

CITY OF SAN FERNANDO
CALIFORNIA
CONTRACT DOCUMENTS,
SPECIFICATIONS AND STANDARD DRAWINGS
FOR
CALLES VERDES PROJECT
JOB NO. 7605, PLAN NO. P-727



Prepared by:



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Date: 09/16/2025

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Date: 09/16/2025



Approved by: Wendell Johnson, PE
Date: 9/16/2025

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NOTICE INVITING BIDS

SEALED PROPOSALS will be received at the Office of the City Clerk, City Hall, 117 Macneil Street, San Fernando, California until **11:00 A.M. on Thursday, October 30, 2025** and said bids will be publicly opened and declared for performing work on the following project:

CALLES VERDES PROJECT JOB NO.7605, PLAN NO. P-727

The City of San Fernando is inviting you to submit a bid for the Calles Verdes project. This project primarily consists of constructing bioswales and tree wells. In addition, a parking lot will be regraded with cool pavement.

The work to be performed includes, but is not limited to furnishing all materials, equipment, tools, notifications, labor, and incidentals as required by the plans, specifications, and contract documents for the improvements at various locations throughout the City of San Fernando. The work includes but not limited to: Saw-cutting; excavation, removal, and disposal of the AC pavement; replacement and compaction of subsurface material; replacement of concrete curb and gutter; setup and maintenance of traffic control system; placement of cool pavement material; placement of tree wells and bioswales; replacement of traffic striping and pavement markings; and clean-up of the project area.

The bid items, corresponding estimated quantities, and time allowed to complete the work are listed in the Contractor's Proposal. The definitions of bid items are described in the Technical Provisions.

The contