- A. Top surface of Subgrade for Non-Vegetative Surface Improvements or Layers thereof: Plus or minus 0.02 foot from planned elevation.
- B. Top surface of Subgrade for Vegetative Surface Improvements or for Bare Ground - Plus or minus 0.05 foot of planned elevation, or as required for finish surface to match adjacent improvements or ground.

3.9 FIELD QUALITY CONTROL

- A. Field inspection and testing will be performed under provisions of GENERAL CONDITIONS and/or DIVISION 1, GENERAL REQUIREMENTS.
- B. Compaction testing will be performed in accordance with ANSI/ASTM D1557.

- C. If tests indicate work does not meet specified requirements, recompact, or remove and replace, and retest.
- D. All retesting required as a result of failure of initial test will be performed by Owner's testing agency, at the expense of the Contractor.

3.10 PROTECTION

- A. Protect graded areas from traffic, freezing, erosion, and all other sources of damage. Keep free of debris and trash.
- B. Repair and re-establish grades to specified tolerances where completed or partially completed work becomes eroded, rutted, settled, or where it is damaged by subsequent construction operations or weather.
- C. Where settlement occurs prior to acceptance of the work, remove and replace surface improvements, excavate, replace, and re-compact in accordance with these specifications, and restore the surface improvements.

3.11 CLEANING

- A. Remove all surplus or unsatisfactory soil material, trash, and debris, and legally dispose of off of the Owner's property.

END OF SECTION

SECTION 312222 - SOIL MATERIALS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. This Section includes the following:

- 1. Imported, excavated, and re-used materials.

- B. RELATED SECTIONS

- 1. Contract General Conditions and Division 1, General Requirements.
 - 2. Section 31 20 00 - Earthwork: Excavation, Filling and Grading
 - 3. Section 31 23 33 - Trench Excavation and Backfill

1.3 SUBMITTALS

- A. Samples: Submit, in air-tight containers, 10 lb. sample of Type S3, S4 and S5 fill to inspector.
- B. Soil Analysis: Submit for Type S3, S4 and S5 soils to be imported.
- C. Materials Source: Submit location of imported materials source. Provide materials from same source throughout the work. Change of source requires approval.
- D. For imported soil, obtain Geotechnical Engineer and District approval prior to importing.

PART 2 - PRODUCTS

2.1 SOIL MATERIALS

- A. Soil Type S1: Excavated and reused material, graded; free of lumps larger than 3 inches, rocks larger than 2 inches, and debris.
- B. Soil Type S2: Excavated and reused material, graded; free of roots, lumps greater than one inch, rocks larger than 1/2 inch, debris, weeds and foreign matter.
- C. Soil Type S3: Imported topsoil, friable loam; reasonably free of roots, rocks larger than 1/2 inch, debris, weeds, and foreign matter.

- D. Soil Type S4: Imported borrow, suitable for purposes intended, meeting the following characteristics:
1. Maximum Particle Size: 3"
 2. Percent Passing #4 Sieve: 65-100
 3. Percent Passing #200 Sieve: 20-45
 4. Expansion Index: <20
 5. Plasticity Index: <12
 6. Low Corrosion Potential:
 - a. Soluble Sulfates: <1,500 mg/Kg
 - b. Soluble Chlorides: <300 mg/Kg
 - c. Soil Resistivity: >2,000 ohm-cm
- E. Soil Type S5: Imported sand. Natural river or bank sand (sand equivalent greater than 30), washed; free of silt, clay, loam, friable or soluble materials, and organic matter.

2.2 SOURCE QUALITY CONTROL

- A. Inspection of imported soil will be performed by the Geotechnical Engineer, at source of import and prior to being delivered to the site.

PART 3 - EXECUTION

3.1 STOCKPILING

- A. Stockpile excavated or imported material onsite at location designated by project inspector.
- B. Stockpile excavated or imported material in sufficient quantities to meet project schedule and requirements.

3.2 STOCKPILE CLEANUP

- A. Remove stockpile, leave area in a clean and neat condition. Grade site surface to prevent free standing surface water.
- B. Dispose of excess material off-site.

END OF SECTION

SECTION 31 23 33 - TRENCH EXCAVATION AND BACKFILL

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.
- B. Geotechnical Report prepared by BSK Associates, Project G24000166, dated April 10, 2024.

1.2 SUMMARY

- A. This Section includes the following:

- 1. Provide all material, labor, equipment, and services necessary to excavate trenches, holes, and pits. Provide suitable bedding and backfill material and achieve compaction, as specified herein.

- B. RELATED SECTIONS

- 1. Contract General Conditions and Division 1, General Requirements
- 2. Section 31 11 00 - Site Clearing
- 3. Section 31 20 00 - Earthwork: Excavation, Filling and Grading
- 4. Section 31 22 22 - Soil Materials
- 5. Section 33 12 00 - Water Utilities
- 6. Section 33 30 00 - Site Sewer Systems
- 7. Section 33 40 00 - Storm Drainage

1.3 REFERENCES

- A. ANSI/ASTM D1557 - Test Methods for Moisture-Density Relations of Soils and Soil-Aggregate Mixtures Using 10 lb (4.54 Kg) Rammer and 18 inch (457 mm) Drop.

1.4 DEFINITIONS

- A. Utility: Any buried or above ground pipe, conduit, cable, associate devices or appurtenances, or substructure pertaining hereto.

1.5 QUALITY ASSURANCE

A. Qualifications

1. Installer:

- a. Engage an experienced Installer who has successfully completed three (3) projects of similar scope and size to that indicated for this project within the past 5 years.

B. Regulatory Requirements:

1. In accordance with Specification Section REGULATORY REQUIREMENTS and the following:

- a. CARB Materials and equipment used for this Project shall comply with the current applicable regulations of the California Air Resources Board [CARB].
- b. CM City of Mendota, Codes and Ordinances
- c. EPA Environmental Protection Agency.
- d. CAL/OSHA Comply with all provisions of the Construction Safety Orders and the General Safety Orders of the California Division of Occupational Safety and Health, as well as all other applicable regulations as they pertain to the protection of workers from the hazard of caving ground excavations.

C. Certificates:

1. Installer's certification that all trench backfill installation meets or exceeds the requirements of this specification.
2. Contractor's certification (on Contractor's letterhead paper) that the trench backfill materials and installation meets or exceeds the requirements of this specification.

D. Meetings:

1. Pre-Installation: Schedule prior to the start of work.
 - a. Coordinate the work with other work being performed.
 - b. Identify any potential problems, which may impede planned progress and proper installation of work regarding quality of installation and warranty requirements.
2. Progress: Scheduled by the Contractor during the performance of the work.
 - a. Review for proper installation of work progress.
 - b. Identify any installation problems and acceptable corrective measures.
 - c. Identify any measures to maintain or regain project schedule if necessary.
3. Completion: Scheduled by the Contractor upon proper completion of the work.
 - a. Inspect and identify any problems which may impede issuance of warranties or guaranties.

4. Maintain installed work until the Notice of Substantial Completion has been filed.

1.6 COORDINATION

- A. Coordinate work with Owner's personnel.
- B. Verify that the location of existing utilities have been indicated at work site by utility authorities.

1.7 EXISTING UTILITIES

- A. Where subsurface work involves more than the normal depth of excavation required for the removal and/or construction of surface improvements (surface improvements such as concrete work, paving, landscaping, signs, etc.), the Engineer will have made a diligent attempt to indicate on the plans the location of all main and trunkline utility facilities which may affect the Work. In many cases, however, the only available information relative to the existing location of said facilities may have been small scale undimensioned plats. The locations of said facilities, therefore, shall be considered approximate only, until exposed by the Contractor.
- B. Under circumstance similar to 31 23 33/1.7A, service laterals and appurtenances will have also been shown where information was available as to their location. In many cases, however, the only available information relative to the existing location of said facilities may have been small scale undimensioned plats. The locations of said facilities, therefore, shall be considered approximate only, until exposed by the Contractor.
- C. Determine exact location of existing buried utilities by:
 1. Marking on ground or pavement surface the alignment and extent of the proposed facilities and the probable location of existing utilities using construction plans and existing surface features.
 2. Requesting Underground Service Alert (USA) to indicate location of existing buried facilities (phone 1-800-227-2600). Provide USA a minimum of two (2) working days notice of request for locations, and notify Owner of said request concurrently.
 3. Locate exact location of existing utilities by hand methods of excavation, or by use of vacuum equipment.
- D. At proposed work location, expose by hand methods (or vacuum equipment) all existing utilities along the route of the proposed work prior to using any mechanical equipment. If mechanical equipment is allowed at a particular location, it may only be used after the completion by the Contractor of a successful exhaustive search by hand (or vacuum equipment) methods to locate all existing facilities as indicated on the plans, and/or as indicated on the ground by USA or Owner's personnel.
- E. Provide Field Engineering per Contract General Conditions and Division 1 to record the location of all utilities encountered. Where locational conflicts exist between existing utilities and the planned location of facilities to be constructed under the Contract, submit detailed information to the Owner's Inspector and Engineer for review and direction.

- F. Maintain all existing utility mains and service lines in constant service during construction of the Work.
- G. Where service disruptions are allowed, minimize the length of such disruptions by proper scheduling and diligent pursuit of the work.

PART 2 - PRODUCTS

2.1 FILL MATERIALS

- A. Fill Type S1, S2, S4 and S5, as specified in Division 31 Specification Section SOIL MATERIALS.

2.2 WARNING TAPE

- A. 6" wide warning tape shall be installed over all of the pipelines as shown on the details.

PART 3 - EXECUTION

3.1 PREPARATION

- A. Protect plant life, lawns, trees, shrubs, and other features not authorized for removal.
- B. Protect existing structures, fences, sidewalks, curbs, and other improvements from excavation equipment and vehicular traffic.
- C. Maintain and protect above and below grade utilities which are to remain.
- D. Comply with all provisions of the Construction Safety Orders and General Safety Orders of the California Division of Industrial Safety, as well as all other applicable regulations as they pertain to the protection of workers from the hazard of caving ground in excavations.

3.2 EXCAVATION

- A. Excavate soil required to locate existing utilities and install the work.
- B. Use hand methods of excavation to locate existing utilities, and to excavate trenches, pits and holes in congested areas.
- C. Employ equipment and methods appropriate to the work site. Small mechanical excavators may be used only in areas where there is sufficient space so as not to damage adjacent improvements, and where the locations of all existing utilities have been determined by hand methods of excavating.

- D. Cut trenches just wide enough to enable installation and proper bedding and backfill, and to allow inspection.
- E. Do not interfere with 45 degree (1:1) bearing splay of foundations.
- F. Hand trim excavation. Hand trim for bell and spigot pipe joints. Remove loose material.
- G. Excavate trenches, pits or holes bottoming in hardpan to a minimum of 6 inches below the grade for the bottom of the pipe and any couplings. No additional payment will be made for such over-excavation and refill.
- H. In all trenches or excavation sites where a firm foundation is not encountered, such as soft, spongy, or otherwise unsuitable material, remove the material to a minimum of 12 inches, or to a depth determined by the Engineer, below the bottom of the proposed pipe or structure, and backfill the space with Type S2 or S5 material containing sufficient moisture to allow compaction to 90% maximum dry density (relative compaction). Soil Type S2 shall meet requirements of Type S5. No additional payment will be made for such additional excavation or backfill.
- I. Excavate trenches to provide the design grade of the facility, or as directed by the Engineer.
- J. Stockpile excavated material to be returned to trench adjacent thereto in location which will not be detrimental to existing improvements, or pedestrian or vehicular traffic. Remove from site all unsuitable or excess material not to be used.
- K. When excavating through tree roots, perform work by hand and cut roots, where authorized, with a saw.
- L. Remove excess soil not used as backfill from the work site. Obtain a disposal site off of the Owner's property and legally dispose of said excess material, all at no additional cost to the Owner.
- M. If water is encountered during excavations, provide all dewatering measures necessary to construct improvements shown.
- N. Contractor shall make all provisions necessary, including but not limited to, shoring or sloping back trench walls as required to address sandy soils. The cost of these provisions shall be included in the lump sum amount bid for this work and no separate payment will be made therefore.

3.3 PROTECTION OF EXCAVATIONS

- A. Provide all shoring and bracing as required and those codified in local, state and federal safety regulations.
- B. Prevent water, caving or sloughing ground from entering excavations.
- C. Maintain excavations free of water.

3.4 BACKFILLING

- A. Provide type S2 or S5 pipe bedding as required by Plans and compact to 90% maximum dry density (relative compaction). Soil Type S2 shall meet requirements of Type S5.
- B. After installation of pipes and appurtenances and placement of pipe bedding material, backfill trenches and excavations to finished grade, or subgrade in areas to receive surface improvements
- C. Backfill trenches to a minimum of 12 inches above the pipe and any couplings with Type S2 or S5 material, containing sufficient moisture to allow compaction to 95% maximum dry density (relative compaction). Soil Type S2 shall meet requirements of Type S5.
- D. Backfill trenches above pipe bedding material and to within 24 inches of finish subgrade with Type S1, S2, S4, or S5 soils, except that that top 12 inches shall be type S2, S3, S4 or S5 soils.
- E. Employ a placement method that does not disturb or damage existing or proposed pipes or other Utilities or Improvements.
- F. Place and compact all soil backfill in continuous layers not exceeding 8 inches in loose uncompacted thickness, moisture condition to at least 2% above optimum moisture content.
- G. Maintain optimum moisture content of fill materials to attain required compaction.
- H. Backfill final 12-inch thickness to finish subgrade in areas to receive concrete, asphalt-concrete, aggregate base, or other non-vegetative surface improvement, with Type S2, S4, or S5 soils.
- I. Backfill final 12-inch thickness to finish subgrade in areas to receive sod, other vegetation, or bare soil, with Type S2 or S3 soils.
- J. Compact backfill below the top 12-inches to 90% maximum dry density (relative compaction).
- K. In areas to receive buildings, structures, or concrete flatwork, compact the top 12-inches to 90% maximum dry density (relative compaction).
- L. In areas to receive asphalt concrete pavement or concrete pavement subject to vehicular traffic, compact the top 12-inches to 95% maximum dry density (relative compaction).
- M. In planting areas, compact the top 12-inches to 85% maximum dry density (relative compaction).

3.5 TOLERANCES

- A. Top Surface of Backfill under Paved or Concrete Areas: Plus or minus 0.02 feet from required elevations.
- B. Top Surface of General Backfilling: As required for finish surface to match adjacent improvements or ground.

3.6 FIELD QUALITY CONTROL

- A. Field inspection and testing will be performed under provisions of General Conditions and/or Division 1.
- B. Compaction testing will be performed in accordance with ANSI/ASTM D1557.
- C. If tests indicate work does not meet specified requirements, recompact, and retest. Retests required due to failure of initial tests shall be paid for by the Contractor.

3.7 PROGRESS AND PROSECUTION

- A. Backfill any excavation opened in any day on that same day.

END OF SECTION

SECTION 32 01 90

EXISTING LANDSCAPE PROTECTION

PART 1 - GENERAL

1.1 SCOPE OF WORK

- A. This Section includes but is not limited to the following:
 - 1. Protection and maintenance of existing trees and other plants that are affected by the execution of the Work, whether temporary or new construction.
- B. Related Work Specified Elsewhere
 - 1. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification Sections.
 - 2. Section 31 11 00: Site Clearing
 - 3. Section 31 20 00: Earthwork
 - 4. Section 31 23 33: Trench Excavation and Backfill
 - 5. Section 32 84 00: Irrigation System
 - 6. Section 32 90 00: Landscape Planting

1.2 SUBMITTALS

- A. Product Data: For each type of product indicated or proposed for use.
- B. Qualification Data: Submit arborist's certification and/or license information. Submit qualifications and experience of the certified tree worker if not the arborist.
- C. Project Certification: Provide a certification letter from the consulting arborist that trees indicated to remain have had their Tree Protection Zone (TPZ) protected during construction according to these specifications and/or the arborist's recommendations. Provide a list of any trees damaged during construction and the subsequent treatment and repair.
- D. Transplanting and Maintenance Recommendations: Submit transplanting, maintenance and protection specifications from a qualified arborist for care and protection of trees during and after completion of the Work that are likely to be affected by construction operations. The tree maintenance recommendations shall be included in the Maintenance Manuals required in 329000.
- E. Tree Assessment and Valuation: Prior to the start of any construction operations of any kind, submit a tree assessment including tree valuation for existing trees scheduled to remain in the area of work or in auxiliary construction areas.
 - 1. Tree valuation for trees species that do not have comparable and available replacement sizes shall be determined by a certified consulting arborist experienced in tree valuation using the "Guide for Establishing Values of Trees and Other Plants", current edition, published by the International Society of Arboriculture, Urbana, Illinois.

2. Tree assessment shall include a physical description, health, condition and recommended pruning and/or mitigation measures based on the expected construction operations to minimize the negative impacts to the affected trees.

1.3 QUALITY ASSURANCE

- A. Tree Service Qualifications: An experienced tree service firm that has successfully completed tree protection and/or relocation work similar to that required for this Project, and who will provide experienced, certified tree workers.
- B. Arborist Qualifications: The arborist shall be certified by the International Society of Arboriculture. If the arborist is performing tree work, he/she shall be employed by a licensed contractor, or shall hold an individual license if independent.
- C. Tree Pruning Standards: Comply with ANSI A300, "Trees, Shrubs, and Other Woody Plant Maintenance--Standard Practices," unless more stringent requirements are indicated or recommended by the certified arborist.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. Drainage Fill: Selected crushed stone, or crushed or uncrushed gravel, washed, ASTM D 448, Size 24, with 90 to 100 percent passing a 2-1/2-inch sieve and not more than 10 percent passing a 3/4-inch sieve.
- B. Topsoil: See Section 32 93 00.
- C. Filter Fabric: Manufacturer's standard, nonwoven, pervious, geotextile fabric of polypropylene, nylon, or polyester fibers, minimum 4.8 oz/sq. yd.
- D. Temporary Fencing at the TPZ: Heavy-duty exterior rated plastic or chain link fencing, minimum four feet high with stakes at a maximum 10 feet on-center or as needed for a taut installation.
- E. Wood mulch: Walk-on type chipped wood and aged greenwaste material without leaves, green wood, sticks, dirt, dust, construction materials and other debris. Particle size 1/2" to 3" in general size.
- F. Coarse sand: Clean sand with greater than 95% passing a #10 sieve, less than 5% passing a #30 sieve, and less than 1% passing a #50 sieve.

2.2 TEMPORARY TPZ FENCING TYPES

- A. TPZ 1: Temporary fencing shall be installed at the drip line of the tree canopy. Where the canopy extends into remaining or proposed hardscaped areas, the posts may be supported by appropriate on-grade concrete or weighted bases.
- B. TPZ 2: Where existing trees are in planting strips with active walkways and/or roadways in the TPZ, the temporary fencing shall extend to the edge of the hardscaped areas to keep the walkways and/or roadways open.

- C. TPZ 3: Existing trees remaining in small planters or tree wells shall be wrapped with a minimum 2 inch thickness of orange plastic construction fencing from the ground to the first scaffold branch, or 4 feet high, whichever is greater. The wrapped section shall be covered with vertical 1.5 inch square slats and bound around the trunk firmly at least every 2 feet. Use caution when installing the slats so that the tree bark is not damaged.

PART 3 - EXECUTION

3.1 PREPARATION

- A. Temporary Fencing: Install temporary fencing located around the canopy drip line of trees (the tree protection zone [TPZ]), and around the plants scheduled to remain that are inside the construction area. The TPZ fence layout shall be reviewed for acceptance by the Owners Representative and the consulting arborist.
- B. All work within the TPZ shall be reviewed and monitored by the consulting arborist.
- C. Within the TPZ, install a 4 inch depth of wood mulch over a permeable filter fabric with minimum 4 inch overlaps at fabric seams. Remove the protection mulch and fabric prior to any cultivation and amendment tillage.
- D. Provide a temporary dirt berm watering basin around trees and plants scheduled to remain. The berm around trees shall be a minimum diameter of six times (6x) the diameter of the tree at breast height (DBH), or not less than six feet in diameter, whichever is greater.
- E. Provide temporary irrigation or a portable water source to irrigate trees and plants scheduled to remain. Irrigate at minimum once a week or more often as necessary to moisten soil to a minimum 18 inch depth for trees, and a minimum depth of 12 inches for shrubs. Reapply irrigation based on an evapotranspiration loss of 50%.
- F. Protect plant/tree root systems within the protected fenced areas from damage due to noxious materials caused by runoff or spillage while mixing, placing, or storing construction materials. Protect root systems from flooding, eroding, or excessive wetting caused by dewatering operations.
- G. Do not store construction materials, debris, or excavated material within the TPZ. Do not permit vehicles or reoccurring foot traffic within the TPZ to prevent soil compaction over root systems.
- H. Do not allow fires under or adjacent to remaining trees or other plants.

3.2 EXCAVATION

- A. Do not excavate within the canopy drip line of existing trees unless otherwise authorized. Any excavation within the TPZ shall be performed under the onsite monitoring by the consulting arborist.
- B. Where excavation for new construction and/or utility lines are required within the canopy drip line of trees, hand clear and excavate to minimize damage to root systems. Use spading forks to comb soil or use an Air-Spade to expose roots.

- C. Where utility lines are to be located within the drip line of trees, expose the existing root system to the depth of utility line installation plus the depth of any required bedding material. Place piping below and/or through the exposed roots without damage to the root system. Backfill with approved material and compact by flooding the area if allowed.
- D. As an alternative to manual or Air-Spade trench excavation, utility or other below grade piping may be mechanically bored under the crown dripline with a minimum cover of 3 feet as authorized by the consulting arborist.
- E. Root Pruning: Do not cut main lateral roots or taproots greater than one inch in diameter. Smaller roots less than one inch in diameter that interferes with the installation of new improvements and/or utility lines may be cut only if absolutely necessary. Only cut roots with sharp pruning instruments; do not break, tear or chop. Block out concrete footings around roots greater than one inch diameter leaving a minimum one inch clearance around roots to remain. Provide alternative footing design if main lateral roots are in conflict.

3.3 REGRADING

- A. Grade Lowering: Where new finish grade is indicated below existing grade around trees, slope grade away from trees as recommended by the certified arborist, unless otherwise indicated.
 - 1. Root Pruning: Prune tree roots exposed during grade lowering. Do not cut main lateral roots or taproots; cut only smaller roots less than one inch diameter. Cut roots with sharp pruning instruments; do not break or chop.
- B. Minor Fill: Where existing grade is 12 inches or less below elevation of finish grade, fill with topsoil. Place topsoil in a single uncompacted layer and hand grade to required finish elevations. Do not place fill greater than 6 inches in depth within 24 inches of the trunk, and do not cover the trunk/root base flare. Do not allow standing water at the trunk.
- C. Moderate Fill: Where existing grade is more than 12 inches , but less than 18 inches below elevation of finish grade, place drainage fill, filter fabric, and topsoil on existing grade as follows:
 - 1. Carefully place drainage fill against tree trunk approximately 2 inches above elevation of existing grade and extend not less than 20 inches from tree trunk on all sides up to the finish grade. Slope of the rock fill shall be a maximum 2h:1v. For balance of area within drip-line perimeter, place drainage fill a minimum 6 inches in depth.
 - 2. Place filter fabric over the drainage fill with edges overlapping 6 inches minimum.
 - 3. Place fill layer of topsoil to finish grade. Do not mechanically compact drainage fill or topsoil more than 85% relative density in planted areas. Hand grade to required finish elevations.

3.4 TREE PRUNING

- A. Prune remaining trees affected by temporary and new construction only when authorized by the Landscape Architect and as recommended by the consulting arborist.

- B. Prune remaining trees to compensate for root loss caused by damaging or cutting root system only when authorized by the Landscape Architect and as recommended by the consulting arborist. Provide subsequent maintenance during Contract period as recommended by the consulting arborist.
- C. Pruning Standards: Prune trees according to ANSI A300 based on pruning for access clearance, to correct any defects in structure, or to remove potential conflicts with new improvements. Pruning shall only be performed by a Certified arborist or tree worker.
- D. Cut branches with sharp pruning instruments; do not break or chop. Clean pruning tools with a diluted bleach solution prior to performing any pruning operations.

3.5 TREE REPAIR AND REPLACEMENT

- A. Promptly repair trees damaged by construction operations within 24 hours. Treat damaged trunks, limbs, and roots according to written instructions of the arborist.
- B. Remove and replace dead and/or damaged trees impacted by the construction operations that the arborist determines to be incapable of restoring to a normal growth pattern.
 - 1. Provide new trees of the same size and species as those being replaced; plant and maintain as specified in 32 90 00.
 - 2. When new trees of the same size and species are not available, furnish and install the largest size boxed tree that is readily available and will successfully grow in the planting area with long term health and without damage to adjacent improvements. Credit the Owner the difference between the valuation of the removed existing tree and the installed replacement tree.
- C. Aerate surface soil within any existing Oak tree dripline compacted before or during construction, 10 feet beyond drip line and no closer than 36 inches to tree trunk. Drill 2-inch- diameter holes a minimum of 18 inches deep at 36 inches o.c. Backfill holes with coarse sand. Manually till the top 4 inches with a spading fork, and break up clods greater than 1 inch diameter. Smooth grade prior to installing wood mulch.

3.6 CLEAN-UP

- A. Burning is not permitted.
- B. Prior to Final Acceptance, remove the TPZ fence, stakes and other related materials.
- C. Legally remove excess excavated material, debris, displaced trees, and greenwaste from Owner's property. Broom clean all hardscape surfaces in the area of work.

END OF SECTION

SECTION 32 11 26 - AGGREGATE BASE COURSE

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. This Section includes the following:
 - 1. Provide all material, labor, equipment and services necessary to install aggregate base surfacing as indicated by the Contract Documents.

1.3 RELATED SECTIONS

- A. Contract General Conditions and Division 1, General Requirements
- B. Section 31 20 00 – Earthwork: Excavation, Filling, and Grading
- C. Section 31 23 33 – Trench Excavation and Backfill
- D. Section 32 12 16 – Soil Sterilization
- E. Section 32 12 17 – Asphalt Paving
- F. Section 32 13 13 – Site Concrete Improvements

1.4 REFERENCES

- A. SSCDOT - Standard Specifications, Department of Transportation, State of California (Caltrans), latest edition, except for references to method of payment, and references to any state furnished materials

1.5 QUALITY ASSURANCE

- A. Provide and install in accordance with SSCDOT.

1.6 SUBMITTALS

- A. Submit data sheets from supplier to document compliance with SSCDOT requirements.
- B. Certificates of compliance for material.
- C. Load tags for delivered material.

1.7 COORDINATION

- A. Coordinate with other work, including subgrade preparation and soil sterilization.
- B. Coordinate installation schedule with Owner's use of the premises and with other contractors working at the site.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. Aggregate Base: Unless specified otherwise on Plans, Class 2, 3/4 Inch Maximum per Section 26 of SSCDOT.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Verify quantities required.
- B. Verify that subgrade has been placed and compacted per Contract Documents
- C. Verify gradients and elevations of subgrade are correct.

3.2 INSTALLATION OF AGGREGATE BASE COURSE

- A. Install in conformance with SSCDOT Section 26, Aggregate Bases.
- B. Thickness - As shown on construction drawings.
- C. Spreading and Compacting - In accordance with Section 26, SSCDOT. Base course shall be moisture conditioned to within 2% of optimum moisture, placed in uncompacted layers not exceeding six (6) inches in thickness, and compacted as specified, based on ASTM Test Method D1557. The relative compaction of each layer of compacted base material shall be not less than 95 percent.
- D. The completed surface shall be thoroughly compacted, free from ruts, depressions, and irregularities, true to grade and cross-section.
- E. Lines and grades for the installation of aggregate base shall be set by a California licensed Land Surveyor or Civil Engineer, at Contractor's expense.

3.3 TOLERANCES

- A. Compacted thickness of aggregate base: Not less than the thickness specified on the Plans.
- B. Finished Surface: Within 0.02 foot of planned grade per Section 26, SSCDOT. No more than 50% of the finish surface shall be above or below the specified grade for aggregate base.

3.4 FIELD QUALITY CONTROL

- A. Field inspection and testing will be performed by the Owner's inspector, under provisions of Division 01.

3.5 PROTECTION

- A. Immediately after placement and compaction, protect surface from mechanical injury.
- B. Protect completed surface until surfacing layers are in place.

END OF SECTION

SECTION 321216 - SOIL STERILIZATION

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division-1 Specification sections, apply to the work specified in this section.

1.2 SECTION INCLUDES

- A. This Section includes the following:
 - 1. Furnish and install soil sterilant under concrete and asphalt concrete paving.

1.3 RELATED SECTIONS

- A. All Division 01 Specification Sections
- B. Section 31 20 00 - Earthwork: Excavation, Filling, and Grading
- C. Section 31 23 33 - Trench Excavation and Backfill
- D. Section 32 11 26 – Aggregate Base Course
- E. Section 32 12 17 – Asphalt Paving

1.4 STANDARDS

- A. In accordance with the following:

CCR-T21	California Code of Regulations, Title 21 Public Works.
CBC	California Building Code, California Code of Regulations, Title 24, Part 2, CCR-T24.
USDA	United States Department of Agriculture.
EPA	Environmental Protection Agency.
CM	City of Mendota

1.5 QUALITY ASSURANCE

- A. Provide licensed operator to apply soil sterilant.
- B. All products shall comply with the current EPA laws at time of application. Should the products listed become unavailable because of changes in the law, submit substitute products for review by the Owner.

1.6 SUBMITTALS

- A. Certificates of application.

- B. Certificates of compliance for material.

1.7 COORDINATION

- A. Coordinate with other work, including subgrade preparation.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. Soil Sterilant: Bayer Oust XP, weed and grass preventer, or approved equal.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Verify that site is ready for application.

3.2 PREPARATION

- A. Identify installation locations.
- B. Employ equipment and methods appropriate to the work site.

3.3 APPLICATION

- A. Thoroughly water soak surface to be treated. Avoid excessive water runoff.
- B. Apply sterilant solution over surface to receive pavement or surfacing prior to the start of pavement or surfacing installation.
- C. Apply in spray form, at rate as allowable by State of California and the manufacturer's recommended application rate.
- D. Take all precautions to limit soil sterilant solution to areas immediately under proposed pavement or surfacing. Use shields as necessary, and do not apply under windy conditions.

3.4 FIELD QUALITY CONTROL

- A. Field inspection will be performed under Specification Section QUALITY REQUIREMENTS.

END OF SECTION

SECTION 32 12 17 - ASPHALT PAVING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. This Section includes the following:
 - 1. Provide all material, labor, equipment, and services necessary to completely install all pavement materials, accessories, and other related items as required by the Contract Documents.
- B. Related Sections
 - 1. Contract General Conditions and Division 1, General Requirements
 - 2. Section 31 22 00 - Earthwork: Excavation, Filling, and Grading
 - 3. Section 31 23 33 - Trench Excavation and Backfill
 - 4. Section 32 11 26 - Aggregate Base Course
 - 5. Section 32 12 16 - Soil Sterilization

1.3 REFERENCES

- A. SSCDOT - Standard Specifications, Department of Transportation, State of California (Caltrans), latest edition, except for references to method of payment, and references to any state furnished materials.

1.4 QUALITY ASSURANCE

- A. Perform work in accordance with SSCDOT.
- B. Mixing Plant: Conform to SSCDOT.
- C. Installation Criteria: Asphalt concrete shall show no evidence of cracking, uneven settlement, improper drainage, or untoward junctions with adjoining or existing surfaces. Work displaying such conditions shall be corrected under the Contractor's guarantee of all work.

1.5 SUBMITTALS

- A. Hot mixed asphalt mix design.
- B. Certificates of compliance for material.

- C. Load tags for delivered material.

1.6 COORDINATION

- A. Coordinate with other work, including subgrade preparation, aggregate base placement and soil sterilization.

1.7 ENVIRONMENTAL REQUIREMENTS

- A. Do not place asphalt-concrete when atmosphere temperature is less than 50 degrees F, or surface is wet or frozen.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. Paint Binder: In accordance with SSCDOT Section 94, Asphaltic Emulsions.
- B. Asphalt-Concrete: Type A in accordance with Section 39, SSCDOT, ½ inch or ¾ inch maximum aggregate (medium) as indicated on the Plans. The asphaltic concrete shall be compacted to an average relative compaction of 97 percent, with no single test value being below a relative compaction of 95 percent based on a 50 blow Marshall maximum density. Use asphalt binder performance grade PG 64-10.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Verify quantities required. New asphalt-concrete paving is required at all locations shown on the plans, and where existing asphalt-concrete paving to remain is removed or damaged by the Project excavation or related work.
- B. Verify that subgrade or base material has been compacted to required relative compaction and is dry.
- C. Verify gradients and elevations of base are correct.
- D. Verify that subgrade or base material has been sterilized per Section 32 12 16 SOIL STERILIZATION.

3.2 AGGREGATE BASE

- A. Where shown on the construction plans, place and compact aggregate base course per Section 32 11 26 AGGREGATE BASE COURSE.

- B. Where shown on the construction plans, place asphalt on compacted earth subgrade per Section 31 20 00 EARTHWORK: EXCAVATION, FILLING AND GRADING and Section 31 23 00 TRENCH EXCAVATION AND BACKFILL.
- C. A soil sterilant shall be applied over the entire area which is to be paved in accordance with Section 31 12 16 SOIL STERILIZATION

3.3 PREPARATION – PAINT BINDER

- A. Apply paint binder to existing asphalt-concrete or concrete surfaces which will be in contact with asphalt-concrete surfacing.
- B. Rate of application for all surfaces against which asphalt concrete is to be placed shall be no less than 0.02 and no more than 0.05 gallons per square yard. All vertical concrete surfaces which will be in contact with asphalt concrete surfacing and all areas now in place which will be covered with new surfacing materials and feathering operations shall be coated with a paint binder applied at the rate of 0.05 gallons per square yard.

3.4 INSTALLATION OF ASPHALTIC-CONCRETE

- A. Install in conformance with SSCDOT Section 39, Asphalt-Concrete.
- B. Thickness - As shown on construction plans. Where thickness exceeds 3 inches, place in no less than 2 layers with top layer no thicker than one inch. Asphaltic concrete shall be laid to the thickness designated on the Plans. The plan thickness is to be considered as a minimum thickness. The Contractor shall lay the asphaltic concrete to a depth required to insure that, after compaction, the in place compacted thickness is equal to or greater than the specified plan thickness.
- C. The Contractor shall provide to the Engineer the truck delivery weight tags for the asphaltic concrete material. The quantity delivered shall be equal to or greater than the calculated in place quantity based on the specified thickness and area to be paved as designated on the construction plans and based on a unit density of the asphaltic concrete of 141 pounds per cubic feet.
- D. Asphalt type: PG 64-10
- E. Compaction Equipment - In accordance with Section 39, SSCDOT. At small difficult areas, equipment may be altered as approved by Engineer.
- F. The completed surface shall be thoroughly compacted, free from ruts, depressions, and irregularities and to be true to grade and cross-section.

3.5 TOLERANCES –GENERAL

- A. Finished Surface: within 0.02 foot of planned grade.
- B. Flatness: Maximum variation of 1/4 inch measured with 10-foot straight edge.
- C. Scheduled Compacted Thickness: Not less than specified.

3.6 FIELD QUALITY CONTROL

- A. Field inspection and testing will be performed under provisions of Division 01.
- B. Pavement shall comply with the following:
 - 1. Water shall not be able to accumulate at any point and the surface shall be free to drain to drainage inlets or gutters.
 - 2. The paving contractor shall water flood the surface with the use of a water truck. If, after 30 minutes on a 70 degree F day, “bird baths” are evident in a depth more than 0.01 foot, the paving contractor and the Owner’s representative will determine the best method of correction.
 - 3. A 10 foot straightedge shall be used to check for high spots and ridges. High spots and ridges out of compliance shall be reduced by a remedy determined by the paving contractor and the Owner’s representative.
- C. Should a section of the work be not acceptable on the basis of inadequate compaction and/or the mixture becomes loose and broken, mixed with dirt, out of tolerance, or in any other way defective, it shall be repaired or removed and replaced with fresh mixture and immediately compacted to conform to the surrounding area to the satisfaction of the Owner.

3.7 PROTECTION

- A. Immediately after placement, protect pavement from mechanical injury.
- B. Protect sealed surface until it is cured.

END OF SECTION

SECTION 32 13 13 - SITE CONCRETE IMPROVEMENTS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY:

- A. This Section includes the following:
 - 1. All material, labor, equipment and services necessary to completely install exterior Portland cement flatwork, cast-in-place concrete, and architectural flatwork concrete, accessories and other related items, slabs, ramps and sidewalks and walkways, curb and gutter, mowstrips, and other miscellaneous concrete items of the form and dimensions shown on the plans and necessary to complete the project, and in accordance with the requirements of the Standard Specifications as modified and supplemented by these Special Provisions
- B. RELATED SECTIONS
 - 1. Contract General Conditions and Division 1, General Requirements
 - 2. Section 31 20 00 - Earthwork: Excavation, Filling, and Grading
 - 3. Section 32 11 26 - Aggregate Base Course
 - 4. Section 32 13 15 - Concrete Reinforcement

1.3 REFERENCES

- A. SSCDOT - Standard Specifications, Department of Transportation, State of California (Caltrans), latest edition, except for references to method of payment, and references to any state furnished materials.
- B. ACI standards, including but not limited to #304, 305, 306, 308, 309 and 347.
- C. ASTM standards, including but not limited to #C-33, C-39, C-94, C-136, C-143, C-150, and C-309.

1.4 SUBMITTALS

- A. Submit under provisions of Specification Section SUBMITTALS.
 - 1. Certificates of compliance for materials and mix designs.
 - 2. Load tags for delivered material.
 - 3. Strength testing as required by the approving agency.
 - 4. Integral color sample, where applicable.
 - 5. Application instructions for the architectural finish materials.

6. Accessories and manufacturer's installation specifications.

1.5 QUALITY ASSURANCE

- A. Furnish concrete materials conforming with SSCDOT.
- B. Perform work in accordance with SSCDOT, unless noted otherwise herein.

PART 2 - PRODUCTS

2.1 MIXES

- A. Mix Design and Proportions in accordance with SSCDOT:
 1. Mix designs with Fly Ash content no greater than 15 percent of the total weight of cementitious materials shall be proportioned by SSCDOT.
 2. Provide a maximum of 4 percent air entrainment, unless noted otherwise.
 3. Owners Testing laboratory shall review all mix designs before submittal.
 4. All concrete shall have the following minimum compressive strengths in accordance with ACI 318 and SSCDOT at 28 days and shall be proportioned within the following limits:
 - a. Site Concrete: Use for exterior concrete slabs on grade including, but not limited to sidewalks, curbs, gutters, mow strips, utility appurtenances and miscellaneous site improvements.

1) Strength:	3,000 psi at 28 days
2) Maximum Aggregate Size:	1-inch
3) Cement Type:	Type II
4) Cement Content:	5.5 sacks/yd minimum
5) Max Water/Cement Ratio:	Per SSCDOT
6) Admixture	Per SSCDOT
 - b. Structures & Vehicular Concrete Paving: Use for site structures and exterior slabs on grade subject to vehicle traffic.

1) Strength:	4,000 psi at 28 days
2) Maximum Aggregate Size:	1-inch
3) Cement Type:	Type II
4) Cement Content:	6.5 sacks/yd minimum
5) Max Water/Cement Ratio:	Per SSCDOT
6) Admixture:	Per SSCDOT
 - c. Slurry Backfill: Use for backfill of over-excavated trenches, encasement of all penetration, and site utility piping.

1) Maximum Aggregate Size:	3/8-inch
2) Cement Type:	Type II
3) Cement Content:	2.0 sacks/yd minimum
- B. Reinforcement shall comply with relevant portions of Division 32 Specification Section CONCRETE REINFORCEMENT.

PART 3 - EXECUTION

3.1 PREPARATION

- A. Subgrade shall conform to the requirements of Division 31 Specification Section EARTHWORK: EXCAVATION, FILLING AND GRADING. The District may elect to verify compacted subgrade elevations by measurement made from adjacent existing improvements or by a template supported by forms.

3.2 GENERAL CONCRETE

- A. Concrete placement shall conform to the applicable requirements of Standard Specification Sections 51 and 90. Concrete shall not be placed when the air temperature in the shade at the project site exceeds 95° F or is below 45° F, or when the temperature of the concrete exceeds 85° F.
- B. After the concrete has been placed, it shall be struck off to proper section and compacted with a grid of parallel metal bars until a layer of mortar not less than 3/8 inch thick has been brought to the surface. All exposed concrete surfaces shall receive a medium broom finish applied transversely to the line of pedestrian traffic or to the longest dimension of the concrete, as applicable.
- C. General concrete surfaces shall be cured by the curing compound method and shall be protected in accordance with the provisions of Subsections 90-1 and 90-2 of the Standard Specifications.

3.3 PROTECTION OF CONCRETE

- A. The Contractor shall be responsible for the condition of all concrete work until such time as all work has been completed and is accepted by the District. The Contractor shall limit vehicular travel across concrete until such time as the concrete has achieved strength sufficient that it can support traffic without damage. In no case, however, will vehicles be allowed to travel across new concrete improvements until seven calendar days have passed since the concrete was placed.

3.4 CONCRETE JOINTS

- A. Expansion joints and weakened plane joints shall be constructed at the locations shown on the plans or as directed by the Engineer. Where joint locations are not specified on the plans, expansion joints shall be constructed at maximum intervals of 30 feet and weakened plane joints shall be constructed at maximum intervals of 10 feet.
- B. Expansion joints shall be considered as weakened plane joints for the purpose of spacing weakened plane joints. Expansion joints shall be tooled with a 1/4 inch maximum radius edger, and shall be filled with 3/8 inch pre-formed expansion joint filler.

3.5 CONCRETE FINISHES

- A. Where concrete is being installed adjacent to or near existing concrete improvements, match the finish of similar concrete surfaces (i.e. new sidewalks shall match existing sidewalks, new curbs shall match existing curbs, etc.).
- B. Sidewalks and Mowstrips: Medium sweat finish or medium broom finish perpendicular to the direction of travel.
- C. Curbs: Trowel smooth and finish with a light brush.
- D. Gutters: Medium broom finish parallel with curb or direction of flow.
- E. Drive approaches and wheelchair ramps: medium broom finish, perpendicular to the direction of travel.

3.6 INSTALLATION OF ACCESSORIES

- A. Strictly comply with manufacturer's instructions and recommendations and approved details. Securely anchor work to substrate.

3.7 REPAIR AND CLEAN-UP

- A. Contractor shall legally remove all trash, debris, containers and excess materials from the site on a periodic basis, and shall keep the work broom clean until Owner's acceptance.
- B. The Contractor shall be held responsible for the repair and/or replacement of new or existing improvements damaged as a result of this work to the satisfaction of the Owner.
- C. The Contractor shall provide roll-off bins for wash-out of ready mix concrete trucks and pumers. Do not allow concrete debris or cement water onto soils scheduled for landscape planting.

END OF SECTION

SECTION 32 13 15 - CONCRETE REINFORCEMENT

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY:

- A. This Section includes the following:
 - 1. Deformed reinforcing bars for site concrete improvements
- B. RELATED SECTIONS
 - 1. Contract General Conditions and Division 1, General Requirements
 - 2. Section 32 13 13 - Site Concrete Improvements

1.3 SUBMITTALS

- A. Submit in accordance with Specification Section SUBMITTALS and the Contract General Conditions.
 - 1. Mill test certificates identifying chemical and physical analysis of each load of reinforcing steel delivered. If mill test reports are not available and the quantity of steel for a structure exceeds 5 tons, provide a laboratory test to prove yield strength and bending.
 - 2. Drawings and placing diagrams for each grade slab including dowels and corner bars.
 - 3. On the placing diagrams, show all openings for pipelines and architectural features. Include additional reinforcing at openings and corner bar arrangements at intersecting beams, walls, and footings.
 - 4. Coordinate placing diagrams with the concrete placing schedule.

1.4 PRODUCT DELIVERY

- A. Deliver reinforcement to project site in bundles marked with tags indicating bar size and length.
- B. Store on wooden supports above ground surface.

PART 2 - PRODUCTS

2.1 BARS

- A. Bars shall be deformed billet steel conforming to ASTM A 615, Grade 60. Mixing of steel grades will not be allowed.

2.2 BAR SUPPORTS

- A. Bar support shall be concrete or metal chairs, spacers or hangers. Reinforcing bars shall not be supported by forms.

2.3 TIE WIRE

- A. Tie wire shall be annealed steel wire of not less than 16-gauge.

PART 3 - EXECUTION

3.1 PLACEMENT

- A. Position reinforcement in accordance with the drawings, secure with wire ties or suitable clips at all intersections, and support by an adequate number of concrete or metal chairs, spacers, or metal hangers such that reinforcing bars do not sag more than one quarter of an inch (1/4") between supports. Do not place reinforcement or supports in contact with the forms. Bend tie wires away from the forms in order to provide the specified concrete coverage. To secure reinforcement in position, the Contractor may elect to locate bars additional to those shown on the drawings, but at no additional cost to the Owner.
- B. Set reinforcing dowels and anchor bolts in place prior to placing concrete. Do not press them into the concrete after the concrete has been placed.

3.2 SPLICES

- A. Splice bars only at locations shown on the drawings. Where splices are not detailed, lap bars 72 bar diameters.

3.3 CLEANING

- A. Remove dirt, form oil, excessive rust, cement coating from previous pours, and foreign matter that will reduce bond with concrete.

3.4 PROTECTION DURING CONCRETING

- A. Keep reinforcing steel in proper position during concrete placement.

END OF SECTION

SECTION 321723 – PAVEMENT MARKINGS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. This Section includes the following:

- 1. Furnish and install paint markings for parking stall, traffic delineation, wording, playcourts, and hatching area on concrete and asphalt concrete pavement.

- B. RELATED SECTIONS

- 1. Contract General Conditions and Division 1, General Requirements
 - 2. Section 32 12 17 – Asphalt Paving
 - 3. Section 32 13 13 – Site Concrete Improvements

1.3 REFERENCES

- A. SSCDOT Standard Specifications, California Department of Transportation (Caltrans), latest edition, except for references to methods of payment and to furnishing of materials by State.

1.4 SUBMITTALS

- A. Submit under provisions of Division 1.
- B. Certificates of compliance for materials.

1.5 COORDINATION

- A. Coordinate work with other work, including associated traffic signing.
- B. Commence striping or marking of asphalt concrete no sooner than 7 days following any sealing of the asphalt concrete.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. Paint: Quick drying, high visibility water soluble acrylic striping paint; Stripe Master, Wikel Mfg. Company, or similar by Sherwin Williams, J.E. Bauer, or PPG, or approved equal.
- B. Paint shall be of color indicated on the construction plans.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Verify that site is ready for application.

3.2 PREPARATION

- A. Identify installation locations. Place parking stall striping, traffic marking, wording, disabled symbol and access striping at locations, as shown on construction plans.
- B. Thoroughly clean all surfaces to be painted.
- C. Employ equipment and methods appropriate to the work site.
- D. Provide vehicular and traffic controls per Division 1.

3.3 INSTALLATION

- A. Apply paint striping and marking as indicated on the plans.
- B. Apply paint uniformly, straight and true, with equipment designed for traffic striping and marking applications.
- C. Apply paint striping and marking per Section 84 of SSCDOT, except supply paint conforming to 2.1 A. of this specification.
- D. Apply a minimum of 2 separate coats of paint at all striping and marking locations, including asphalt concrete and concrete surfaces.

3.4 FIELD QUALITY CONTROL

- A. Field inspection will be performed under provisions of Division 1.

END OF SECTION

SECTION 322852 – PARKING LOT FURNITURE

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. This Section includes the following:

- 1. A. Furnish and install signs, posts and concrete wheelstops

- B. RELATED SECTIONS

- 1. Contract General Conditions and Division 1, General Requirements
 - 2. Section 32 12 17 – Asphalt Paving
 - 3. Section 32 13 13 – Site Concrete Improvements

1.3 REFERENCES

- A. SSCDOT Standard Specifications, California Department of Transportation (Caltrans), latest edition, except for references to methods of payment.
- B. CBC – California Building Code, latest edition.

1.4 SUBMITTALS

- A. Submit under provisions of Specification Section - SUBMITTAL PROCEDURES.

1.5 COORDINATION

- A. Coordinate work with Owner's personnel.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. Signs: As per detail drawing.
- B. ADA Accessible Signs: As per detail drawing.

- C. Sign Posts: 2 inch diameter galvanized iron pipe, A 120, Schedule 40, unless otherwise shown on drawing.
- D. Concrete for Sign Footings: Specification Section - SITE CONCRETE IMPROVEMENTS
- E. Wheelstop: 3 or 4 feet long pre-cast concrete per detail drawing.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Verify existing and proposed site conditions.

3.2 PREPARATION

- A. Identify installation locations.
- B. Locate, identify, and protect existing above and below grade utilities from damage.
- C. Employ equipment and methods appropriate to the work site.

3.3 INSTALLATION

- A. Install all sign posts straight and plumb in concrete footings as shown on plans.
- B. Secure all signs to posts with vandal resistant galvanized hardware furnished by the Contractor.
- C. Orient direction of all signs as indicated on the plans.
- D. Install concrete wheelstops at locations shown on drawings. Anchor each wheelstop with two deformed reinforcing bars driven into the asphalt concrete pavement per detail drawing.

3.4 FIELD QUALITY CONTROL

- A. Field inspection will be performed under Division 01.

END OF SECTION

SECTION 32 31 13 – CHAIN LINK FENCING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. This Section includes the following:

- 1. Provisions of constructing chain link fence and gates at locations shown on the Construction Documents.

- B. RELATED SECTIONS

- 1. Contract General Conditions and Division 1 Specifications
 - 2. Section 312000 – Earthwork: Excavation, Filling, and Grading
 - 3. Section 321313 – Site Concrete Improvements

1.3 QUALITY ASSURANCE

- A. Qualifications of Installer

- 1. Throughout the progress of installation of the work of this Section, provide at least one person who shall be thoroughly familiar with the specified requirements, completely trained and experienced in the necessary skills, and who shall be present at the site and shall direct all work performed under this Section.
 - 2. In actual installation of the work of this Section, use adequate numbers of skilled workmen to insure installation in strict accordance with the contract documents.
 - 3. In acceptance or rejection of work performed under this Section, the Engineer will make no allowance for lack of skill on the part of the workmen.

1.4 PRODUCT HANDLING

- A. Protection

- 1. Use all means necessary to protect the materials of this Section before, during and after installation, and to protect the work of other trades.

- B. Replacements

- 1. In the event of damage, immediately make all repairs and replacements necessary to the satisfaction of the Engineer and at no additional cost to the Owner.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. The materials and fabrication of chain link fabric shall conform to these specifications, and as shown on the plans and details.
- B. All ferrous materials shall be new and galvanized. Imperfectly galvanized material or material upon which serious abrasions of the galvanizing occur shall not be used.
- C. Height - all fencing shall stand at the heights shown on the plans.
- D. Fabric
 - 1. Standard: Chain link fabric shall conform to ASTM, designation: A392, Class 1. The wire used in the manufacture of the fabric shall be 9-gauge. All chain link fabric shall be woven into approximately 2-inch mesh. Fabric shall be furnished with knuckling at all selvages. The knuckled selvaqe shall be used along all corners and edges. Fabric shall be GBW, galvanizing before weaving.
- E. Posts, braces and gate frames
 - 1. The base material for the manufacture of steel pipe used for posts and braces shall conform to the specifications of ASTM, designation: A53 Type A, standard weight, Schedule 40, and the base material for the manufacture of other steel sections used for posts and braces shall be good commercial quality weldable steel.
 - 2. All posts, braces and gate frames shall conform to the size and weight designations shown on the plans.
 - 3. All posts shall be fitted with rainproof caps designed so as to fit securely over the top of the posts.
 - 4. All posts shall be of a total length of not less than the depth of the concrete footing as shown on the plans, plus the length required above ground.
 - 5. Posts and braces shall be galvanized in accordance with specifications of ASTM, designation: A123.
 - 6. All horizontal braces shall be attached to posts by approved steel fixtures.
- F. Stretcher bars and other required fittings and hardware shall be steel and shall be galvanized in accordance with the specifications of ASTM, designation: A153.
- G. All swinging gates and walk gates shall be installed with a gate holdback, Trimco 1209HOHA-626. Holdbacks shall be installed in the concrete mowstrip, unless otherwise noted.
- H. Concrete mowstrip shall be in accordance with Section 321313 SITE CONCRETE IMPROVEMENTS.
- I. Walk gates shall be constructed as per detail drawing and in accordance with CBC sections 11B-206.5 and 11B-404.
- J. Drive and walk gate shall be constructed as per detail drawing.

K. Non-accessible swinging gates shall comply with the following:

1. Have a lockable fork latch.
2. Have heavy-duty malleable iron hinges

PART 3 - EXECUTION

3.1 INSTALLATION

A. All posts shall be set in concrete footings as shown on the plans to within 3 inches of bottom.

B. All vertical line and end posts shall be braced to the nearest adjacent vertical post with galvanized horizontal braces as shown on the plans.

C. Welding

1. All welding shall conform to the requirements of the California Building Code, CBC, Chapter 22.
2. Where the galvanized surface has been burned by welding, all surfaces of the welded connections shall be thoroughly cleaned by wire brushing and all traces of the welding flux and loose or cracked galvanizing removed. The damaged area and weld shall then be painted in accordance with the following details.
 - a. All galvanized, welded, or damaged surfaces that are to be painted shall first be cleaned by washing with mineral spirit solvent sufficient to remove any oil, grease or other materials foreign to the galvanized coating.
 - b. After washing, all areas shall be roughened by abrasive blasting using an abrasive that is no larger than 30-mesh. Galvanizing shall not be removed by this operation.
 - c. After preparation, all galvanized surfaces that are to be painted shall be covered with one application of zinc dust-zinc oxide primer, federal specification TT-P-641, Type II. The zinc dust-zinc oxide paint shall be applied by spraying to produce a complete covering of the galvanized surface.
 - d. After the application of the zinc dust-zinc oxide paint, one application of pre-treatment, vinyl wash primer, Section 91-2.7 of the state Standard Specifications, shall be applied to such surfaces. The vinyl wash primer shall be applied by spraying to produce a uniform wet film on the surface.
 - e. Such surfaces shall then be covered with two separate applications of white tint base vinyl finish coat, Section 91-2.22 of the state standard specifications, sufficient to completely cover the preceding color. Paint for the first application shall be tinted with a compatible coloring agent to slightly contrast with the color of the second application. After drying for 24 hours, one application of aluminum paint, finish coat, Section 91-2.8 of the state standard specifications, shall be painted on the welded areas.

D. Perimeter fencing chain link fabric shall be fastened to the outside of the fence.

E. All fabric shall be stretched and securely fastened to the posts, as follows:

F. The fabric shall be fastened to end, corner and gate posts with 3/16 inch by 5/8 inch stretcher bars and not less than 1/8 inch by 3/4 inch stretcher bar bands spaced at one foot intervals for

whatever widths of fabric are supplied. The fabric shall be fastened to line posts with tie wires or post clips. Tie wires shall be at least 9-gauge (0.148 inch diameter) steel. Post clips shall be at least 6-gauge (0.192 inch diameter) steel. The wire or clip fasteners shall be spaced at approximately 14 inches on line posts, with a minimum of 5 fasteners per 6 foot high post. Top and bottom edges of the fabric shall be secured to each horizontal brace with tie wires or fastened to tension wire with hog rings spaced at 15 inch maximum intervals. Hog rings shall be at least 9-gauge (0.148 inch diameter) steel. Wire ties shall be given at least one complete turn. Hog rings shall be closed with ends overlapping. The distance from the selvage to the braces or top rails shall be 2 inch maximum and shall be fastened to the brace or rail by wire fasteners spaced at approximately 14 inches with a minimum of 8 fasteners per each 10 foot horizontal span.

- G. Construct concrete mowstrip at the width as shown on the plans.

END OF SECTION

IRRIGATION SYSTEM

SECTION 328400 - IRRIGATION SYSTEM

PART 1 - GENERAL

1.01 SCOPE OF WORK

- A. Provide all materials, labor, equipment and services necessary to furnish, install and maintain the Irrigation System, accessories and other related items necessary to complete the Project as indicated by the Contract Documents unless specifically excluded.
- B. Related Work Specified Elsewhere
 - 1. Drawings and general provisions of the Contract, including General and Supplemental Conditions and Division 1 Specification Sections, apply to work of this section.
 - 2. Section 31 20 00 – Earthwork
 - 3. Section 31 23 00 – Trench Excavation and Backfilling
 - 4. Section 32 90 00 – Landscape Planting

1.02 CODES AND REGULATIONS

- A. All work and materials shall be in full accordance with the following codes adopted and amended by the authority having jurisdiction. Nothing in these drawings or specifications is to be construed to permit work not conforming to these codes. The work described in these specifications shall govern in the event that the drawings or specifications call for material or methods of construction of higher quality or standard than required by these codes.
 - 1. California Plumbing Code
 - 2. California Administrative Codes:
 - a. Title 8, Industrial Relations
 - b. Title 19, Public Safety
 - 3. California Electrical Code
 - 4. California Green Building Standards Code, Section 5.304.
 - 5. California Department of Water Resources, Model Water Efficient Landscape Ordinance (MWELO)
 - 6. Standards and Regulations of other agencies, water utility provider, or organizations as listed in this specification relating to products or procedures, e.g. American Society for Testing and Materials.

1.03 DEFINITIONS

- A. Piping: All pipe fittings, valves, and accessories as required for a complete piping system.
- B. PVC: Polyvinyl Chloride.
- C. Agencies and Organizations:
 - 1. ASTM- American Society for Testing and Materials
 - 2. AWWA- American Water Works Association
 - 3. IAPMO- International Association of Plumbing and Mechanical Officials
 - 4. CEC - California Electrical Code
 - 5. UL - Underwriter's Laboratories
 - 6. SSPWC – Standard Specifications for Public Works Construction, by the American Public Works Assoc./Associated General Contractors of California.

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D. Owner: An authorized representative of the Owner or the Owner's authorized consultant.

1.04 QUALITY ASSURANCE

- A. The work of this section shall be performed by a single firm experienced in irrigation work and holding a current California Contractor's A or C27 License.
- B. Qualifications of Workers
 - 1. The Contractor shall employ skilled workers who are thoroughly trained and experienced in irrigation system installation and who are completely familiar with the specified requirements and methods needed for proper performance of this work.
 - 2. The Contractor shall provide adequate supervision by a qualified foreman fluent in English that will be continuously onsite during the performance of this work.

1.05 SUBMITTALS

- A. An operational assessment report of any existing irrigation system in the area of work shall be submitted prior to the start of the project's work, including demolition and clearing. See Subsection 1.07.
- B. The Contractor shall submit complete lists of proposed materials and equipment per the Division 01 Submittal Section, including manufacturer's name and model numbers. Only provide additional product data and/or catalog cut sheets if a substitute material or equipment is proposed. No substitution will be allowed without prior written approval.
- C. Shop drawings shall be provided for the layout and description of all equipment assemblies, including dimensions, capacities, and other characteristics as listed in product specifications. Shop drawings for booster pump assemblies shall clearly and neatly indicate the layout of the assemblies and proposed piping in the pump yard, and shall show adjacent equipment, required clearances, walls, fences, piping and other existing permanent improvements affecting the layout. Materials and equipment shall not be ordered until given written acceptance. Equipment or materials installed or furnished without prior approval or acceptance may be rejected and the Contractor shall be required to remove such materials from the site at his own expense.
- D. When specific name brands of equipment and materials are used, they are intended as preferred standards only. This does not imply any right upon the part of the Contractor to furnish other materials unless specifically approved in writing as equal in quality and performance by the Owner. Decisions by the Architect/Engineer shall govern as to what name brands of equipment and materials are equal to those specified on the plans and his decisions shall be final. It shall be the responsibility of the Contractor to furnish proof as to equality of any proposed equipment or material.
- E. Approval of any item, alternate or substitute indicates only that the products apparently meet the requirements of the drawings and specifications on the basis of the information or samples submitted. Manufacturer's warranties shall not relieve the Contractor of his liability under the guarantee. Such warranties shall only supplement the guarantee.
- F. Acceptance of any submittals, deliverables, or other work product of the Contractor shall not be construed as assent that the Contractor has complied with, nor in any way relieved the

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Contractor of compliance with (i) the applicable standard of care, and/or (ii) applicable statutes, regulations, rules, guidelines, and contract requirements.

- G. Irrigation Equipment: When the Contractor desires to transfer salvaged irrigation equipment and/or new spare equipment and/or parts to the Owner, he must submit along with the equipment an itemized list. The Contractor is solely responsible to obtain a written confirmation by the Owner that all materials received by the Owner matches his material list. The transfer of materials will not be considered executed without written confirmation of same.
- H. Submit any required or requested testing data and/or Certificates, including but not limited to the backflow prevention assembly testing Certificate after the assembly is installed prior to regular system operation.

1.06 EXPLANATION OF DRAWINGS

- A. The intent of the drawings and specifications is to indicate and specify a complete and efficient sprinkler irrigation system ready for use in accordance with the manufacturer's recommendations, and all applicable local codes and ordinances. Interpretation of irrigation plans and specifications shall be the responsibility of the Landscape Architect or Owner.
- B. All existing systems and improvements are shown in their approximate locations. Before proceeding with any work, the Contractor shall carefully check and verify all dimensions and shall report any variations to the Owner.
- C. Due to the scale of the drawings, it is not possible to indicate all offsets, fittings, etc., which may be required. The Contractor shall carefully investigate the structural and finished conditions affecting all his work, and plan his work accordingly, furnishing such fittings, etc., as may be required to meet such conditions. Drawings are generally diagrammatic and indicative of the work to be installed in the most direct and workmanlike manner, so that conflicts between sprinkler systems, planting, utilities, and architectural features will be avoided. Locate pipe, valves and other equipment in planting areas unless specifically noted otherwise.
- D. All work called for on the drawings by notes shall be furnished and installed whether or not specifically mentioned in the specifications.

1.07 EXISTING CONDITIONS

- A. The Contractor shall not install the irrigation system and equipment as shown on the Drawings when it is obvious in the field that obstructions or differences in existing conditions and/or systems are present. Such obstructions or differences should be immediately brought to the attention of the Owner. Failure to provide notification prior to the start of this work shall make the Contractor liable for any and all repairs and/or corrections necessary for proper functioning and coverage of the system without any additional cost to the Owner.
- B. The Contractor shall examine carefully the site of work contemplated and the proposal, plans, specifications, and all other contract documents. By submitting a bid, the Contractor attests that he has investigated and is satisfied as to the conditions to be encountered, as to the character, quality, and quantity of work to be performed and materials to be furnished, and the requirements of the specifications. The Contractor shall take necessary precautions to

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protect existing site conditions that are to remain. Should damage be incurred, the Contractor shall make the necessary repair or replacement to bring it back to its original condition at his own expense.

- C. Prior to cutting into the soil, the Contractor shall coordinate with the Owner to locate all cables, conduits, sewers, septic tanks, and other such underground utilities as are commonly encountered and he shall take proper precaution not to damage or disturb such improvements. If a conflict exists between such obstacles, notify the Owner who will consider realignment of the proposed work. The Contractor will proceed in the same manner if a rock layer or any other condition encountered underground makes change advisable. Should utilities not shown on the plans be found during excavations, Contractor shall promptly notify the Owner for instructions as to further action. Failure to do so will make Contractor liable for any and all damage thereto arising from his operations subsequent to discovery of such utilities not shown in plans.
- D. The Contractor shall verify the correctness of all finish grades within the work area in order to insure the proper soil coverage (as specified) of the sprinkler system pipes. The Contractor shall verify and be familiar with location and size of the proposed water supply (P.O.C.). He shall make approved type connection and install new work.
- E. The Contractor shall be responsible for notifying the Owner prior to installation that equipment or methods indicated on the drawings or in the specifications conflict with local codes, are incompatible or an error is apparent. If the event the Contractor neglects to do this, he will accept full responsibility for any revisions necessary.

1.08 PERMITS

- A. The Contractor shall obtain and pay required fees to any governmental or public agency. Any permits for the installation or construction of any of the work included under this contract, which are required by any of the legally constituted authorities having jurisdiction, shall be obtained and paid for by the Contractor, each at the proper time. He shall also arrange for and pay all costs in connection with any inspections and examination required by these authorities.

1.09 TESTING

- A. General: Unless otherwise directed, tests shall be witnessed by the Owner. Work to be concealed shall not be covered until prescribed tests are made. Should any work be covered before such tests, the Contractor shall, at his expense, uncover, test and repair his work and that of other contractors to original conditions. Leaks and defects shown by tests shall be repaired and entire work re-tested. Tests may be made in sections, however, all connections between sections previously tested and new section must be included in the test.
- B. Main Line Piping: Hydrostatically test main line pipe segments after a minimum of twenty-four (24) hours after any solvent connections. Purge any free air in the test pipe sections. Partially backfill pipe but keep all joints exposed. Maintain 125 psi water pressure in new main line piping for a minimum duration of two (2) hours. There can be a maximum +/- 5psi change in pressure during the test.
- C. After being installed at the project site, any newly installed Backflow Prevention unit must be tested and approved as functioning properly per the local water agency requirements.

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Approval of the backflow prevention unit must precede any final inspection of the irrigation system. All costs for testing shall be the responsibility of the Contractor.

1.10 OBSERVATION

A. General:

1. Installation and operations must be approved by the Owner.
2. In no event shall the Contractor cover up or otherwise remove from view any work under this contract without prior approval of the Owner. Any work covered prior to inspection shall be opened to view by the Contractor at his expense.
3. In all cases, where inspection/observation of the irrigation system work is required and/or where portions of the work are specified to be performed under the direction and/or review of the Owner, the Contractor shall notify the Owner at least 72 hours in advance of the time when such review and/or direction is required. Any necessary re-excavation or alterations to the system needed because of failure of the Contractor to provide the required notification and/or to obtain the review/observation, shall be performed at the Contractor's own expense.

B. Periodic observations shall be required for basic operations and installations during progression of the project. The Owner, or Project Inspector shall perform the observations and shall record the observation on the Irrigation System Observation Log form on the As Built Record Drawings. Such observations will include but not necessarily be limited to the following items as included in the scope of work:

1. Layout and flagging of sprinkler heads.
2. Trenching.
3. Main line installation.
4. Main line sustained pressure check.
5. Wire placement.
6. Partial fill compaction of trenches.
7. Control valve installation.
8. Drip line installation prior to backfilling.
9. Sprinkler/emitter coverage prior to the start of planting operations.
10. Overall system operation and primary/secondary communication.

C. Coverage & Operations Review:

1. When the irrigation system is operational and prior to soil conditioning operations, the Contractor in the presence of the Owner shall perform a coverage test of the irrigation system. The Contractor shall furnish all materials and labor required to perform the coverage test and to correct any minor inadequacies of coverage disclosed. The Contractor shall inform the Owner and Owner of any deviation from the plan required due to wind, planting, soil, or site conditions that bear on proper coverage. If such notification of necessary corrections or additions to the irrigation system is not provided prior to or during the coverage test, the Contractor shall make all subsequent adjustments and corrections needed for proper coverage without any extra cost to the Owner.
2. Prior to the start of the maintenance period, the irrigation system shall be reviewed by the Owner for proper operations, and a review of and training on equipment and associated controls performed. Any corrections and/or adjustment shall be made as a condition for the start of the maintenance period and subsequent Final Acceptance.

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- D. Final Acceptance: The work will be accepted in writing when the entire project improvements have been completed to the satisfaction of the Owner. In judging the work, no allowance for deviation from the original plans and specifications will be made unless already approved in writing at proper time. Should it become necessary for the Owner to occupy any portion of the work area before the contract is fully completed, such occupancy shall not constitute acceptance. The Contractor will not be responsible for any damage caused by the Owner's separate work forces.

1.11 REJECTION OF NON-CONFORMING MATERIAL OR WORK

- A. The Owner reserves the right to reject any material or work which does not conform to the contract documents. The rejected material or work shall be removed or corrected by the Contractor at no additional cost to the Owner.

1.12 OPERATIONS AND MAINTENANCE INSTRUCTIONS & RECORD DOCUMENTS

- A. The Contractor shall prepare and deliver to the Owner's Representative within ten (10) calendar days prior to completion of the maintenance period, all required and necessary descriptive material in complete detail and sufficient quantity, properly prepared in two individually bound sets of Operating and Maintenance Manuals. These manuals shall describe the material installed and shall be in sufficient depth to permit operating personnel to understand, operate and maintain all equipment. Spare part lists and related manufacturer identification shall be included for each installed equipment item. Each complete, bound manual shall contain the following information:
1. Cover sheet stating Contractor's address and telephone number, duration of guarantee period, and a list of equipment, with names and addresses of local manufacturer representatives and warranty periods.
 2. The Contractor to issue a "CERTIFICATE OF CONSTRUCTION COMPLIANCE" which indicates that all work done, materials and equipment used and installed are in compliance with the approved plans, specifications and all authorized revisions and that the system functions properly.
 3. Complete operating and maintenance instructions and warranties on all major equipment.
 4. Complete set of manufacturer's literature and specifications of material installed, including parts list.
 5. A list of the controller station number for each control valve if different than the control valve number shown on the drawings.
 6. Initial electrical data on each control valve:
 - a. Ohms reading for each valve taken at the controller (circuit is OFF).
 - b. Voltage reading for each valve taken both at the controller and at the valve (circuit is ON).
- B. The contractor shall furnish one set of As-Built full-scale drawings on bond, and two compact disks with complete sets of digital PDF files of all close-out documents after the As-Built Record Drawings have been reviewed and accepted by the Landscape Architect.
1. Label first page of each document, or set of documents, "AS-BUILT PROJECT RECORD" in neat large printed letters on lower right hand corner. Record information concurrently with construction progress. Prints for this purpose may be obtained from the Owner. This set of drawings shall be kept on the site and shall be used only as a record set. Do not conceal any work until required information is recorded. These drawings shall also serve as work in progress sheets, and the Contractor shall make **neat and legible** annotations thereon daily as the work progresses, showing the work as actually installed.

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These drawings shall be available at all times for inspection and shall be kept in a location designated by the Owner.

2. Drawings: Legibly mark to record actual construction:
 - a. Horizontal and vertical locations of underground utilities and appurtenances, referenced to permanent surface improvements. Give sufficient horizontal and vertical dimensions to accurately trace route and depth of each concealed line or item. Accurately locate each capped, plugged or stubbed line.
 - b. Field changes of dimension and detail.
 - c. Changes made by Field Order, Addenda, or other change document.
 - d. Show the final controller station number for each control valve if different than the control valve number shown on the drawings.
 3. Deliver all Close-out Documents (As-Builts) to the Owner. Accompany submittal with transmittal letter in duplicate, containing:
 - a. Date.
 - b. Project title.
 - c. Contractor's name and address.
 - d. Title and number of each Record Document (As-Built).
 - e. Signature of Contractor or his authorized representative.
- C. The Contractor shall provide controller chart(s) as follows:
1. The Contractor shall provide two controller charts for each controller's area of work.
 2. The chart shall show the area of work controlled by the automatic controller and shall be the maximum size that the controller door will allow.
 3. Show the controller station number for each control valve if different than the control valve number shown on the drawings.
 4. The chart may be a reduced drawing of the actual as-built system. However, in the event the valve numbering is not legible when the drawing is reduced, it shall be enlarged to a size that will be readable when reduced.
 5. The chart shall be colored with a different permanent color for each station.
 6. The chart shall be enclosed in a waterproof envelope or laminated.
- D. Per MWEL Section 492.9, upon completion of the landscape planting and irrigation system, and as a condition of Final Acceptance and/or the issuance of a Certificate of Occupancy, the licensed landscape contractor shall submit to the approving agency and/or Owner, the following items in a form acceptable to the approving agency and/or Owner:
1. Project information and contact information for the Owner and Applicant (Contractor).
 2. Certification that the installation complies with the approved Landscape Documentation Package.
 3. Irrigation scheduling parameters used in programming the controller during the establishment and maintenance periods.
 4. A Schedule of Irrigation System Maintenance.
 5. A Landscape Irrigation Audit Report per MWEL Section 492.12. Provide the Audit Report unless the report is not required by the approving agency or Owner.

1.13 SPARE PARTS AND EQUIPMENT

- A. Prior to the conclusion of the maintenance period, furnish the Owner with the following spare parts and equipment:
1. One quick coupler key with attached hose swivel for each set of four quick coupler valves installed.
 2. Ten spare nozzles for each different sprinkler head arc and/or radius nozzle installed.

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3. One valve key for the 2" operating nut and/or hand wheel isolation valve.
4. One hundred feet of in-line emitter tubing with ten straight and ten ninety degree compression fittings.

1.14 WORK AREA AND SAFETY

- A. The Contractor shall furnish, erect, and maintain all temporary facilities; perform all temporary work during the period of construction, including those herein specified. All facilities shall be maintained in proper and safe operating and sanitary conditions at all times.
- B. The Contractor shall comply with the provisions of the Construction Safety Orders, and General Safety Orders issued by the State Division of Industrial Safety, as well as all other applicable laws, ordinances and regulations.
- C. The project site shall be maintained in a neat and safe condition at all times. Cleanup shall be accomplished as the work progresses and upon completion of the work. The Contractor shall provide adequate safety measures to protect workers and the public from injury.

1.15 GUARANTEE

- A. Irrigation system consisting of materials, equipment and workmanship shall be guaranteed for proper operation a minimum of one year from date of Final Acceptance of the Work or the Notice of Substantial Completion of the Project, whichever is later. Manufacturer's warranty periods may be longer, and shall be noted in the close-out documents.
- B. The Contractor shall be held responsible for repair and/or replacement of damages to new or existing improvements resulting from the defects of materials, equipment or workmanship one year from the date of Final Acceptance of the Work or the Notice of Substantial Completion of the Project, whichever is later.
- C. The Owner reserves the right to make temporary repairs as necessary to keep the irrigation system equipment in operating condition. The exercise of this right by the Owner shall not relieve the Contractor of his responsibilities under the terms of the Guarantee as herein specified.

PART 2 - PRODUCTS

2.01 PIPE AND FITTINGS

- A. Schedule rated white rigid PVC Pipe shall be made from NSF approved Type 1, Grade I, PVC compound conforming to ASTM D-1785.
- B. Class rated (Standard Dimension Ratio) white rigid PVC Pipe shall be made from NSF approved Type 1, Grade I, PVC compound conforming to ASTM D-1784.
- C. PVC pipe shall be of the Class or Schedule as follows:
 1. PVC pipe shall meet ASTM D-2241 for solvent weld, plain end, ASTM D-2672 for solvent weld, bell end, and ASTM D-3139 for gasketed bell end. Pipe shall be of the Schedule and/or Class as indicated herein.
 2. Pipe sleeves under paving shall be PVC Schedule 40 for 3-inch and smaller or SDR 35 for 4-inch and larger pipes.

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3. Riser and/or manifold pipe connecting valves to main line fittings shall be Schedule 80 PVC.
 4. Pressurized main line pipe shall be Schedule 40, belled end with solvent welds for pipe sizes less than 2 inches. Pipe sized 2 inches and greater shall be Class 200, SDR 21, with gasketed bell ends.
 5. Non-pressurized lateral line pipe shall be Schedule 40, belled end with solvent welds.
 6. All PVC piping shall be purple colored indicating non-potable water use.
- D. All pipes shall be continuously and permanently marked and conform with the following information: manufacturer's name or trademark, nominal pipe size, Schedule or Class of pipe, pressure rating in PSI, ASTM designation and (NSF) seal of approval.
- E. Rigid polyvinyl chloride (PVC) Fittings:
1. White Schedule 40 type I and II grade 1, solvent weld socket fittings ASTM D-2466 for all lateral lines 2-1/2 inches and smaller.
 2. Gray Schedule 80 type I and II grade 1 solvent weld socket fittings ASTM D-2464 for all main line less than 2 inches diameter, and lateral lines 3 inches and larger.
 3. All fittings shall bear the manufacturer's name or trademark, material designation, size, applicable (IPS) schedule, and (NSF) seal of approval.
 4. All plastic fittings and connectors shall be injection molded of an improved polyvinyl chloride compound featuring high tensile strength, high chemical resistance and high impact strength in terms of current ASTM standards for such fittings. Where threads are required in plastic fittings, these shall be injection molded also.
- F. PVC Solvent Weld Adhesive: All socket and bell type connections shall be joined with primer and PVC solvent cement which shall meet the requirements of ASTM F656 for primer and ASTM D2564, "Standard Specification for Solvent Cements for Polyvinyl Chloride (PVC) Plastic Pipe and Fittings." Solvent cement joints for plastic pipe and fittings will be made as prescribed by manufacturer. The high chemical resistance of the pipe and fitting compounds specified in the foregoing sections makes it mandatory that an aggressive colored primer, which is a true solvent for PVC be used in conjunction with a solvent cement designed for the fit of pipe and fittings specified. A heavy bodied, medium set solvent cement, e.g. Weld-On 711 gray, shall be used for all classes and schedules of pipe and fittings.
- G. PVC Pipe Thread Sealant: A non-hardening all purpose sealant and lubricant similar to Permatex #51 or Lasco blue pipe thread sealant which is certified by the manufacturer to be harmless to PVC pipe and fittings. Apply sealant to clean male threads, brushing into grooves and to the first three threads of the female threads. A good quality grade of teflon tape recommended by the manufacturer for use with plastics may be used in lieu of sealant. Minimum width of tape to be used is 3/4". A minimum of two wraps and a maximum of three wraps shall be used.
- H. PVC Swing Joints: Connections to sprinkler heads from lateral lines shall be made with swing joints as detailed. Pre-assembled swing joints from Hunter, King Brothers or Spears are acceptable.
1. Use 6" length nipples for 1/2 inch inlet heads.
 2. Use 12" length nipples for 3/4 or 1 inch inlet heads.
- I. Coated Ductile Iron pipe and fittings:

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1. Ductile Iron pipe shall be centrifugally cast pipe conforming to ANSI/AWWA C150/A21.50 and ANSI/AWWA C151/A21.51, thickness Class 50, with cement - mortar lining and seal coating per ANSI/AWWA C104/A21.4.
 2. Ductile Iron flanged pipe shall conform to ANSI/AWWA C115/21.15.
 3. Ductile Iron flanged fitting to PVC pipe shall use a 'Megalug' mechanical joint restraint Series 2000PV by EBAA Iron per either ANSI/AWWA C111/A21.11 or ANSI/AWWA C153/A21.53, or equal.
 4. Joints shall comply with the following standards:
 - a. Rubber gasketed/mechanical joints: ANSI/AWWA C111/A21.11.
 - b. Flanged joints: ANSI/AWWA C110/A21.10, B16.1, B16.2.
- J. Coated ductile iron push-on fittings meeting ANSI/AWWA C110 or C153/A21.10 shall be used for:
1. Main line connections for pipe 3 inches and greater in diameter.
 2. New main line service tee at valve connections where a service saddle is not acceptable.
 3. Self-restrained fittings or joint restraints (Leemco LH or equal) shall be used for all elbows, tees, bends, etc fittings.
- K. Coated ductile iron service saddles with stainless steel double straps, Smith-Blair 317, Romac Industries 202NS, or equal, shall be used for remote control/quick coupler valve service connections on main lines 1.25 inch or greater, and where the available outlet size can match the largest lateral line size downstream of the remote control valve.
- L. Galvanized pipe and fittings:
1. Galvanized Pipe shall be hot dip galvanized continuous welded, seamless steel SCH 40 pipe conforming to current ASTM A53 standards.
 2. Galvanized Fittings shall be galvanized, threaded malleable iron SCH 40 conforming to current ASTM A865 standards.

2.02 BACKFLOW PREVENTION ASSEMBLY

- A. The backflow prevention assembly is existing and shall remain in place.

2.03 VALVES

- A. Electric Control Valves:
1. Globe valves operated by low-power solenoid, normally closed, manual flow adjustment. Sizes and types as shown on drawings.
 2. Provide a pressure regulating module on all control valves, or other pressure regulating components as part of the operating spray head or low volume head zones when the dynamic system pressure is, or may be greater than 45 psi.
- B. Control Valve Marking: Christy's valve identification tag (or equal), yellow color (purple color for recycled water) with text designating controller and valve station number, e.g. "A12", or equivalent.
- C. Isolation Valves:
1. Cast bronze, coated ductile iron or coated cast iron gate valve with resilient wedge, non-rising stem and two inch operating nut for main line 2 inch size or greater. Match size of mainline.

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2. Cast bronze threaded gate valve with bronze cross handle for main line less than 2 inch size.

D. Quick Coupling Valve: Two piece quick coupling valve as shown on the Drawings.

2.04 VALVE BOXES

A. Control Valve/Master Valve/Flow Sensor boxes:

1. Shrub/Ground Cover areas: Carson 1419 body with lockable tan plastic cover, or equivalent. Drip Valve Kits shall use a Jumbo body with lockable tan plastic cover.
2. Turfgrass areas: Carson 1419 body with lockable green plastic cover, or equivalent.
3. Hardscape areas: Christy B16 concrete box (11.75" x 22.25") with N16R composite solid flush lid, or equivalent.

B. Quick Coupler Valve boxes:

1. Shrub/Ground Cover areas: Carson 910 body with lockable tan plastic cover, or equivalent.
2. Turfgrass area: Carson 910 body with lockable green plastic cover, or equivalent.
3. Skinned ballfield areas: Christy F08 round concrete valve box (8" ID) with F08R concrete lid, or equivalent. Boxes in a sports venue's field of play that are noted to be installed below grade shall use a metal lid with a non-woven geotextile of a minimum 0.5 lb./sq. yd. covering the lid and box frame.

C. Isolation Valve boxes:

1. Gate Valve box in hardscape: Christy G05 round concrete valve box (10.375" ID) with cast iron G05C lid, or equivalent.
2. Gate Valve box in planting areas: Christy F08 round concrete valve box (8" ID) with F08R concrete lid, or equivalent. Use F14 ADS adapter and extension for sizes 2.5 inches and larger.
3. Ball Valve box: Same as 2.04, A.

D. Control Valve box marking: Plastic lids shall have branded markings, and concrete lids shall have painted markings on the top of lid with minimum 2 inch high stenciled letters showing controller letter and station number.

2.05 CONTROLLER

A. The irrigation Controller is existing and shall remain in place / shall be relocated. Verify open stations and spare wire, if any, in the area of work.

2.06 CONTROL AND TRACER WIRE, COMMUNICATION CABLE

- A. Connections between the automatic controllers and the electric control valves, and tracer wire shall be made with direct burial AWG – UF 600 volt copper wire manufactured for irrigation system use.
- B. Hot control wires for the first controller shall be red. If multiple controllers are installed, the hot wire color shall be orange, yellow, purple in order for each controller. Common ground wire shall be white, with a color stripe corresponding to the hot control wire color when multiple controllers are installed. Spare control wires shall be black and spare common wire blue. Tracer wire shall be green.

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- C. Install in accordance with valve manufacturer's specifications and wire chart. In no case shall wire size be less than #14. Common wire shall be a minimum #12 size.
- D. All control wire splices/caps shall be made with direct bury rated, waterproof wire connectors with silicone sealant, Spears DS-500 Dri-Splice, 3M DBR/DBY or approved equal. Use one splice per connector sealing pack.
- E. Apply waterproof numbered wire markers or sleeves at both sides of all splices and at the controller terminal board corresponding to the controller (A, B, etc.) and station number (02, 14, etc.). If multiple valves are connected to one station, add a single digit identifier (1, 2, etc.) to the station number (XX), e.g. A02-1, A02-2, etc.
- F. Communication/flow sensor cable shall be a shielded and jacketed, minimum 16 gauge twisted pair with drain wire, Paige P7162D or equal compliant with the controller manufacturer's specifications.
- G. Below-grade conduit for control wires and/or cables shall be PVC for electrical use with long radius sweeps at direction changes and at valve/splice/pull box terminations.

2.07 IRRIGATION HEADS

- A. Spray/Bubbler Pop-up Head: Molded plastic body with pop-up plastic riser and nozzle. Manufacturer's model numbers are listed with description on the Drawings.
- B. Rotor Pop-up Head: Molded plastic body with plastic riser and nozzle, stainless steel clad riser standard. Gear driven rotation with memory arc, balanced nozzle sets. Manufacturer's model numbers are listed with description on the Drawings.

2.08 CONCRETE

- A. Cast-in-place Portland cement concrete used for pipe encasement, cover, thrust blocks, pipe support or other below-grade use shall at minimum comply with 2,800 psi 28 day strength.

2.09 OTHER MATERIALS

- A. Materials not specifically indicated but necessary for the proper execution of this work shall be of first quality as selected by the Contractor subject to the acceptance of the Owner.
- B. All materials appearing in the legend and details of the irrigation drawings are to be furnished and installed by the Contractor unless specifically noted to the contrary. Contractor is responsible for installation according to plans and details. The system shall efficiently and uniformly irrigate all areas and perform as required by these plans and specifications.
- C. Granular bedding material shall be clean natural occurring sand, free from clay, salt, sea shells or organic material, suitable for the purpose intended, and shall be of such size that 90 percent to 100 percent will pass a No. 4 sieve and not more than 5 percent will pass a No. 200 sieve.

PART 3 - EXECUTION

3.01 SYSTEM DESIGN AND VERIFICATION

IRRIGATION SYSTEM

- A. Contractor shall verify existing pressure and any existing irrigation equipment, and shall inform the Owner of any discrepancies between the existing systems' make and model of equipment, such as sprinkler heads, control valves, etc., and those indicated in the Drawings in writing prior to the start of irrigation system installation. Failure to inform the Owner of any discrepancy within seven working days prior to beginning of system installation will place the responsibility of any and all corrective action on the Contractor at no expense to the Owner.

3.02 PIPING INSTALLATION

A. General:

1. Any equipment installed by the Contractor and deemed to be for the use of the Owner in various situations (i.e., control valves, control panels, etc.) shall be so installed to be readily accessible and quickly operable. Equipment deemed by the Owner to be inoperable for its intended purpose shall be reinstalled by the Contractor in an operable position before approval will be given. Any changes made by the Contractor shall be done without any additional cost to the Owner.
2. The Contractor shall be responsible for layout of proposed facilities and any minor adjustments required due to differences between existing conditions and the Drawings. Any such deviations in layout shall be within the intent of the original drawings, and without additional costs to the Owner. The Owner will indicate the proposed precise location of the control panels. Head spacing on drawings is diagrammatic. Head spacing and patterns shall be adjusted to provide complete and adequate coverage with a minimum spray on non-planted areas. Where head spacing is not specifically noted, Contractor shall install sprinkler heads evenly along the irrigation area's perimeter. Flush all lines prior to installation of heads.
3. Support piping without strain on joints or fittings and allow for piping expansion and contraction. "Snake" pipe into trench in accordance to manufacturer's recommendations to allow for expansion. Lay on solid bedding, at uniform depth.

- B. The Contractor shall examine all other portions of working drawings and plan trenching and pipe layout so that no conflict will arise between irrigation and any other work. Any corrective action will be the Contractor's responsibility at no further expense to the Owner.

C. Excavations:

1. Excavations shall be open vertical construction, sufficiently wide to provide clear working space around the work installed and to provide ample space for backfilling and tamping.
2. The use of a vibratory plow or methods other than open vertical trenching will not be allowed without the written approval of the Owner. To obtain such approval, a field test must be performed, at the proposed site, with the equipment to be used in the presence of the Owner and Owner. The field test is to indicate if the proposed site is favorable to the plowing method. Approval for plowing at one location does not allow the use of plowing at another location. Approval for plowing must be obtained for each location where the use of plowing is proposed. If, at previously approved plowing locations, conditions for plowing become unfavorable as determined by the Owner, plowing shall be terminated.
3. Trenches for pipe and equipment shall be cut to required grade lines, and compacted to provide an accurate grade and uniform bearing for the full length of the line.
4. Unless written approval for using native soils as bedding material is given by the Owner, main line pipe shall be placed on a minimum 6 inch depth of granular bedding material.

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5. Excess trench soil with rocks greater than ½ inch diameter shall be removed from the planted area and spread as directed by the Owner.
6. When two pipes/conduit are to be placed in the same trench, it is required to maintain a minimum six inch (6") horizontal separation between pipes/conduit.
7. Depth of trenches shall be sufficient to provide a minimum cover above the top of the pipe as follows:
 - a. 24-inch minimum over main lines and wire conduit.
 - b. 18-inch minimum over non-pressure (rotary pop-up) lateral lines.
 - c. 12-inch minimum over non-pressure (pop-up spray head) lateral lines.
 - d. 24-inch minimum from subgrade over any lines located in a paved vehicle area.
 - e. Maximum cover above the top of the pipe shall not exceed twelve inches (12") greater than the required minimum cover.
 - f. 12-inch minimum cover over drip line non-pressure lateral and manifold pipe, and main distribution tubing.

D. Assemblies:

1. Routing of pressure supply lines as indicated on drawings is diagrammatic. Install lines (and various assemblies) in such a manner as to conform with details on plans.
2. Install all assemblies specified herein according to the respective detail drawings or specifications pertaining to specific items required to complete the work. Perform work according to best standard practice.
3. Install no multiple assemblies on plastic lines. Provide each assembly with its own outlet.
4. All threaded pipe and fittings shall be assembled using an approved teflon tape, or equivalent, applied to the male threads only. A minimum of two (2) wraps and a maximum of three (3) wraps of an approved teflon tape will be required.
5. No main line elbows, branch tees or isolation valves are to be located closer than five (5) feet to each other without prior approval of the Owner.

E. Line Clearance: All lines shall have a minimum clearance of four inches (4") from each other, and six inches (6") from lines of other trades. Parallel lines shall not be installed directly over one another.

F. Plastic to Steel Connections:

1. At all plastic (PVC) pipe connections, the Contractor shall work the steel connections first. Connections shall always be plastic into steel, never steel into plastic. An approved teflon tape shall be used on all threaded (PVC) to steel, never steel into plastic. An approved teflon tape shall be used on all thread (PVC) to steel pipe joints applied to the male threads only, and light wrench pressure is to be applied. A minimum of two (2) wraps and a maximum of three (3) wraps of an approved 3/4" wide teflon tape will be required.
2. A non-hardening sealant and lubricant similar to Permatex #51 or LASCO blue pipe sealant may be used in lieu of teflon tape. Apply sealant to clean male threads brushing into grooves and to the first three threads of the female threads.

G. Plastic Pipe:

1. The Contractor shall exercise care in handling, loading, unloading, and storing plastic pipe and fittings. All plastic pipe and fittings shall be stored under a weatherproof roofed structure before using and shall be transported in a vehicle with a bed long enough to allow the length of pipe to lie flat so as not to be subject to undue bending or concentrated external load at any point.

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- a. All lumber, rubbish, rubble, concrete and rocks shall be removed from the trenches by the Contractor. Pipe shall have a firm uniform bearing for the entire length of each pipe line to prevent uneven settlement. Wedging or blocking under riser tees shall be done only if specified on the plans. Pad trenches with soil as necessary to provide uniform bearing surfaces.
 - b. Where extensive lengths of pipe are installed, snake pipe in trench from side to side to allow for expansion and contraction. One additional foot per one hundred (100) feet of pipe is the minimum allowance for snaking. Never lay pipe when there is water in the trench or when the temperature is 32 degrees F or below.
 - c. All changes in direction of pipe shall be made with fittings, not by bending. No main line fittings for changes in direction shall be greater than 45 degrees. Provide a minimum five (5) feet between changes in direction fittings.
 - d. Safely handle primers and cements per ASTM F-402. Make solvent weld joints per ASTM D-2855 with a non-synthetic bristle brush in the following sequence:
 - 1) Make sure pipe is cut square and all rough edges and burrs are removed. All connecting surfaces are properly cleaned and dry prior to application of pipe primer.
 - 2) Apply an even coat of colored primer to pipe and fitting prior to application of solvent.
 - 3) Apply an even coat of solvent to the outside of the pipe, making sure that the coated area is equal to the depth of the fitting socket.
 - 4) Apply an even light coat of solvent to the inside of the fitting.
 - 5) Apply a second coat of solvent to the pipe.
 - 6) Insert the pipe quickly into the fitting and turn pipe approximately one-eighth to one-quarter turn to distribute the solvent and remove air bubbles. Hold the joint for approximately fifteen seconds so the fittings do not push off the pipe.
 - 7) Using a clean rag, make sure to wipe off all excess solvent to prevent weakening at joint.
 - 8) Exercise care in going to the next joint so that pipe is not twisted, thereby disturbing the last completed joint.
 - 9) Allow at least fifteen minutes setup time for each welded joint before moving.
 - 10) Repairing plastic pipe when damaged shall be done by replacing the damaged portion of pipe.
- H. Concrete Thrust Blocks: Concrete anchors or thrust blocks shall be provided on pressure main pipelines 2 inches or greater in diameter at abrupt changes in pipeline grade, changes in horizontal alignment (bends, tees and crosses), reduction in pipe size (reducers, reducing tees or crosses), end-line caps or plugs, and/or in-line isolation valve to absorb any axial thrust of the pipeline. The pipe manufacturer's recommendation for thrust control shall be followed. Thrust blocks must be formed against solid unexcavated earth (undisturbed). Do not enclose entire joint in concrete. Provide a minimum of three cubic feet of concrete for each thrust block.
- I. Concrete thrust blocks may be eliminated if the main line piping system uses self-restrained fittings and bell joint restraints per manufacture's specifications throughout.

3.03 PIPE DEPTH AND BACKFILL

- A. Backfill shall not be placed until the installed system has been inspected, pressure tested and approved by the Owner.

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- B. Backfill for first 6 inches underneath, and 4 inches around and above main line pipe and control wires shall be granular bedding material, unless the Owner approves in writing that native soil may be used for initial backfill in lieu of granular bedding material. Backfill material for the upper portion of the trench shall be approved soil. Unsuitable material, such as pipe remnants and wire including clods and rocks over two inches (2") in size, shall be removed from the premises and disposed of legally at no cost to the Owner.
- C. Backfilling for all pipe shall be carried out in two basic stages.
 - 1. Stage One Backfilling: This shall be accomplished as soon as possible after the pipe is laid. A bedding of uniform depth with no voids must be provided along the entire length of the pipe. The bedding material should be placed in the trench and tamped into the areas under the pipe, using a suitable tool. Joints should be left exposed until hydrostatic tests are completed. Cover only those portions of the pipe necessary to prevent movement or damage.
 - 2. Stage Two Backfilling: This shall be completed after all hydrostatic tests are completed and the piping system has been thoroughly checked for leaks or other defects. Continue to add backfill material in four inch (4") layers and hand tamp to achieve density similar to adjacent soil. After twelve inches (12") in main line trenches and eight inches (8") in lateral line trenches of hand tamped soil is in place over the pipe and fittings, backfilling can be continued, using light machinery to place dirt in the trenches in six inch (6") layers and to compact the dirt to conform to adjacent soil. Extreme care should be taken to avoid damage to the pipe from machinery that is too heavy. All trenches shall then be water jetted to assure uniform settling and compaction. Backfilling operations will not be considered complete until the top surface has been graded to conform to the adjacent soil. All rocks uncovered and not used as backfill must be collected and removed from the site.
- D. All backfilling shall be done carefully and shall be properly tamped. All soil shall be tamped and puddled to eliminate any voids.
- E. Surplus earth remaining after backfilling shall be disposed of as directed by the Owner.
- F. PVC piping and fittings shall not be backfilled during periods of extreme heat or when a sudden lowering of temperature of the pipe may cause separation of joints or fittings.
- G. Contractor shall fill with properly amended topsoil any irrigation trench that subsides during the warranty period. Contractor shall assume all cost associated with the trench repair, including but not limited to plant replacement of a size of plant disturbed at the time of the repair.

3.04 CONTROL AND TRACER WIRE, AND COMMUNICATION CABLE

- A. Install control wires alongside of main line piping. Do not tape wires together when encased in sleeve or conduit. Minimum cover shall be 24 inches. Crimp wires together at valve manifold with Scotchlok connector. Conventional valve wire splices shall use a 3M DBY splice kit. Tag all control wire at splices with approved control wire markers.
- B. Wire size shall be determined by the number of valves operating on a given wire and the distance from the controller to the farthest valve, as specified by the charts furnished by the remote control valve manufacturer. Splices are only allowed when rerouting or repairing existing wire. All splice connections must be provided in a valve box.

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- C. Communication/sensor cable shall be installed in electrical conduit with long radius sweeps at direction changes and at valve/splice/pull boxes. Maintain a minimum six inch clearance to adjacent pipe. Minimum cover shall be 24 inches.
- D. Place all control wire in electrical conduit with long radius sweeps at direction changes and at valve/splice/pull boxes. Maintain a minimum six inch clearance to adjacent pipe. Minimum cover shall be 24 inches.
- E. Install tracer wire along the top of pipe at the following locations:
 - 1. All pipe sleeves.
 - 2. Main line pipe without adjacent control wire.

3.05 VALVES

- A. The Contractor shall make all necessary connections for operation, and shall be connected and aligned to provide the most efficient flow of water to the irrigation heads. Where pressure regulating electric control valves are specified, the Contractor shall adjust the valve so a uniform distribution of water is applied by the heads, and that the most remote heads operate at the pressure recommended by the head manufacturer.
- B. Each valve is to be enclosed in a separate valve box. The valve box shall be secured on firm soil clear of valves and wiring connections. Valve boxes and lids shall be set to finished grade or as indicated on the Drawings. Use valve box extensions of the same material as the box to the proper depth below the pipeline. Valve boxes shall be supported by common bricks at each corner and at the long side of the box. Use a minimum of six bricks to support rectangular boxes and four bricks to support round boxes. Backfill carefully and properly compact in order to prevent settlement and subsequent damage.
- C. Install a concrete collar around valve boxes when located in asphaltic concrete pavement or in turfgrass areas.
- D. Remote control valve boxes within the field of play at sports venues shall be buried with a minimum of 8 inches of cover over the box lid in turfgrass, and a minimum 3 inches in skinned infield or warning track surfacing.
- E. When existing valve and/or splice boxes are within the area of work, replace in kind any damaged boxes and/or lids, unless noted otherwise. Adjust the elevation of all existing boxes within the area of work to final grade per the drawings.
- F. Locate valve boxes in ground cover/shrub planting areas instead of turfgrass areas whenever possible. Locate valve boxes 18" from and perpendicular to adjacent paving. When grouped together, provide equal spacing of at least 36" between boxes.
- G. Permanently attach the plastic valve identification tag to the remote control valve body and locate so it's clearly visible in an open valve box.
- H. Permanently secure the control valve identification label to the top of concrete valve box lids with non-corrosive connectors.

3.06 AUTOMATIC CONTROLS

IRRIGATION SYSTEM

- A. Install the controller and/or associated equipment, enclosure, sensors, and accessories per the manufacturer's details and installation requirements, and the construction documents.
- B. Where the controller is not connected to a building's electrical grounding system, install a grounding circuit for controller and associated equipment with either a ground rod or ground plate per ASIC Guideline 100-2002.
- C. Where the new controllers are a site satellite controller in a central control system, the site satellite controller equipment and installation shall be reviewed for system compliance by an authorized central system distributor/installer.
- D. Connect operational control wires or accessory components to the controller, and program valve schedules appropriately for the new planting.
- E. The Owner shall review the fully functional operation of the irrigation control system prior to acceptance of the system, and as a requirement for the start of maintenance.
- F. Install automatic controller chart in laminated or watertight plastic envelope inside controller cover showing which vaves are connected to which stations on controller in the work area.

3.07 SPRINKLER HEAD INSTALLATION

- A. Head spacing on drawings is diagrammatic. Head spacing and patterns shall be adjusted to provide complete and adequate coverage with a minimum spray on non-planted areas. Flush all lines prior to installation of heads.
- B. Overhead distribution sprinkler heads shall be installed as detailed, set adjacent to the edge of hardscape elements (2 - 4 inches for spray heads, 6 - 8 inches for rotary heads) and perpendicular to the finish grade. Sprinkler spray heads directed toward a building shall be a minimum 7 feet from building walls, and a minimum 2 feet when directed away from the building. Sprinkler heads in turfgrass areas shall have a minimum 10 foot radius except for corners.
- C. The top of the nozzle in pop-up bodies shall be flush to the finish grade in areas to receive turfgrass seed/stolons, and in ballfield skinned infields. The top of the nozzle shall be one-half inch (1/2") above the finish subgrade in areas to receive standard cut turfgrass sod.
- D. High speed or other sprinkler heads in dust control zones at ballfield skinned infields shall be installed in turfgrass areas where directly adjacent to the skinned infield.
- E. Where individual shrub bubblers are installed, each plant shall have a bubbler within 10 - 14 inches of the shrub center.
- F. Upon completion of the installation, the Contractor shall adjust or change sprinkler head nozzles to uniformly distribute water without overspray and shall place entire irrigation system in first-class operating condition without any additional cost to the Owner.
- G. Sprinkler heads shall be adjusted in order by fully opening the sprinkler furthest from the control valve and working back toward the control valve. Adjust sprinkler heads which spray toward buildings or adjacent hardscape so that water spray does not contact the side of buildings or significantly over-spray onto hardscape.

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3.08 CONCRETE

- A. Concrete shall be installed in accordance with the relevant portions of the Site Concrete specification section.

3.09 COMPLETION AND MAINTENANCE

- A. After the system has been completed but prior to the start of maintenance, the Contractor shall operate the automated system with the Owner, shall instruct the Owner in the operations and maintenance of the system and controls, and shall program the controller for each station.
- B. If site satellite controller(s) for a central control system is installed, an authorized central control distributor/installer shall program the central base station to communicate with the site satellite controller(s), and shall verify that proper communication protocols are operational.
- C. The irrigation system shall be maintained and adjusted as required to provide proper coverage throughout the maintenance period or until Final Acceptance of the project, whichever is greater. Irrigation system maintenance shall commence upon an acceptable review following the completion of irrigation installation, planting operations and general clean-up.
- D. The maintenance period shall not terminate until the close-out documents and as-builts record drawings have been submitted and accepted.

3.10 REPAIR AND CLEAN-UP

- A. All areas shall be maintained in a neat and orderly condition at all times. All reasonable precautions shall be taken to avoid damage to new planting and improvements. Disturbed and/or damaged areas shall be restored to their original condition to the satisfaction of the Owner.
- B. Where trenching or other work disturbs existing and/or newly planted turfgrass and/or planting, the Contractor shall reinstall the existing sod if viable, or install a full width of new turfgrass sod or new planting to match the existing turfgrass/planting species, variety and size, after first conditioning the top 6 inches of soil per the Landscape Planting specification. Adjust finish grades to account for the new turfgrass sod's soil mat so that the new sod is flush to the adjacent turfgrass.
- C. After the irrigation operations are completed, the Contractor shall remove all trash, excess materials, empty containers or any other debris accumulated by the work from the site. All damage caused by the work shall be repaired or material replaced at the Contractor's expense. The site shall be left in a neat and orderly condition to the satisfaction of the Owner.

END OF SECTION

LANDSCAPING PLANTING

SECTION 32 90 00

LANDSCAPE PLANTING

PART 1 - GENERAL

1.01 SCOPE OF WORK

- A. The Contractor shall furnish all material, labor and equipment necessary to install all landscape work as indicated in the plans and specifications.
- B. The landscape work includes but is not necessarily limited to the following:
 - 1. Soil preparation including cross ripping of all planting soil.
 - 2. Weed control including an application of a pre-emergent herbicide.
 - 3. Providing import planting topsoil at raised grade planters and/or at planting areas needing fill.
 - 4. Fine grading, conditioning and amending planting topsoil.
 - 5. Installation of turfgrass sod
 - 6. Planting new trees, plants and ground covers.
 - 7. Tree drainage sump boring and testing.
 - 8. Root Barriers.
 - 9. Installation of mulch.
 - 10. Sixty (60) day maintenance.
- C. Related Work Specified Elsewhere
 - 1. Contract Drawings, Addenda, general provisions of the Contract, including General and Supplemental Conditions, and Division 1 Sections apply to work of this section.
 - 2. Section 31 20 00 - Earthwork
 - 3. Section 31 22 22 - Soil Materials
 - 4. Section 32 01 90 – Existing Landscape Protection
 - 5. Section 32 84 00 - Irrigation System

1.02 DEFINITIONS

- A. Unless noted otherwise, the term "approved" shall mean by the Owner in writing.
- B. Agencies and Organizations:
 - 1. ASTM- American Society for Testing and Materials
 - 2. ANSI – American National Standards Institute
 - 3. ISA – International Society of Arborists
 - 4. SSPWC – Standard Specifications for Public Works Construction, by the American Public Works Assoc./Associated General Contractors of California.
 - 5. TPI – Turfgrass Producers International
- C. Owner: The Owner's authorized representative or authorized consultant.

1.03 QUALITY ASSURANCE

- A. The work of this Section shall be performed by a single firm experienced in landscape planting and holding a current California Contractor's A or C27 License.

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- B. Tree and plant quality and sizes shall conform to the current edition of “American Standard for Nursery Stock” for Number One nursery stock as adopted by the American Nursery & Landscape Association (ANSI Z60.1). Plants shall be of uniform, standard size for their listed container size, neither overgrown and root bound or encircling, nor so recently transplanted that the root system is not thoroughly well established throughout the container. Roots should reach the sides of the container and maintain a firm root ball. Pruning shall not be done prior to delivery except by prior approval.
- C. Trees shall also comply with quality characteristics described in “Guideline Specifications for Nursery Tree Quality” current edition, published by the Urban Tree Foundation. Trees not in compliance with any of the following characteristics may be subject to removal and replacement, whether planted or still in their containers.
1. Acceptable caliper and height ranges for the Type, Form and Size of tree.
 2. An intact central leader, or after heading of an old leader, the new leader diameter is greater than one-half the diameter of the old leader. Co-dominant leaders are not acceptable.
 3. Scaffold branch diameters are less than two-thirds the diameter of the trunk, and without included bark at the attachment.
 4. Scaffold branches shall be balanced, well spaced vertically, and with a radially blank section no greater than one-third of the canopy circumference.
 5. Temporary branches on the lower trunk shall be less than three-eighths inch diameter, and the clear trunk height shall be no more than forty (40) percent of the overall tree height.
 6. The root collar and rootball shall be free of defects, including circling, kinked and girdling roots. Roots at the edge and bottom of the container shall be less than one-quarter inch diameter, and uniformly distributed throughout the container.
 7. The tree canopy width shall be a minimum of twenty-five percent of the standard form tree height, except for naturally columnar forms.
- D. Botanical names shall take precedence over common names. Provide plants that are true to name. Tag one representative plant of each species and size with the botanical name and size.
- E. Inspection:
1. All landscape work and materials shall comply with applicable Federal, State, County and City regulations.
 2. All plant material shall be reviewed onsite or by providing photo submittals by the Owner’s Representative and/or Landscape Architect prior to positioning and planting. The lack of a review shall not limit the right of rejection during any stage of the work until Final Acceptance for any reason including condition of the foliage or root ball, size, variety, form, appearance, latent defects or injuries or location errors. Rejected or wrongly located plants shall be removed/relocated from/on the site and replaced/replanted immediately by the Contractor as directed at no additional cost to the Owner.
- F. Qualifications of Workers
1. Employ skilled workers who are thoroughly trained experienced in landscape planting and who are completely familiar with specified requirements and methods needed for proper performance of the work in this section.
 2. Provide adequate supervision by a qualified foreman fluent in English that will be continuously onsite during the performance of this work.
 3. Weed control pesticides shall only be applied by an individual holding a valid

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Qualified Applicator Certificate (Category A) issued by the Department of Pesticides Regulation. Submit a copy of the Certificate.

- G. Any pruning of existing trees specified as part of this Work shall be performed under the direct supervision of an ISA Certified Arborist and in compliance with ANSI A300-Part 1 Standard Practices (Pruning).

1.04 SUBMITTALS

- A. In accordance with the Submittal section, submit:
1. A complete materials list of all items proposed to be furnished including estimated quantities.
 2. Laboratory analyses of soil conditioning materials, e.g. organic compost, shall have been performed within three months of the submittal date.
 3. Quality Certificates and/or Certificates of Inspection required by government agencies (providing duplicate copies for the Owner's Representative).
 4. Qualified Applicator Certificate, and DPR Registration Certificates and Material Safety Data Sheets for all pesticides/herbicides proposed for use.
 5. Submit photos with a scale marker of all boxed trees, and a representative photo of each species/variety of ground plane plants proposed for use from the nursery source. Photos shall clearly show the individual tree or plant form without background greenery.
- B. Soil amendments: Submit one (1) pint sample and an analysis of organic compost and mulch.
- C. Other Samples: When requested by the Landscape Architect and/or Owner's Representative.
- D. Soil Fertility Analysis and Recommendations:
1. The Contractor shall provide and pay for a fertility analysis of the existing topsoil and any proposed import planting topsoil. After mass grading operations are completed, native soil samples shall be collected for the fertility analysis by collecting a minimum of 5 representative samples of the soil per acre throughout the area of work. Separate samples shall be produced for cut and fill areas, and for any other area composed of soils not similar to the existing soils. Each sample shall be a minimum of one pint each, and shall be thoroughly mixed together to prepare a homogenous sample. A one quart representative sample for cut, fill and any other special conditions shall be submitted to the soil testing laboratory as a representative sample for fertility analysis. The fertility analysis shall at a minimum provide the following data:
 - a. soil texture class and percent sands, silts and clays per ASTM D422
 - b. estimated soil infiltration and percolation rates
 - c. pH
 - d. organic matter (%)
 - e. total soluble salts (ECe)
 - f. Cation Exchange Capacity (CEC) and Percent Cation Saturation for K, Mg, Ca and Na
 - g. major and minor nutrients (ppm).
 2. Recommendations for improvement of the soil conditions for optimum plant growth shall be made by the testing laboratory, and at a minimum shall include the following:

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- a. A fertilizer and amendment application program (including macro and micro nutrients) for both pre-planting and maintenance fertility applications for broad area tillage and for planting pit backfill (pre-plant only).
 - b. Treatments to neutralize soil pH and to correct any adverse conditions as warranted.
 - c. Recommendations shall address soil conditioning for both planting area tillage and tree/plant planting pit backfill.
 3. The soil analysis and recommendations shall be performed by one of the following laboratories capable of providing the above analyses by a licensed soil scientist:
 - a. D&D Agricultural Laboratory. Contact Darrin Peters at 559-348-1818.
 - b. Wilber-Ellis Company. Contact Michael Cline at 209-442-1220.
 4. The Contractor shall submit the results of the soil testing investigations and shall receive written direction from the Landscape Architect before proceeding with any soil conditioning activities such as fertilizing and/or tillage of amendments.
- E. Within seven days from the start of the maintenance period, submit a calendar of maintenance activities, including scheduled dates for mowing, fertilizing, weed control and all other activities. Provide the quantities of maintenance fertilizer and any other materials scheduled to be used in each application during the maintenance period.
- F. Submit invoices and/or delivery tags from material suppliers for all amendments, fertilizer, seed, plants, mulch and any other materials provided for the landscape planting installation and applied during the maintenance period. Submit tags from seed packaging indicating seed varieties, percent purity and percent germination minimums. The invoices and/or delivery tags shall be provided directly to the Owner's Representative/Inspector of Record within 24 hours of delivery to the site, as well as to the normal submittal recipients per the Contract Documents.
- G. Close-out Documents: Submit prior to the end of the maintenance period. Acceptance of the Close-out documents in a condition for scheduling a Final Acceptance review. Provide two bound copies of the following:
1. Cover sheet stating Contractor's address and telephone number, duration of guarantee period, and a list of plant nurseries, materials and equipment vendors with names and addresses of the vendor/manufacturer representatives and warranty periods.
 2. A "CERTIFICATE OF CONSTRUCTION COMPLIANCE" which indicates that all work done, materials and equipment used and installed are in compliance with the approved plans, specifications and all authorized revisions.
 3. Maintenance Manuals and Instructions: Submit a monthly schedule of procedures to be established by Owner for maintenance of landscapes (trees, mixed planting and turfgrass) for one full year and shall include recommendations for fertilizing, pest and disease control, weeding, mowing, aeration and top dressing.
 4. Soil Amendment and/or Seed/Stolon confirmation form noting the installed quantities of materials, tags or invoices from Subsection F. above, and the person who confirmed the delivery and installation of the materials.
 5. Operations and Maintenance Manuals and Warranty certificates for any maintenance equipment turned over to the Owner.
 6. As-built Record Drawings with all modifications to the Drawings noted in red ink, and the Landscape Planting Observation Log completed.

1.05 AVAILABILITY

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- A. The Contractor shall confirm availability of plants, supplies, and materials prior to submitting his landscape bid. Plant variety substitutions are not desired.
- B. If a plant is found not to be suitable or available, the Contractor is to notify Landscape Architect before bidding. The Landscape Architect is then required to select a reasonable alternate and to inform all those bidding of the availability of the original plant. If a substitute is selected it must be of the same size, value and quality as the original plant. Failure to inform the Landscape Architect of unavailable plants prior to bidding will require that all plants specified shall be provided by the Contractor at time of installation.
- C. Plant container size listed on construction documents are minimum acceptable size. If plant material specified is not substituted prior to award of the contract the minimum container size specified shall be provided by the Contractor. If the Contractor can not provide the minimum specified size plant material at the time of installation, the Contractor shall be required to install a larger size container of the plant specified at no additional cost to the Owner.

1.06 EXISTING CONDITIONS

- A. The Contractor is to visit the job site to verify existing conditions including soils, vegetative growth, subsurface conditions, existing grade and drainage, irrigation system etc. making allowances in his bid for any required work to provide the landscape installation as specified in the construction documents.
- B. The Contractor shall notify the Owner to locate underground lines prior to hole boring or trenching. Do not permit heavy equipment such as trucks, rollers, or tractors to damage utilities. Hand excavate as required to minimize possibility of damage to underground utilities. Maintain grade stakes set by others until removal is mutually agreed upon by all parties concerned. Prevent damage to temporary risers of underground irrigation system and similar obstructing work located in the landscape areas.
- C. If there is a conflict with existing utilities, improvements and/or planting and the proposed planting, Contractor shall promptly notify the Owner's Representative for instructions as to further action. Failure to do so will make Contractor liable for any and all damage or corrective actions arising from his operations.
- D. Prior to the start of this work, the Contractor and the Owner's Representative shall verify the operational condition of that portion of the existing irrigation system pertaining to the proposed planting area. The Contractor shall notify the Owner's Representative of any repairs and/or corrections necessary for proper functioning and coverage. The repairs and/or corrections shall be completed before any plant material is planted. Failure to perform system verification and provide notification prior to the start of this work will make the Contractor liable for any and all repairs and/or corrections necessary for proper functioning and coverage, as well as any required plant replacement, without any additional cost to the Owner.
- E. No plants shall be planted in situations that show poor drainage infiltration or low areas that result in standing water. Such situations shall be corrected by the Contractor as directed by the Landscape Architect or Civil Engineer. Failure by the Contractor to notify the Owner of poor drainage conditions prior to proceeding with the conditioning or planting operations shall place the responsibility for any plant removals, additional soil conditioning and replanting on the Contractor without any additional cost to the Owner.

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Any corrections of finish grading not in compliance with the Contract Documents including plant removal, soil conditioning and replanting shall be performed by the Contractor at no additional cost to the Owner.

1.07 PROTECTION

- A. The Contractor shall guarantee repair of damage to any part of the premises resulting from but not limited to leaks, defects in materials or workmanship, operation of equipment, storage of materials and/or equipment, installation of underground or overhead utilities. The Contractor shall be liable for any and all accidents resulting from his work, including open holes and trenches during construction.
- B. Protect new and existing landscape areas in the area of work from theft, loss, damage and deterioration during storage, installation and maintenance. Protect from unauthorized persons (trespassers) as well as from operations by other contractors and tradesmen, and landscape operations. Protect all planted turf and shrub areas from persons as well as operations of other contractors and the Owner. Cost of protection shall be born by the Contractor with means of protection such as temporary fencing as approved by Owner. Cost for protection shall be included in the Contractor's bid for the work.
- C. Contractor shall repair or replace damaged work and/or damage to existing improvements/landscape as identified by the Owner's Representative to a condition acceptable to the Owner's Representative. No additional payment will be made to the Contractor for repair or replacement of damaged work and/or damage to existing improvements/landscape.

1.08 OBSERVATIONS

- A. General:
 - 1. Installation and operations must be approved by the Owner.
 - 2. In no event shall the Contractor cover up or otherwise remove from view any work under this contract without prior approval of the Owner. Any work covered prior to inspection shall be opened to view by the Contractor at his expense.
 - 3. In all cases, where inspection of the landscape planting work is required and/or where portions of the work are specified to be performed under the direction and/or review of the Owner, the Contractor shall notify the Owner at least 72 hours in advance of the time when such inspection and/or direction is required. Any necessary re-excavation or alterations to the planting needed because of failure of the Contractor to have the required inspection, shall be performed at the Contractor's own expense.
- B. The Owner or the Project Inspector shall perform periodic observations and shall record the observation on the Landscape Planting Observation Log form on the As Built Record Drawings. Field Reports by the Owner's Representative noting the observations may be acceptable if included in the Close-out Documents. Such observations shall include but are not necessarily be limited to:
 - 1. Weed control operations prior to other portions of work.
 - 2. Ripping and soil conditioning of the planting area.
 - 3. Layout of the plant material and trees at the site prior to planting in order to avoid conflicts and to meet the design intent.
 - 4. Condition and quality of plant material prior to planting.
 - 5. Auguring, digging and preparation of plant pits and drainage sumps for trees and

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- shrubs.
- 6. Planting and staking of trees.
- 7. Planting of shrubs, ground cover and turfgrass.

- C. Any corrective action called for shall be immediately performed by the Contractor.
- D. Failure by the Contractor to obtain the above observations shall place the responsibility on the Contractor for any relocation and/or replacement of planted trees or shrubs.

1.09 PRODUCT DELIVERY, STORAGE AND HANDLING

- A. Plant label shall identify each species and variety. A label shall be attached to each individual plant or block of identical plants grouped together.
- B. Adequately protect plants from sun and wind prior to planting. Do not allow stored plant material to dry out at any time.
- C. Deliver packaged materials in containers showing weight, analysis, and name of manufacturer. Protect materials from deterioration during delivery and while stored at the site. Store materials and equipment in a location as directed by the Owner's Representative.

1.10 PESTICIDE NOTIFICATION

- A. A written notification of any and all pesticide/herbicide products scheduled for use by the Contractor or their representative on the Owner's property must be submitted to the Owner's Representative at least seven days prior to the scheduled application. Notification shall include the product name, manufacturer's name, the pesticide active ingredient, the U.S. EPA and CalDPR registration numbers, the scheduled date and application areas, and the reason (target species) for the application.

1.11 REPAIR OF DAMAGED EXISTING PLANTING AREAS

- A. The Contractor shall be responsible to repair all damage and/or distress to existing planting areas including turfgrass, shrubs, ground covers, perennials, etc., whether specifically shown on the Contract Documents or not, as a result of construction operations, material and/or equipment storage, site access, site offices, utility and/or irrigation line installations or other actions.
- B. Replacement shrubs shall be 15 gallon size, replacement ground cover and perennial plants shall be 5 gallon size, and turfgrass shall be full width sod. Damaged areas shall be amended and finish graded per the Contract Documents prior to planting. Damaged areas outside of the limit of work shall be returned to the pre-construction condition with new replacement plants and/or turfgrass sod. Non-turfgrass planting areas shall also receive wood mulch as specified herein. The limits of repair shall be determined by the Owner.

PART 2 - PRODUCTS

2.01 TOPSOIL

- A. Topsoil used in planting areas shall be a clean, friable soil with no noxious weeds, clods or stones larger than 0.5 inch in diameter, subsoil, hardpan, wood, debris, fine organic

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material greater than 5%, undesirable insects, plant disease or any other natural or extraneous objects detrimental to normal plant growth to a minimum depth of 18 inches from finish grade.

- B. The Contractor shall provide a particle size analysis, fertility testing and amendment recommendations of proposed native and/or import topsoil, and the Landscape Architect reserves the right to reject topsoil not conforming to the minimum specifications. Stockpiled onsite topsoil may be used if analysis and testing determines compliance with these requirements prior to placement. Failure to meet minimum specifications shall result in the removal of any unauthorized placed topsoil at the Contractors expense.
- C. Particle size distribution for topsoil shall meet the following per ASTM D422:
 - 1. 100% passing a 12.2 mm (1/2") screen.
 - 2. Minimum 95% passing a 9.5 mm (3/8") screen.
 - 3. Minimum 75% passing a 2.36 mm (No. 8) screen.
 - 4. Maximum 45% passing a No. 200 screen.
 - 5. Silt content shall be a maximum 35%.
 - 6. Clay content shall be a maximum 25%.
 - 7. Silt to Clay ratio shall be less than 2 and greater than 0.5.
- D. Other characteristics shall conform to the following:
 - 1. Permeability rate shall be not less than one (1.0) inch per hour or not more than 20 inches per hour.
 - 2. The sodium absorption ratio (SAR) shall not exceed 3.0 and the electrical conductivity (ECe) shall not exceed 2.5 milliohms per centimeter at 25 degrees centigrade.
 - 3. Soluble boron shall be no greater than 1.0 part per million (mg/l).
 - 4. Soil pH range shall be 6.5 – 7.9.
 - 5. Maximum concentration of soluble chloride shall be 150 parts per million.
 - 6. Maximum concentration of heavy metals shall not exceed the following when the pH is between 6 and 7:
 - a. Arsenic: 0.5 ppm
 - b. Cadmium: 0.5 ppm
 - c. Chromium: 5 ppm
 - d. Cobalt: 1 ppm
 - e. Lead: 15 ppm
 - f. Mercury: 0.5 ppm
 - g. Nickel: 2.5 ppm
 - h. Selenium: 1.5 ppm
 - i. Silver: 0.25 ppm
 - j. Vanadium: 1.5 ppm
 - 7. Petroleum hydrocarbons shall not exceed 100 mg/kg dry soil.
 - 8. Aromatic volatile organic hydrocarbons shall not exceed 2 mg/kg dry soil.

2.02 SOIL AMENDMENTS

- A. Organic Compost: "Harvest Premium" as supplied by Harvest Power (559) 435-1114; "WonderGrow Compost" by Grover, Inc. (866) 764-5765, or "Allgro Compost" by Synagro (559) 341-5158, or approved equal and conforming to the following minimums per the US Composting Council 'Compost Technical Data Sheet' report dated within three months of the submittal date:

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1. Certified as "Mature" or better
 2. Pass EPA Class A standards for pathogens and heavy metals.
 3. Particle size: 1/8" maximum
 4. pH: 6.0-7.5.
 5. Macro-nutrients: Minimum of 1.0% Nitrogen, 0.5% Phosphorus, 0.5% Potassium.
 6. AgIndex ratio (Nutrients/Salts) 10 or more.
 7. Ammonia N/Nitrate N ratio: rated Mature or Very Mature
 8. Organic matter content greater than 50% dry weight.
 9. Ash: equal or greater than 6%, not greater than 20%
 10. Carbon/Nitrogen ratio: less than or equal to 25.
 11. Salinity (ECe): less than 10.0 dS/m.
 12. Odor shall be soil-like (musty, earthy) without any sour, ammonia-like or putrid smell.
- B. Gypsum shall be mined agricultural grade gypsum composed of no less than 95% $\text{CaSO}_4 \cdot 2\text{H}_2\text{O}$ hydrated calcium sulfate in a pelletized form. Elemental Sulfur shall be a minimum 95% pure agricultural grade.
- C. Dry Humate organic soil conditioner comprised of a minimum 70% humic acid from Leonardite.
- D. Endo 120 Mycorrhizae containing a minimum 60,000 living propagules per pound.
- E. Amendment material types and application rates may be subject to change based on the findings and recommendations of the horticultural soil testing lab, and as such may result in an increase or decrease in the Contract Amount.

2.03 FERTILIZER

- A. Trees and Shrubs: Fertilizer for all trees and shrubs to be BEST PAKS (20-10-5) controlled release fertilizer in a biodegradable 10 gram packet. The BEST PAKS shall be applied at the following rates:
1. 1 Gallon Can: 1 Best-Pak
 2. 2 Gallon Can: 2 Best-Paks
 3. 5 Gallon Can: 5 Best-Paks
 4. 15 Gallon Can: 10 Best-Paks
 5. 24" Box: 16 Best-Paks
 6. 36" Box: 24 Best-Paks
- B. The pre-plant fertilizer shall be a commercial homogeneous, granular pellet:
1. Pre-plant fertilizer for turfgrass shall be:
 - a. BEST 6-24-24-5S XB+ with Avail
 2. Pre-plant fertilizer for mixed plantings shall be:
 - a. BEST Landscape Color 14-14-14 (14-6-11.6-3S and micronutrients) with 9.9% slow release N, or equal.
- C. The maintenance fertilizer shall be a commercial homogeneous, granular pellet:
1. Maintenance fertilizer for turfgrass shall be one or more of the following:
 - a. Urea 46-0-0
 - b. BEST Ammonia Sulfate 21-0-0-24S, standard grade, or equal
 - c. BEST Nitra King 21-2-4-14S-2Fe, or equal.
 - d. BEST Nitex 20-2-3-12S-5Fe, or equal.

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- D. Fertilizer material types and analysis may be subject to change based on the findings and recommendations from the horticultural soil testing lab, and as such may result in an increase or decrease in the Contract Amount.

2.04 MULCH

- A. Mulch for on-grade or raised native soil planters shall be a walk-on type of chipped and aged greenwaste woody material without leaves, green wood, sticks, dirt, stones, dust and other non-organic debris as accepted by the Landscape Architect. Particle size 1/2" to 3" in general size.

2.05 STAKING & GUYING MATERIALS

- A. Stakes: 2" Diameter lodgepole pine, pressure treated and pointed one end.
- B. Ties: V.I.T. Cinch Tie, 32 inches long, V.I.T. Products, Inc. (619) 673-1760, or equivalent.

2.06 PLANTS

- A. Plants shall be typical of their species and variety, shall have normal growth habits, well developed branches and be densely foliated, and shall have fibrous root systems. No substitutions will be allowed unless approved in writing by the Landscape Architect.
- B. Plants shall be free from defects and injuries including disease, insects, insect eggs and larvae and girdled or matted roots.
- C. Quality and size of plants shall be in accordance with ANSI Z60.1-2004, "American Standard for Nursery Stock", and as described in Quality Assurance.
- D. Plants shall not be pruned before planting.
- E. Plant material must be selected from nurseries that have been inspected by State or Federal Agencies.
- F. Plants shall be nursery grown and shall have been transplanted or root pruned at least once in the past three (3) years. Plants shall have been grown under climatic conditions similar to those in the locality of the project.
- G. Each bundle of plants shall be properly identified by weatherproof labels securely attached thereto before delivery to the project site. Label shall identify plant by name.
- H. Nomenclature shall be in accordance with Sunset Western Garden Book, current edition.
- I. No plants shall be removed from their container until a review has been made in the field or at the nursery, or except when specifically authorized in writing by the Owner.
- J. Collected plant material may be used only when approved. Approval shall not limit the right of rejection during work progress for conditions of the root ball, latent defects or injuries.
- K. Where shown a "MULTI" provide trees with a minimum of three trunks.

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- L. Plant sizes listed on the planting plan are minimum acceptable sizes. The quantities listed are the Landscape Architect's estimate only. The Contractor is responsible for the quantities of plant symbols shown on the plan, and/or the quantities in hatched planting areas at the specified triangular spacing.

2.07 TURFGRASS SOD

- A. Sod shall be produced from certified or approved seed/stolons, fresh and labeled in accordance with U. S. Department of Agriculture Rules and Regulations. Sod quality shall be Premium or Standard Grade per TPI specifications.
- B. Sod shall be neatly mowed and be mature enough that when grasped at one end it can be picked up and handled without damage, delivered to the project site, adequately protected and installation commenced within 24 hours of harvesting.
- C. Turfgrass shall be a species and variety as specified in the Contract Drawings. If a warm-season grass is specified and the installation is to be performed between the months of October and April, a species with an established perennial ryegrass overseeding shall be installed. Submit the overseeded product information for approval prior to the installation.

2.08 ROOT BARRIER

- A. A ribbed polyethylene panel of minimum 0.080" thickness equal to Deep Root Partners #UB 24-2 PANEL, (800) 458-7668..

2.09 TREE TRUNK PROTECTOR

- A. ArborGard+ polyethylene tree guard by Dimex (800) 334-3776, or equal.

2.10 HERBICIDES

- A. Herbicide products for removal of unwanted grass and broad-leafed weeds shall be registered and approved for use by the U.S. EPA and CalDPR, and shall comply with the Owner's Standards and with the "Healthy Schools Act" with current amendments, and with the current list of prohibited herbicides at Schools and Child Care facilities per California Assembly Bill 405.
- B. Provide pre-emergent and post-emergent, selective herbicide formulations for use on turfgrass areas and/or ornamental shrub/ground cover areas that are not injurious to the proposed plantings and turfgrasses.
- C. Provide a non-selective contact herbicide formulation only for use to remove existing established weeds prior to new plantings. The herbicide shall be certified for organic use, broad-spectrum with systemic function, 'Weed Slayer' by Agro Research International, or equal.

2.11 OTHER MATERIALS

- A. Materials not specifically indicated, but necessary for proper execution of the work, shall be of first quality as selected by the Contractor subject to approval of the Landscape Architect.

PART 3 - EXECUTION

3.01 EXAMINATION & PREPARATION

- A. General: Verify that existing site conditions are as specified and indicated before beginning this work.
- B. Damaged Earth: Verify that earth rendered unfit to receive planting due to concrete water, mortar, limewater, hydrocarbons or any other contaminant dumped on it has been removed and replaced with clean earth from a source approved by the Owner's Representative.
- C. Examine the area and conditions under which the work in this section is to be performed. Verify that any existing irrigation system within the limit of work is in proper working order with full coverage. Correct conditions detrimental to the timely and proper completion of the work. Do not proceed until unsatisfactory conditions have been corrected. Commencement of the work signifies acceptance of the existing conditions.
- D. Protection:
 - 1. Locate sewer, water, irrigation, gas, electric, phone and other pipelines or conduits and equipment within the area of work prior to commencing work.
 - 2. Mark existing irrigation heads, valves, valve boxes and other below grade equipment or components that are scheduled to remain. Protect in place.
- E. Runoff and Erosion Control: Furnish equipment, materials and labor necessary to control the flow, drainage, and accumulation of excess water running off the work area and prevent soil erosion, blowing soil and accumulation of wind-deposited material on the site per the approved SWPPP.

3.02 ROUGH GRADING, SOIL PREPARATION, PLANTER BACKFILL

- A. Rough grading shall be performed by other subcontractors to the extent of establishing rough pads, slopes and drainage patterns. The Contractor is responsible for placement of topsoil and grading required to ensure positive drainage in all turfgrass and planting areas. All planting areas shall have a minimum topsoil depth of 18 inches from on-site native and/or approved import sources. Rough grading shall be completed prior to weed control, cross ripping or rock removal operations.
- B. After the completion and acceptance of the weed control operations outlined below, and unless directed otherwise by the Landscape Architect or noted on the Drawings, and except for the area under the canopy of existing trees, the Contractor shall cross rip and till (break up large clumps and clods in excess of 2 inch diameter) the existing soil within all planting areas outside the canopy drip line of existing trees until the soil is loose and friable. Ripping shall be to a minimum depth of twelve inches (12") in turfgrass areas and eighteen inches (18") in shrub/ground cover areas, with ripping tines a maximum 18" apart performed in a minimum of two passes total in different perpendicular directions. The Contractor shall review the completed ripping operation with the Owner's Representative and Landscape Architect to determine compliance. The first 6 inches of any new topsoil fill shall be tilled into the existing soil to a minimum depth of 6 inches prior to placing any further topsoil fill. The Contractor shall provide any additional work as directed by the Owner's Representative after the review to obtain compliance. Do not proceed with the addition of topsoil and/or amendments, or commence rock picking or fine grading until the completed ripping operation is accepted in writing by the Owner's Representative.

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- C. Planting area soil under the canopy drip line of existing trees, or in planting beds not accessible by motorized equipment, shall be ripped to a minimum depth of 12 inches using manual spading shovels, forks and/or broadforks and working around major tree roots and/or utilities. In areas receiving new mulch, rip to a minimum depth of 4 inches while protecting any existing plants and their root system. Break up and/or remove rocks and clods as indicated below.
- D. Do not work soil when moisture content is so great that excessive compaction will occur, or when it is so dry that dust will form in air or clods will not break up readily, or when a full ripping depth cannot be achieved. Apply water, if necessary, to bring soil to an optimum moisture content for tilling and dust control. Maintain within 2 percent above or below optimum moisture content for the existing soil type at all times during the work.
- E. After soil ripping and preliminary finish grading is completed, the topsoil shall be cleared of all concrete, wire, sticks, roots, debris and foreign materials. Remove native stones and clods as follows:
 - 1. In shrub/ground cover areas, remove stones and clods greater than one (1.0) inches in diameter from the top 3 inches of finish grade.
 - 2. In general, non-play or sport turfgrass areas, remove stones and clods greater than three-quarter (0.75) inch in diameter from the top 2 inches of finish grade.
 - 3. In designated play or sports field turfgrass areas, remove stones and clods greater than one-half (0.50) inch in diameter from the top 4 inches of finish grade using a mobile tractor pulled, PTO powered, hydraulic controlled rock picker, Cherrington Model 4500 or similar.
- F. Add clean planting topsoil where needed to bring grade to elevation to promote positive drainage. Spread approved planting topsoil over ripped subgrade prior to incorporating amendments.
- G. Backfill all raised grade planters with a minimum depth of 18 inches of imported clean sandy loam planting topsoil conforming to Subsection 2.02 and approved prior to import and/or placement. Failure to obtain import approval prior to backfilling raised grade planters shall result in the removal of any planting and non-approved backfill, and the reinstallation of the work with approved materials.

3.03 WEED CONTROL

- A. Weed control pesticides shall only be applied by an individual holding a valid Qualified Applicator Certificate (Category A) issued by the Department of Pesticides Regulation.
- B. The Contractor shall treat any weeds in proposed new turfgrass and planting areas with a non-selective contact weed killer at the manufacturer's approved rates and procedures prior to any commencement of work at the site including any irrigation work, ripping of soils or fine grading. Areas planned for turfgrass seed/stolon planting shall in addition receive "grow and kill" weed removal as outlined below.
- C. Weed eradication shall be ongoing throughout the course of the landscape installation. The Contractor shall apply a pre-emergent herbicide after shrub/ground cover planting and prior to mulch installation. Manually remove weed seed heads. At no time will weeds be allowed to become established. Contractor shall provide all weed control operations as directed by the Owner's Representative.

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- D. All weed control operations using pesticides/herbicides shall comply with the CalDPR and Owner Standards, as well as AB2260 “Healthy Schools Act”. The Contractor shall comply with the notification and posting requirements of the “Healthy Schools Act”.
 - 1. The Contractor shall notify the Owner per Subsection 1.11, A.
 - 2. The Contractor shall post highly visible signs around the treatment area in conformance with the “Healthy Schools Act” warning of a scheduled pesticide/herbicide application a minimum of 24 hours before to 72 hours after a pesticide application.
- E. A non-selective contact herbicide for grassy weeds, ‘20% Vinegar Weed Slayer’ by Good Natured, CA DPR Reg# 85208-1-AA-42177, shall be applied directly to the weed foliage. Only apply to dry surfaces, and a minimum of 8 hours before a rain event. Allow a minimum of 14 days from herbicide application to commence any planting.
- F. Perform pre-plant clearing and weed control for native open ground areas planned to receive planting as follows:
 - 1. Apply irrigation to encourage weed growth prior to ripping, and to maintain moisture in the soil.
 - 2. Apply a contact herbicide to weed foliage. Remove weeds and expose bare soil.
 - 3. Lightly disk/till to a depth of three-inches.
 - 4. Perform a “grow and kill” operation after the first disking/tillage:
 - a. Water and lightly fertilize to encourage weed germination.
 - b. Follow with a second application of a contact herbicide.
 - c. Remove weeds and perform a light harrowing or disking.
 - 5. Apply irrigation to encourage weed growth. If additional weeds germinate, perform a second “grow and kill” operation.
 - 6. Once existing weeds are completely removed, obtain authorization from the Owner’s Representative to proceed with deep ripping, rock removal, soil conditioning and finish grading operations. Allow a minimum of 14 days from herbicide application to commence any planting.
- G. After the shrub/ground cover planting is complete and prior to mulch installation, apply an approved pre-emergent herbicide per the manufacturer’s recommended rates.

3.04 SOIL CONDITIONING

- A. Before commencement of any soil conditioning, weed and rock removal shall be completed as outlined above.
- B. Uniformly amend the entire area of topsoil in turfgrass and mixed planting areas per the following bid rates and per the approved modifications as a result of the soils analysis recommendations:
 - 1. Turf and Non-Sloped (less than 4h:1v) Planting Area Soil Conditioning (per 1,000 square feet).
 - a. Compost at a rate of six (6.0) cubic yards (a 2.0 inch thick layer).
 - b. Gypsum at a rate of 100 pounds, or Sulfur at 19 pounds, or an equivalent combination.
 - c. Humate soil conditioner at a rate of twenty (20) pounds.
 - d. A pre-planting fertilizer to turfgrass areas at a rate of 1.25 pounds of actual P and K.
 - e. A pre-planting fertilizer to mixed planting areas at a rate of 1.5 pound of actual N.

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- f. Mycorrhizae per Subsection 3.06, Mycorrhizae Application.
- C. Till soil amendments into the entire planting area soil to a minimum depth of six (6) inches. Perform the cultivation in at least two passes, one in each perpendicular directions to the first, so that the amendments are homogeneously incorporated into the topsoil. All cultivation inside the dripline of existing trees shall be preformed manually with minimal disturbance to the root system.
- D. Planting backfill for trees and shrubs shall be a mix of three parts native soil and one part Compost by volume. Add Humate at 2.0 pounds, and Mycorrhizae at 0.5 pounds per cubic yard of backfill.
- E. Amendment material types and application rates may be subject to change based on the findings and recommendations of the horticultural soil testing lab, and as such may result in an increase or decrease in the Contract Amount.

3.05 FINE GRADING

- A. Upon completion of soil preparation, fine grade all planting and turfgrass areas to a smooth and even slope conforming to and establishing drainage patterns per the approved Grading Plan. Grading shall eliminate all humps and hollows and promote positive drainage in all planting and turfgrass areas.
- B. Where hardscape is installed in existing mixed planting areas, a minimum transition grade width of 2 feet adjacent to the edge of hardscape shall be constructed unless noted otherwise. The maximum slope of any transition grade in mixed planting areas shall be 20 percent (1v:5h). The area of transition grading shall be planted or repaired as specified herein.
- C. Tolerance of grade differential for planting and general turfgrass areas shall be plus or minus 0.04 foot. If requested, the Contractor shall water test all turf and planting areas after the grading operations are completed in the presence of the Owner's Representative and Landscape Architect. The water test shall consist of applying water to the turf and planting areas to the point where water begins to run over the soil to show the drainage pattern. Make all corrections to the finish grading as required by the Owner's Representative to re-established positive drainage patterns. Acceptance of the finish grading shall be obtained in writing from the Owner's Representative and Landscape Architect prior to proceeding with soil conditioning and planting operations.
- D. Turfgrass sports fields shall be fine graded using a laser controlled machine capable of producing final grades within 0.02 foot plus or minus from the proposed elevations.
- E. After the finish grading process, relative compaction of the soil in turf and planting areas shall range between 82% and 85% relative density. Compaction/moisture levels are generally acceptable if an Oakfield probe is able to penetrate a minimum of six inches into the cultivated planting topsoil with moderate pressure. The Owner reserves the right to require the Contractor to test for over compaction. If the compaction is within the acceptable range, the test will be paid for by the Owner. All testing due to non-compliance will be paid for by the Contractor.
- F. Remove all rocks produced as a result of the soil conditioning and finish grading operations per the requirements of Subsection 3.02.

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- G. Finish grades shall be one-half inch (1/2") to three-quarter inch (3/4") for turfgrass sod areas, flush (0.0") for turfgrass seed/stolon areas and two inches (2") for shrub/ground cover planting areas below the finish surface of all adjacent walks, curbs, mowstrips and utility/valve boxes or collars. Transition any non-compliant grade in existing turfgrass areas at a maximum 12h:1v slope to meet finish grades above, unless shown otherwise on the grading plan.

3.06 MYCORRHIZAE APPLICATION

- A. In turfgrass planting areas, after fine grading is completed broadcast Mycorrhizae at a rate of one and one half (1.5) pounds per 1,000 square feet (65 lbs. per acre). Lightly rake into the top one inch (1") of topsoil immediately prior to turfgrass installation.
- B. In shrub and/or ground cover planting areas, the Mycorrhizae inoculant shall be incorporated into the soil with the other soil amendments at five (5.0) pounds per 1,000 square feet (218 lbs. per acre) per Subsection 3.04, Soil Conditioning. Inoculant shall also be incorporated into the planting backfill per Subsection 3.04, E.

3.07 PLANTING

- A. General Requirements
 1. Obtain written approval from the Landscape Architect or Owner's Representative to begin planting operations. The irrigation system shall be fully automated and operational, all weeding, soil conditioning and finish grading completed, and the tree and plant layout approved.
 2. Planting shall be performed by workmen familiar with planting procedures and under the supervision of a qualified foreman. The planting foreman shall be on the job site at all times when planting is in progress.
 3. Planting operations shall not occur under unfavorable weather conditions.
 4. Boxed trees shall be planted first. Shrub planting shall be completed before groundcover is planted.
 5. Proceed and complete the landscape work as rapidly as portions of the site become available, working within the seasonal limitations for each kind of planting required.
 6. Cooperate with other contractors and trades working in and adjacent to the planting work areas. Examine drawings which show the development of the entire site and become familiar with the scope of other work required.
- B. Planting Preparation and Operations
 1. Planting material shall be provided with adequate protection of root system and balls from drying winds and sun. Do not bend or bind trees or shrubs in such a manner as to damage bark, break or destroy natural shape. Provide protective covering during delivery.
 2. Deliver trees and shrubs after preparations for planting have been completed, and plant immediately. If planting is delayed more than six (6) hours after deliver, set trees and shrubs in shade, protect from weather and mechanical damage and keep roots moist. Do not remove container grown stock from containers until planting time.
 3. All planting areas shall be smooth and even. Finish grades shall be done prior to any placement of plants.
 4. Place all trees and shrubs in locations shown on the planting plan and obtain written field approval of the Landscape Architect before planting or digging planting pits. Inform the Landscape Architect seven (7) days prior to placing the plants. Maintain

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a minimum 15 foot clearance from trees to any light pole, unless specifically noted otherwise.

5. Carefully remove all canned stock from containers with tin snips or approved cutter. Cut away and remove any girdled or matted roots.
6. Excavate holes of circular outline with vertical sides for all plants 15 gallon or less. Boxed trees shall have square planting holes. The vertical sides and bottom of the holes shall be thoroughly scarified to promote union of backfill with existing soils. All trees shall have two drainage sump holes drilled with a twelve inch (12") diameter auger penetrating hardpan layers to a minimum one (1) foot into a sand/gravel layer or to a minimum depth of ten (10) feet below the planting pit bottom. Precautions shall be exercised to avoid smooth sides on the holes. Offset augured holes a minimum of eighteen inches (18") from planned tree location to avoid settling of tree after planting.
7. After cleaning out the sump holes, the Contractor shall test the sumps for drainage by flooding with water. If the water does not drain out within twenty-four (24) hours, auger down as required to achieve such drainage by breaking through the hardpan layer, or by extending the drainage sumps to a minimum depth of 15 feet below the bottom of the planting pit. After obtaining approval of the sump holes, fill the augured drainage sump holes with coarse concrete sand.
8. Tree and shrub planting pits shall be at least two and one half (2.5) times the width of the plant container, but a minimum of 36" wide for trees and 18" wide for container shrubs. Planting pits shall be as deep as the soil depth in the container or box, less the additional height of the crown above the finish grade.
9. Set each plant in the center of the pit, plumb and straight. Set the crown of the plant at one inch (1") for shrubs, two inches (2") for trees above finish grade. When 1/2 of the backfill mix has been placed, tamp-in, insert fertilizer (BEST PAKS as per Section 2.1B1) and allow no air pockets as remainder of backfill is added.
10. Compact soil around the rootball of all plants and thoroughly water in the entire backfill depth.
11. Excess soil from plant holes shall be cultivated and raked to a smooth outline.
12. Shrubs and groundcovers shall be installed in relation to walks and paving to allow for future growth without obstructing traffic with clearance as shown on the drawings.
13. All plants shall be set in watering basin which shall be as wide as the planting pit, but at least four feet (4') in diameter and four inches (4") deep for trees and two feet (2') in diameter and three inches (3") deep for shrubs and vines.
14. Ground cover plants shall be planted at the spacing noted on the drawings. Not more than fifteen minutes shall elapse from the time any groundcover plant is planted until it is watered.

- C. Pruning: Prune plants in accordance with established horticultural practice. Shearing of any plants will not be acceptable. Tree pruning shall only be performed with the written approval of the Landscape Architect and under the direction of a certified arborist, and shall comply with ISA Pruning Standards (ANSI 300).

3.08 MULCH

- A. Prior to any mulch application, perform weed control operations as specified herein.
- B. Where mulch is to be installed in an existing planting area, breakup/till the existing soil in open areas around existing plantings to a minimum 4" depth per section 3.02, and adjust

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finish grade adjacent to hardscape elements per section 3.05 where not prohibited by existing plantings.

- C. Install a minimum 3" layer of mulch in all non-turf planting areas, except for slopes greater than 3h:1v and seeded areas. Install a minimum 2" layer of mulch in all areas receiving flatted plants.
- D. Install a minimum 3" layer of wood mulch at a minimum 3' radius from the tree trunk of all trees located in turfgrass areas. Provide a smooth finish grade transition to a 2 inch depth where the mulch meets the turfgrass, so that the top elevation of the mulch is flush to the turfgrass soil. Keep mulch off the trunk. For new trees in turfgrass areas, remove the watering berm just prior to the turfgrass planting but maintain the mulched area within the planting pit.

3.09 STAKING & GUYING

- A. Trees shall be supported by two (2) tree stakes as shown on the drawings. Cut off the top of stakes damaged by installation or where the stake conflicts with canopy branches.
- B. Stakes shall be set firmly in the ground outside the rootball and where possible set stakes perpendicular to the prevailing northwest wind.
- C. Trees shall be tied to upright stakes loosely with tree ties (see planting detail). Remove the nursery stake.
- D. Multi-trunked trees shall be guyed, or individual branches may be staked and loosely tied as shown on the Drawings.

3.10 ROOT BARRIER

- A. Install root barrier along hardscape edges whenever the distance from the center of the trunk to the hardscape edge is less than eight (8) feet. Install per the planting details and manufacturers recommendations.

3.11 ARBOR GUARD

- A. Install ArborGard+ on all newly planted tree trunks in turfgrass areas per manufacturer's recommendations.

3.12 TURFGRASS SOD

- A. The area to be planted shall be finish graded to present a smooth and even surface free of humps and hollows and conforming to the finish grading plans. Where new sod is abutting existing turfgrass, fine grade to allow for the thickness of the new sod soil so that the new and existing sod grades are flush. Immediately prior to planting, the surface of the area to be planted shall be sufficiently loose and friable, with adequate moisture to receive the sod. Avoid laying sod on hot or dry soil.
- B. Lay first strip of sod slabs along a straight line (use a string in irregular areas). Butt joints tightly. Do not overlap edges. On second strip, stagger head joints (similar to a running bond brick pattern). Use a sharp knife to cut sod in order to fit curves, edges, and sprinkler heads.

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- C. Install with turf-tired machinery full width sections sod as delivered and flush to adjacent surfaces. Terminating sod edges shall be straight and at right angles to hardscape elements whenever possible.
- D. As the sod is being installed, water the sod lightly to prevent drying out. Continue to lay sod and lightly water until installation is complete.
- E. After laying sod, roll to eliminate irregularities and to form good contact between sod and soil. Avoid a too heavy roller or excessive initial watering which may cause roller marks.
- F. Water the completed lawn surface thoroughly. Topsoil should be constantly moist for a minimum two inches deep. Repeat irrigating at regular intervals to keep sod moist until rooted. The areas shall not be watered to the extent of saturating the soil and causing "flotation" or "flowing" of the top surface of the soil. After water has once been applied, no portion of the planted areas shall be allowed to dry out during the entire maintenance period. After sod roots are established, decrease frequency and increase amount of water per application as necessary to maintain good soil moisture to a minimum 6" depth without standing water or excess runoff. The Contractor shall be responsible to monitor the site and alter the watering times and frequencies to meet site and climatic conditions.
- G. Prior to the start of the maintenance period, fill all seam joint gaps greater than 1/8 inch and less than 0.5 inch with washed concrete sand. Fill any joint gaps of 0.5 inch or greater width with a minimum two foot long replacement sod section in order to achieve a tight joint.
- H. Replace dead or distressed sod with equivalent material as directed by the Landscape Architect.
- I. Do not install turfgrass inside the watering basin of new trees planted in turf areas, or within a 3' radius of existing tree trunks located in turf areas.

3.13 CLEAN-UP AND REPAIR

- A. All areas shall be maintained in a neat and orderly condition at all times. All reasonable precautions shall be taken to avoid damage to existing planting and structures. Disturbed and/or damaged areas, whether a part of this work or from the work of other trades, shall be restored to their original condition.
- B. Plants and/or turfgrass shown to remain and damaged or removed by construction operations and/or utility/electrical/drainage lines shall be replaced with plants that match as closely as possible to the existing plant species, variety and size. The replacement turfgrass sod variety shall be the same as shown in the Planting Legend if for new work, or shall match the existing turfgrass variety where the turfgrass is existing. Adjust the finish grade so that the new turfgrass sod abuts flush to the existing turfgrass or to hardscape. The replacement plants and/or turfgrass sod shall be maintained as part of the original scope of work.
- C. After the planting operations are completed, the Contractor shall remove all trash, excess soil, empty containers or any other debris accumulated by the work from the site. All damage caused by the work shall be repaired at the Contractor's expense and the site shall be left in a neat and orderly condition to the satisfaction of the Owner.

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3.14 PRE-MAINTENANCE REVIEW

- A. A general review will be held prior to the start of the maintenance period upon conclusion of the planting operations, irrigation system installation and after clean-up has occurred. The Owner's Representative shall be informed in writing a minimum of seven (7) working days prior to the time the work is ready for review in order to arrange a suitable time and date for such review.
- B. At the time of review, Contractor shall have all planting areas free of weeds and neatly cultivated and fine graded. All plant basins shall be in good repair. All trees shall be properly staked and tied. All planting areas shall be clear of weeds.
- C. The establishment of turfgrass is herein defined as being all work necessary to grow a full, healthy, uniform stand of smooth and even texture and grade with clean straight edges without weeds, distressed areas or bare spots, and has been mowed at least twice per the specifications. The establishment of turfgrass is further defined as being all work necessary to develop a minimum rooting depth of 2 inches into site soil.
- D. Work requiring corrective action or replacement in the judgment of the Owner's Representative shall be performed within five (5) days after the inspection. Corrective work and materials replacement shall be in accordance with the drawings and specifications and shall be made by the Contractor at no cost to the Owner. A subsequent review shall then be arranged.
- E. If after the review, the Landscape Architect is of the opinion that all the work has been performed as per the Contract Documents, and a uniform stand of healthy dense turfgrass has been established without weeds or bare spots, the Contractor will be given written notice that the maintenance period may begin.

3.15 MAINTENANCE - GENERAL

- A. After all work indicated on the drawings or herein specified has been completed, reviewed, and approved, and the turfgrass has been successfully established per the requirements below, the Contractor shall commence a sixty (60) calendar day maintenance period in which the Contractor shall continuously maintain all areas included in the contract during the progress of the work and throughout the maintenance period, or until Final Acceptance of the project, whichever is greater.
- B. Establishment and maintenance work includes monitoring the site to control all watering, replanting, fertilizing, mulching, weeding, cultivating and mowing necessary to bring the planted areas to a healthy and vigorous growing condition, and any additional work needed to keep the areas neat, edged, weed and trash free, and attractive.
- C. All trees, shrubs, ground cover shall be kept at optimum growing condition by watering weeding, replanting, fertilizing, cultivating, tree stake repair, spraying for diseases and insects, replace dead or dying materials, pruning as directed, maintaining proper grades of plants, and providing any other reasonable operations of maintenance and protection required for successful completion of the project.
- D. Any date when the Contractor fails to adequately water, replace unsuitable planted areas and other work determined to be necessary by the Owner, will **NOT** be credited as part of the establishment/maintenance period.

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- E. No additional payment will be made for additional time necessary for turfgrass establishment. The maintenance period shall not start until all contract work has been completed and all close-out documents and materials have been submitted. Turfgrass will be considered weed-free if there is a maximum of one percent undesirable turfgrass species, and nine weeds or less per 50 square yards (one per 50 square feet).
- F. During the progress of the maintenance period, the Contractor and the Owner's Representative shall conduct reviews at no less than 21 day intervals to determine that ongoing maintenance activities have been conducted by the Contractor. If in the opinion of the Owner, ongoing maintenance has not been conducted by the Contractor in a satisfactory manner the maintenance period shall be suspended. The Contractor shall provide remedial work as directed by the Owner's Representative to correct the found deficiencies and schedule another review. If after the subsequent review the work is deemed acceptable, the maintenance period shall resume.

3.16 MAINTENANCE – MOWING AND DRESSING

- A. The first two mowings of warm-season Bermudagrass varieties grown from seed/stolons shall commence when the grass is two (2) inches tall and cut down to one and one-half (1.5) inch. Mowing height for the second two mowings shall be when 1.75 inch tall and cut down to 1.25 inch. For all subsequent mowing and for new sod, mow when 1.4 inch tall and cut down to 1.0 inch.
- B. Turfgrass areas shall be mowed during the growing season a minimum of twice a week for warm-season varieties and a minimum of once a week for cool-season varieties, or at any time the grass reaches 1.4 times its mowing height. Turfgrass shall be edged weekly. The Contractor shall coordinate his watering and weed control schedules to accommodate his mowing schedule. If the Contractor is unable to mow the turf areas on the required day, he has until 5:00 pm of the next day to do the work. After that time, the Owner reserves the right to secure the services of an alternate mowing entity to perform the work. The cost for the alternate mowing will be deducted from monies owed to the Contractor. The Contractor will remain responsible to perform all scheduled mowings and maintenance of the site. The turfgrass shall be mowed and edged, and all trash and debris removed prior to Final Acceptance.
- C. Thirty days after the start of the maintenance period, team sports fields shall be topdressed and dragged with USGA topdressing sand at a rate of 1.15 tons per 1,000 square feet (+0.25 inch depth). Drag and roll all topdressed turfgrass areas with a lightly weighted turf roller in order to provide a smooth and even mowing surface. Additional topdressing may be required later in the maintenance period if the finish grade planarity is not acceptable.

3.17 MAINTENANCE - FERTILIZATION

- A. The Contractor shall fertilize the warm-season turfgrass (Bermudagrass) at the start of the maintenance period and every twenty-eight (28) days with the turfgrass maintenance fertilizer at a rate of 1.5 lb. of actual N, and/or P and/or K /1,000 s.f. and as modified by the soil fertility recommendations and as directed by the Landscape Architect. The Contractor shall allow for at least two separate fertilizer formulation applications in each fertilization operation. The Contractor shall continue the fertilizer applications until the established turf is accepted.
- B. The Contractor shall fertilize the temporary cool-season turfgrass at the start of the

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maintenance period every twenty-eight (28) days with the turfgrass maintenance fertilizer at a rate of 1.0 lb. of actual N, and/or P and/or K /1,000 s.f. and as modified by the soil fertility recommendations and as directed by the Landscape Architect. The Contractor shall allow for at least two separate fertilizer formulation applications in each fertilization operation. The Contractor shall continue the fertilizer applications until the established temporary turf is accepted.

- C. The Contractor shall fertilize the turfgrass areas during the last week of the maintenance period with the turfgrass maintenance slow-release N fertilizer (43-0-0) at a rate of three and one-half (3.5) lbs./1,000 s.f. and as modified by the soil fertility recommendations and as directed by the Landscape Architect. The Contractor shall allow for at least two separate fertilizer formulation applications in each fertilization operation.
- D. The Contractor shall fertilize the non-turf planted areas during the last week of the maintenance period with the mixed pre-planting fertilizer (14-6-11.6) at a rate of six (6.0) lbs./1,000 s.f. and as modified by the soil fertility recommendations and approved by the Landscape Architect. The Contractor shall allow for at least two separate fertilizer formulation applications in each fertilization operation.

3.18 MAINTENANCE – REPAIR AND WEEDING

- A. Between the twenty-first (21) day and the twenty-eighth (28) day after turfgrass planting, the Contractor shall perform the following: replant all spots or areas where normal germination or growth is not evident; remove all rocks or other debris that would constitute a hindrance to mowing or cultivating; repair all damage done by his operations. Where poorly compacted trench backfill shows settlement, remove turfgrass or plants, fill all depressions and eroded channels with sufficient conditioned topsoil to raise to proper grade, compact lightly and replant the filled areas. Roll all planted or replanted turfgrass areas with a lightly weighted turf roller in order to provide a smooth and even mowing surface.
- B. Visible weeds shall be removed at least weekly during the maintenance period. At the end of the maintenance period, all planting areas shall be without weeds. If weeds are present, the Contractor shall manually remove the weeds and shall then apply a granular, selective pre-emergent herbicide at manufacturer's approved rates. Coordinate application with the Owner's Representative and provide certificates of application to Owner's Representative. The turfgrass will be considered weed-free if there are 9 weeds or less per 50 square yards (one per 50 square feet).

3.19 FINAL REVIEW

- A. A Final Review will not be scheduled until all Close-out Documents and materials have been submitted and accepted.
- B. A Final Review will be performed before the end of the Maintenance Period or upon the pending Final Acceptance of the work, whichever is earlier, provided all deficiencies revealed during the maintenance period have been corrected. If deficiencies have not been corrected by the end of the stated maintenance period, the Contractor shall continue to fully maintain the project at his own expense. After all deficiencies have been corrected, a Final Review will be held with the Landscape Architect, Owner's Representative, and Contractor.

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- C. Final Acceptance of turfgrass is contingent on a weed free, healthy uniform stand without dead, bare or distressed areas with a minimum rooting depth of five (5) inches into site soil.
- D. If after the Final Review, the Landscape Architect and Owner's Representative are of the opinion that the work is acceptable and complete, the Contractor's maintenance responsibility shall terminate on an agreed upon date.

3.20 WARRANTY AND REPLACEMENT

- A. All trees and plants provided under this Contract shall be guaranteed to be in good, healthy, disease/pest free and in a flourishing condition one growing year from the date of Final Acceptance of the work, provided the Owner maintains the plants properly and in accordance with accepted horticultural practices. Species and size of any tree and/or plant replacements, either prior to or after Final Acceptance, shall be equal to that of the same adjacent trees and/or plants at the time of replacement as determined by the Landscape Architect.
- B. The Contractor shall be responsible to replace all lost plants due to theft, vandalism or any other preventable causes till Final Acceptance of the work by the Owner. Replacement trees and plants shall be planted as originally specified and detailed. Replacement trees and plants shall be guaranteed as specified above from the date of replacement. The maintenance period may be extended for a duration of not more than the original maintenance period duration for the establishment of replacement plants.
- C. The Contractor shall be held responsible for repair and/or replacement of damages to new or existing improvements resulting from the defects or actions of trees, plants, materials, equipment or workmanship one year from the date of Final Acceptance or the Notice of Completion, whichever is later.

END OF SECTION

SECTION 33 12 00 - WATER UTILITIES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. This section includes the following:
 - 1. Provide all material, labor, equipment and services necessary to completely install pipe, fittings, valves, valve boxes, accessories, and appurtenances.

1.3 RELATED SECTIONS

- A. Contract General Conditions and Division 1, General Requirements
- B. Section 31 11 00 - Site Clearing
- C. Section 31 20 00 - Earthwork: Excavation, Filling, and Grading
- D. Section 31 22 22 - Soil Materials
- E. Section 31 23 33 - Trench Excavation and Backfill
- F. Section 32 13 13 - Site Concrete Improvements

1.4 REFERENCES

- A. ASTM Test Method D1557 - Test Methods for Moisture-Density Relations of Soils and Soil Aggregate Mixtures Using 10 lb (4.54 Kg) Rammer and 18-inch (457 mm) Drop.
- B. ANSI/ASTM D2466 - Polyvinyl Chloride (PVC) Plastic Pipe Fittings, Schedule 40.
- C. ANSI/AWWA C110 - Ductile Iron and Grey-Iron Fittings, 3-inch through 48-inch, for Water and Other Liquids.
- D. ANSI/AWWA C151 - Ductile-Iron Pipe, Centrifugally Cast in Metal Molds or Sand-Lined Molds, for Water or Other Liquids.
- E. ANSI/AWWA C500 - Gate Valves, 3-inch through 48-inch NPS, for Water and Sewage Systems.
- F. ANSI/AWWA C900 - Standard for Polyvinyl Chloride (PVC) Pressure Pipe, 4-inch through 12-inch, for Water.
- G. ASTM D1785 - Polyvinyl Chloride (PVC) Plastic Pipe, Schedules 40, 80, and Class 200.

- H. ASTM D2855 - Making Solvent-Cemented Joints with Polyvinyl Chloride (PVC) Pipe and Fittings.
- I. ASTM D3139 - Joints for Plastic Pressure Pipes using Flexible Elastomeric Seals.

1.5 SUBMITTALS

- A. Submit in accordance with Specification Section SUBMITTALS and the Contract General Conditions.
- B. Product Data: Provide data on pipe materials, pipe fittings, valves and accessories.
- C. Manufacturer's Certificate: Certify that products meet or exceed specified requirements.

1.6 PROJECT RECORD DOCUMENTS

- A. Submit under provisions of Contract General Conditions and Division 1 Specifications.
- B. Accurately record actual locations of piping mains, valves, connections and appurtenances, referenced to permanent surface features.
- C. Identify and describe discovery of uncharted utilities or utilities found at locations different than indicated on plans.

1.7 QUALITY ASSURANCE

- A. Perform work in accordance with product manufacturer's recommendations and these Contract Documents.
- B. Valves: Manufacturer's name and pressure rating marked on valve body.

1.8 DELIVERY, STORAGE AND HANDLING

- A. Deliver, store, protect and handle all products required.

PART 2 - PRODUCTS

2.1 WATER PIPE

- A. Ductile Iron Pipe (for iron pipe larger than 3 inches in diameter, above ground): ANSI/AWWA C150/A21.50 and ANSI/AWWA C151/A21.51, thickness Class 50, with cement - mortar lining and seal coating per ANSI/AWWA C104/A21.4.
 - 1. Fittings: ANSI/AWWA C110/A21.10, ductile iron.
 - 2. Joints: Flanged.

- B. PVC Pipe (for pipe 3 inches and smaller, underground): ASTM D1785, Schedule 40.
 - 1. Fittings: ASTM D 2464, Schedule 80 PVC (ASTM D 2466, Schedule 40 PVC for pipes 1-1/2 inches and smaller).
 - 2. Joints: ASTM D 2855, solvent weld.
- C. PVC Pipe (for pipe 4 inches and larger, underground): ANSI/AWWA C900 Class 305.
 - 1. Fittings: ANSI/AWWA C111, ductile iron.
 - 2. Joints: ASTM D 3139 compression gasket ring.
- D. Locator Tape: Tape shall be an inert material such as polyethylene plastic with a metallic core, and highly resistant to alkalis, acids, or other chemical components likely to be encountered in soils. The tape shall be bright colors for contrast with the soils with identifying print in black letters. The tape shall be six inches wide and be printed "CAUTION - WATER LINE BELOW".

2.2 VALVES - UP TO 2 INCHES (50 MM)

- A. Use full port ball valves for 2 inches and smaller and resilient wedge gate valves for 2-1/2 inches and larger size.
- B. Brass or Bronze body, non-rising stem, inside screw, single wedge or disc, IPS ends.

2.3 GATE VALVES - 2-1/2 INCHES (63 MM) AND OVER

- A. ANSI/AWWA C509, Iron body, bronze trim, non-rising stem with square nut or control handle wheel, resilient single wedge, threaded or flanged.

2.4 VALVE BOXES

- A. Precast concrete with cast iron lid marked for service Christy No. G5 or approved equal.
- B. Valve boxes shall have a minimum 6 inch wide by 4 inch (6" inches in vehicular areas) thick concrete collar.

2.5 ACCESSORIES

- A. Concrete for Thrust Blocks and Valve Box Surface Collars: Concrete type specified in Specification Section SITE CONCRETE IMPROVEMENTS.
- B. Valve Boxes and Covers: Christy No. G5 traffic box, or approved equal. Cover marking shall read "Water". A one-piece PVC riser extension shall be provided as necessary to allow unobstructed access to valve operating nut.
- C. Solvent Cement and Primer for PVC Pipe and Fittings: Per ASTM F656 and ASTM D2564.

- D. Non-Firming Anticorrosion Wrap: Trenton Wax-Tape #1 or approved equal for application on belowground metal surfaces, pipe, or fittings in corrosive soils.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Verify existing conditions. All plot dimensions are approximate. Before proceeding with any work, carefully check and verify all dimensions and report any variations to the Engineer.
- B. Due to the scale of the drawings, it is not possible to indicate all offsets, fittings, etc., which may be required. Carefully investigate the structural and finished conditions affecting all work, and plan work accordingly, furnishing such fittings, etc., as may be required to meet such conditions. Unless dimensions are shown, drawings are generally diagrammatic and indicative of the work to be installed in the most direct and workmanlike manner, so that conflicts between water systems, planting, and architectural features will be minimized.
- C. Do not install the facilities as indicated on the drawings when it is obvious in the field that unknown obstructions might not have been considered in the engineering. Such obstructions or differences should be brought to the attention of the Engineer before proceeding.

3.2 PREPARATION

- A. Prepare for pipe installation by assembling all needed materials.
- B. Cover all PVC pipe during storage.

3.3 BEDDING

- A. Excavate trench, pit or hole in accordance with Specification Section TRENCH EXCAVATION AND BACKFILL.
- B. Where trench or pit has been overexcavated, place bedding material at bottom of excavations, level soil materials in continuous layers not exceeding 8-inches loose uncompacted depth.
- C. Backfill around sides and to a level 12-inches above the top of pipe with bedding sand, tamped in place.
- D. Maintain optimum moisture content of bedding material to attain required compaction density.

3.4 INSTALLATION - PIPE AND FITTINGS

- A. Install pipe at locations and depths indicated on plans.
- B. Install pipe, fittings, and associated materials in accordance with manufacturer's recommendations.

- C. Route pipe in straight line, whenever possible. All changes in direction of pipes shall be made with fittings, not by bending.
- D. Install pipe to allow for expansion and contraction without stressing pipe or joints.
- E. Form and place concrete for thrust blocks at each elbow, tee, angle or other significant change of direction in loose-joint pipe, per detail on plans.
- F. Establish elevations of buried piping to ensure not less than 30-inches of cover, except at connections to existing lines, which may be shallower or deeper, or where shown otherwise on plans.
- G. When two water pipes are to be installed in same trench, maintain a minimum 4-inch horizontal clearance between pipes.
- H. Backfill trench or other excavation in accordance with Specification Section TRENCH EXCAVATION AND BACKFILL.

3.5 INSTALLATION - VALVES

- A. Set valves on solid bearing.
- B. Where valves are installed below finish surface grade, center and plumb valve box and any necessary extensions over valve. Set box cover flush with finished grade.
- C. Pour concrete collar around top of valve box per detail on plans.
- D. Furnish and install valves and valve boxes in addition to those shown on plans as required for isolation of lines for construction and disinfection, while minimizing disruption of service to buildings, at no additional cost to the Owner.

3.6 INSTALLATION - THREADED CONNECTIONS

- A. Assemble all plastic and galvanized steel threaded pipe and fittings using an approved Teflon tape applied to the male threads only. A minimum of two (2) wraps and a maximum of three (3) wraps of an approved Teflon tape will be required.
- B. At all plastic (PVC) pipe connections, work the ductile iron connections first. Connections shall always be plastic into steel, never steel into plastic.
- C. A non-hardening sealant and lubricant similar to Permatex #51 or LASCO blue pipe sealant may be used in lieu of Teflon tape. Apply sealant to clean male threads brushing into grooves and to the first three threads of the female threads.

3.7 PRESSURE TESTING OF SITE WATER PIPING SYSTEM

- A. General: Unless otherwise directed, tests shall be witnessed by Inspector. Work to be concealed shall not be covered until prescribed tests are made. Should any work be covered before such tests, the Contractor shall, at his expense, uncover, test and repair his work and that

of other contractors to original conditions. Leaks and defects shown by tests shall be repaired and entire work re-tested. Tests may be made in sections, however, all connections between sections previously tested and new section must be included in the test.

- B. Water Piping: Pressure test all onsite water piping systems in accordance with AWWA Standard C605, "Underground Installation of Polyvinyl Chloride (PVC) and Molecularly Oriented Polyvinyl Chloride (PVCO) Pressure Pipe and Fittings". The pressure testing process shall be performed in cooperation with the authority having jurisdiction and witnessed by the Owner's Inspector. The constructor shall supply an affidavit of compliance to the Owner as required by AWWA Standard 605. Maintain 150 PSIG water pressure for a duration of four (4) hours. There shall be no drop in pressure during test except that due to ambient temperature changes. Flush all lines prior to pressure test.
- C. Backflow Preventer: All backflow preventers shall be tested according to manufacturer's recommendations and the USC Cross Connection Control and Hydraulic Research Manual latest edition and per local AHJ requirements. Testing shall be performed by an AWWA Certified Backflow Prevention Assembly Tester. Contractor shall provide written certification to the Architect showing the date in which the backflow preventers were tested and confirmation that unit passed all test requirements.

3.8 DISINFECTION OF DOMESTIC WATER PIPING SYSTEM

- A. Disinfect all domestic water piping systems in accordance with AWWA Standard C651, "Disinfecting Water Mains", and in accordance with administrative authority. Disinfection process shall be performed in cooperation with health department having jurisdiction and witnessed by the Owner's Inspector. During procedure, signs shall be posted at each water outlet stating, "Chlorination - Do Not Drink". After disinfection, water samples shall be collected for bacteriological analysis. Certificate of Bacteriological Purity shall be obtained and delivered to the Owner by the Owner's Inspector.

3.9 FIELD QUALITY CONTROL

- A. Field inspection and testing will be performed under provisions of the Contract General Conditions and Division 1 Specifications.
- B. Compaction testing of bedding and backfill will be performed in accordance with ANSI/ASTM D1557.
- C. If tests indicate work does not meet specified requirements, recompact, or remove and replace, and retest. Any retests required due to failure of initial tests shall be paid for by the Contractor.

END OF SECTION

SECTION 333000 - SITE SEWER SYSTEMS

PART 1 - GENERAL

1.1 SECTION INCLUDES:

- A. Sanitary Sewer Pipelines and Fittings
- B. Site Accessories

1.2 RELATED SECTIONS

- A. All Division 01 Specification Sections.
- B. Section 31 11 00 - Site Clearing
- C. Section 31 20 00 - Earthwork: Excavation, Filling, and Grading
- D. Section 31 22 22 - Soil Materials
- E. Section 31 23 33 - Trench Excavation and Backfill
- F. Section 32 13 13 - Site Concrete Improvements

1.3 QUALITY ASSURANCE

- A. Requirements of Regulatory Agencies
 - 1. Safety Regulations: Work shall comply with all Federal, State and Municipal regulations regarding safety, including the requirements of the following:
 - a. William-Steiger Occupational Safety & Health Act of 1970.
 - b. State of California, California Administrative Code, Title 8 Industrial Relations, Chapter 4, Subchapter 4, "Construction of Safety Orders" and other State and local agencies having jurisdiction.
 - c. All trenching work shall conform to Trench Construction Safety Orders of California State Industrial Accident Commission.

1.4 REFERENCES

- A. American Water Works Association (AWWA).
- B. American Society for Testing and Materials (ASTM):
 - 1. Designation D3034 - Polyvinyl Chloride (PVC) pipe.
- C. California Plumbing Code, Latest Edition (CPC).
- D. Local County Health Department Standards.

1.5 SUBMITTALS

- A. Submit under provisions of Specification Section - SUBMITTAL PROCEDURES. Certificates of compliance for material
- B. Product Data: Provide data indicating pipe, accessories, and associated equipment to be furnished.
- C. Submit manufacturer's data and/or fabrication drawings for Sanitary Sewer Pipelines, Sanitary Sewer Manholes and Sanitary Sewer Fittings, installed under this Section. No items shall be incorporated into the work until submittals are approved by the Engineer.

1.6 COORDINATION

- A. Verify location of existing utilities have been indicated at by local utility authorities.

1.7 EXISTING UTILITIES

- A. The Engineer has made a diligent attempt to indicate on the plans the location of all main and trunkline utility facilities which may affect the Work. In most cases, however, the only available information relative to the existing location of said facilities was small scale undimensioned plats. The location of said facilities, therefore, shall be considered approximate only, until exposed by the Contractor.
- B. Service laterals and appurtenances have also been shown where information was available as to their location. In most cases, however, the only available information relative to the existing location of said facilities was small scale undimensioned plats. The location of said facilities, therefore, shall be considered approximate only, until exposed by the Contractor.
- C. At new work location, expose by hand methods all existing utilities along the route of the new work prior to using any mechanical equipment. If mechanical equipment is allowed at a particular location, it may only be used after the completion by the Contractor of a successful exhaustive search by hand methods to locate all existing facilities as indicated on the plans, and as indicated at the work site by local utility authorities.
- D. Maintain all existing utility mains and service lines in constant service during construction of the Work.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. Sanitary sewer pipelines for pipes 4 inches and larger shall be polyvinyl chloride (PVC) pipe conforming to ASTM Designation 3034, SDR-35, with elastomeric gasket joints per ASTM D 3212 and F477.
- B. Sanitary sewer pipelines for pipe less than 4 inches shall be Schedule 40 PVC pipe, ASTM D1785.

- C. All sanitary sewer fittings shall be watertight connections using PVC sewer fittings as approved by the California Plumbing Code, or approved equal to be determined by the Civil Engineer.
- D. Surface cleanout shall be precast concrete with cast iron lid marked for service Christy G5 or approved equal and constructed as per detail drawing and current plumbing code.
- E. Locator Tape: Tape shall be an inert material such as polyethylene plastic with a metallic core, and highly resistant to alkalis, acids, or other chemical components likely to be encountered in soils. The tape shall be bright colors for contrast with the soils with identifying print in black letters. The tape shall be six inches wide and be printed "CAUTION - SEWER LINE BELOW".

PART 3 - EXECUTION

3.1 CLEARING OF WORK SITE FOR SITE IMPROVEMENTS

- A. Clear site for improvements per construction drawing demolition plan and in accordance with Specification Section SITE CLEARING.

3.2 TRENCH EXCAVATION

- A. Trench excavation and backfilling shall be in accordance with Specification Section TRENCH EXCAVATION AND BACKFILL and construction drawing detail.
- B. Excavate trench to depth which is 6 inches below the outside bottom of the pipe barrel to be placed therein.

3.3 PIPE BEDDING MATERIAL

- A. Excavated materials and imported materials shall meet engineering recommendations in accordance with Specification Section SOIL MATERIALS.
- B. Bed pipe in sandfill and compact to a minimum of 90% relative compaction. Place and compact the bedding material under, around and over the pipe, filling the trench cavity and extending from the bottom of the trench (6 inches below the outside bottom of the pipe barrel) to a level 12 inches above the outside top of the pipe barrel.

3.4 PIPE INSTALLATION

- A. Pipe Laying: Alignment and elevation stakes shall be set at intervals with offsets and cut to the invert of the pipe.
 - 1. Proper facilities shall be provided for stringing and lowering sections of pipe into the trench. The pipe shall be laid carefully to lines and grades given.
 - 2. The grade line shown on the plans indicates the flow line or invert of the pipe and all cuts, unless otherwise indicated, refer to this line.

3. After the trench for pipe has been brought to the proper line and grade, the pipe shall be laid in the following manner.
 - a. Pipe laying shall proceed upgrade with the bell ends of bell and spigot pipe placed upstream. Each section of pipe shall be laid to line and grade as herein specified and in such a manner as to form a watertight, concentric joint with the adjoining pipe. The interior of the pipe shall be cleared of all dirt and debris and excess joint sealing material as the work progresses. Pipe shall not be laid when the condition of the trench or weather is unsuitable. All open ends of pipe and fittings shall be adequately and securely closed whenever the work is discontinued for more than one-half hour. If pipe with elliptical or quadrant reinforcement is used, care shall be taken to properly orient the axis.
 4. All joint surfaces shall be cleaned before joints are made.
 5. The Contractor shall furnish and use, for grade and alignment control, a laser beam system which complies with OSHA requirements. The laser system shall have good visibility when used with suitable target material. The laser system must be of the self-leveling type so that the laser beam is automatically compensated for minute grade disturbances.
 6. The laser system must also have an early warning system that instantly warns the pipe layer when the laser is off grade. The laser system is to be provided by the Contractor and shall have a minimum accuracy of ± 0.01 foot per one hundred feet (100') on line; and a minimum visible range of one thousand feet (1000'). When conditions are such that this method is impractical, such as on short pipe runs, the Contractor shall have an Engineer on the ground to set grade of each joint of pipe by means of an Engineer's level.
- B. Sewer Systems Plugs: Temporary plugs of brick or mortar shall be installed on all sewer projects at points of connection to existing facilities. These plugs shall remain in place until completion of the balling and flushing operation. The plugs, intended to prevent water from the balling and flushing operation, drainage, or any other condition from entering the existing system, shall be installed or removed in the presence of and under the direct supervision of the Engineer. Until the system has been pumped clear of accumulated water, the plugs shall not be removed. This water must not be allowed to enter adjacent sewer or drainage systems.
- C. Internal Inspection: Upon completion of construction and prior to final inspection, the Contractor shall clean the entire new pipeline of all dirt and debris. Any dirt or debris in previously existing pipes or ditches in the area, which in the opinion of the Engineer resulted from the new installation, shall also be removed by the Contractor. Sewer pipes shall be cleaned by the controlled balling method. Temporary plugs shall be installed and maintained during cleaning operations at points of connection to existing facilities to prevent water, dirt, and debris from entering the existing facility. Temporary plugs for sewer systems shall also conform to Subsection B, above. Water from the drainage system operations shall be routed through a suitable trap to collect any dirt and debris prior to discharging into any downstream facility. The Contractor shall notify the Architect immediately after completion of the pipe cleaning operations. Cleaning of drainage pipes by the controlled balling method will not be required.
- D. As soon as possible after the completion of the pipe cleaning, and prior to final acceptance, the Architect or Engineer may make a visual internal inspection of the new pipeline either manually or with television equipment.

3.5 COORDINATION

- A. Coordinate with the campus for the shutdown of the existing sewer system to make new sewer connection. Install sewer pipelines before making tie-in to the existing sewer pipeline. Tie-in work may proceed during the campus non-use of the existing sewer system such as on weekends.

3.6 TESTING OF SANITARY SEWERS

- A. After cleaning per Section 3.4-C, each section of sewer constructed shall be tested in accordance with acceptable "Low Pressure Air Test for Sanitary Sewers" methods such as presented in the Journal of Sanitary Engineering, Division ASCE, April 1964, to test the point of effluent disposal. All lines and components shall be leak proof.

3.7 INSPECTION OF SANITARY SEWERS

- A. System components shall be properly identified as to the manufacturer.

3.8 CLEAN-UP

- A. Remove from the site all rubbish, debris, etc. in a lawful manner, resulting from work in this Section. The clean-up shall include the replacement and repair of any damaged or disturbed property.

END OF SECTION

SECTION 334000 - STORM DRAINAGE

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. This section includes the following:

- 1. Provide all materials, labor, equipment and services necessary to furnish and install Storm Drainage System, accessories and other related items necessary to complete the Project as indicated by the Contract Documents unless specifically excluded.

- B. RELATED SECTIONS

- 1. Contract General Conditions and Division 1 Specifications.
 - 2. Section 31 22 22 – Soil Materials
 - 3. Section 31 23 33 – Trench Excavation and Backfilling
 - 4. Section 32 13 13 – Site Concrete Improvements

1.3 REFERENCES

- A. ANSI/ASTM C76 - Reinforced Concrete Culvert, Storm Drain and Sewer Pipe.
- B. ANSI/ASTM C443 - Joints for Circular Concrete Sewer and Culvert Pipe, Using Rubber Gaskets.
- C. ANSI/ASTM C478 - Precast Reinforced Concrete Manhole Sections.
- D. ASTM D1557 - Test Methods for Moisture-Density Relations of Soils and Soil-Aggregate Mixtures Using 10 lb (4.54 Kg) Rammer and 18 inch (457 mm) Drop.

1.4 DEFINITIONS

- A. Bedding: Fill placed under, around, beside and directly over pipe, prior to subsequent backfill operations.
- B. Utility: Any buried or above ground pipe, conduit, cable, associate device or appurtenances, or substructure pertaining thereto.

1.5 SUBMITTALS

- A. Submit under provisions of Division 01.
- B. Certificates of compliance for material.
- C. Product Data: Provide data indicating pipe, accessories, and associated equipment to be furnished.
- D. Submit manufacturer's data and/or fabrication drawings for all pipes, and appurtenances installed under this Section. No items shall be incorporated into the work until submittals are approved by the Architect/Engineer

1.6 COORDINATION

- A. Coordinate work with Owner's personnel.
- B. Verify that the location of existing utilities have been indicated at work site by utility authorities and Owner's personnel.
- C. Coordinate work with other project work.

1.7 EXISTING UTILITIES

- A. The Engineer has made a diligent attempt to indicate on the plans the location of all main and trunkline utility facilities which may affect the Work. In most cases, however, the only available information relative to the existing location of said facilities was small scale undimensioned plats. The location of said facilities, therefore, shall be considered approximate only, until exposed by the Contractor.
- B. Service laterals and appurtenances have also been shown where information was available as to their location. In most cases, however, the only available information relative to the existing location of said facilities was small scale undimensioned plats. The location of said facilities, therefore, shall be considered approximate only, until exposed by the Contractor.
- C. At new work location, expose by hand methods all existing utilities along the route of the new work prior to using any mechanical equipment. If mechanical equipment is allowed at a particular location, it may only be used after the completion by the Contractor of a successful exhaustive search by hand methods to locate all existing facilities as indicated on the plans, and as indicated at the work site by Owner's personnel.
- D. Maintain all existing utility mains and service lines in constant service during construction of the Work

1.8 PROJECT RECORD DOCUMENTS

- A. Submit under provisions of Division 01.
- B. Accurately record actual locations of utilities encountered.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. Reinforced Concrete Pipe for pipe larger than fifteen (15) inches: ANSI/ASTM C76, Class 3, with rubber gasket joints per ANSI/ASTM C443.
- B. Storm drainage sewer pipeline shall be polyvinyl chloride (PVC) pipe for storm sewer conforming to ASTM designation 3034, SDR 35, with elastomeric gasket joints per ASTM D 3212 for pipe fifteen (15) inches or less.
- C. Storm drainage pipeline shall be polyvinyl chloride (PVC) pipe for storm sewer conforming to ASTM D1785, Schedule 40, for pipe three (3) inches or less.
- D. Poured in Place Concrete: Specification Section SITE CONCRETE IMPROVEMENTS.
- E. Mortar: Composed of one part, by weight, portland cement (Type II low alkali per ASTM C150), 2 parts, by weight, sand, and water.
- F. Manhole Frames, Covers and Grates: Cast Iron per ASTM A48, Class 25.
- G. Soil Fill for Concrete Pipe Bedding Envelope: Specification Section TRENCH EXCAVATION AND BACKFILL.
- H. Catch basins and drain inlets shall be constructed as per detail drawing.
- I. Concrete collar shall be constructed as per detail drawing.
- J. Cleanout shall be precast concrete with cast iron lid marked for service Christy G5 or approved equal and constructed as per detail drawing.
- K. All metallic pipe, fittings and appurtenances in contact with soil shall be coated or wrapped with an approved material, as required to protect it from corrosive soil.
- L. Locator Tape: Tape shall be an inert material such as polyethylene plastic with a metallic core, and highly resistant to alkalis, acids, or other chemical components likely to be encountered in soils. The tape shall be bright colors for contrast with the soils with identifying print in black letters. The tape shall be six inches wide and be printed "CAUTION – STORM SEWER LINE BELOW".

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Verify site conditions.

3.2 PREPARATION

- A. Identify location of proposed storm drainage facilities to be constructed. Expose connection points to existing system.
- B. Locate, identify, and protect existing above and below grade utilities from damage.
- C. Protect plant life, lawns, trees, shrubs, and other features not authorized for removal.
- D. Protect existing structures and other improvements to remain from damage from excavation equipment and vehicular traffic.
- E. Employ equipment and methods appropriate to the work site.
- F. Protect excavated areas from drainage inflow, and provide drainage to all excavated areas. Dewater existing drainage basins and existing drainage pipeline systems as necessary to accomplish the work.
- G. Comply with safety requirements as they pertain to excavations, per Specification Section EARTHWORK.
- H. Remove all interfering surface and subsurface improvements authorized for removal.

3.3 EXCAVATION

- A. Excavate soil required to locate existing utilities and install the work.
- B. Excavate trenches and pits per Specification Section EARTHWORK.
- C. Excavate trenches and pits to allow installation and construction of the storm drainage facilities to the alignment, grades, depths and cross-sections as indicated on the construction plans.
- D. Excavate trench to depth which is 6 inches below the outside bottom of the pipe barrel to be placed therein.
- E. Cut trenches just wide enough to allow the installation of the pipe and pipe bedding as indicated on the plans. Minimize trench width above the pipe.
- F. Provide protection to public per Division 01.

3.4 INSTALLATION AND BEDDING OF STORM DRAIN PIPE

- A. Install the pipe and fittings to the lines and grades shown on the construction plans.
- B. Install pipe and fittings in accordance with the manufacturer's recommendations, and these specifications.
- C. Unless otherwise approved by the Engineer, lay all pipe upgrade from structure to structure, with bell or socket ends of pipe upgrade.

- D. Excavate suitable bell (or socket) holes in the bedding material, so that the bells do not bear on the subgrade or bedding. Provide uniform bearing of pipe barrel on bedding material.
- E. Ensure that all joints are properly "homed" and are watertight.
- F. Bed pipe in sandfill and compact to a minimum of 90% relative compaction. Place and compact the bedding material under, around and over the pipe, filling the trench cavity and extending from the bottom of the trench (6 inches below the outside bottom of the pipe barrel) to a level 12 inches above the outside top of the pipe barrel.

3.5 INSTALLATION OF STORM DRAINAGE STRUCTURES AND APPURTANANCES

- A. Install storm drainage structures as indicated on the construction plans, in accordance with the manufacturer's recommendations, and as specified herein.
- B. Construct poured-in-place concrete per Specification Section SITE CONCRETE IMPROVEMENTS.
- C. Key top of poured-in-place concrete bases for structures to receive the tongue of precast riser sections.
- D. Construct cleanout, outfall structure per detail drawing.

3.6 BACKFILLING TO FINISHED GRADE AND FINISHED GRADING

- A. Place and compact backfill per Specification Section TRENCH EXCAVATION AND BACKFILL.
- B. Conform finished surface to the lines, grades and cross-sections shown on the plans, or as otherwise directed by the Inspector.
- C. In areas to receive paving or a significant thickness of sealing material, temporarily set manhole frame and cover below finish grade, then return after final surfacing and/or pavement sealing and bring manhole frame and cover to final grade, as shown on the plans.
- D. Fine grade all finished soil surfaces disturbed to the lines, grades and cross-sections shown on the plans.
- E. Rake and smooth all finished dirt surfaces.

3.7 TOLERANCES

- A. Pipe laying tolerances:
 - 1. Above grade: Not to exceed 1/4-inch above planned grade.
 - 2. Below grade: Not to exceed 1/2-inch below planned grade.
 - 3. Alignment: Not to exceed 2 inches from planned alignment, if gradual and regular over a distance of 20 feet.

- B. Structure finish grade tolerance: Within 1/4 inch of planned grade, but must match adjacent improvements.

3.8 FIELD QUALITY CONTROL

- A. Field inspection and testing will be performed under provisions of Division 01.
- B. Compaction testing of bedding and backfill will be performed in accordance with ASTM D 1557.
- C. If tests indicate work does not meet specified requirements, recompact, or remove and replace, and retest at no additional cost to Owner.

END OF SECTION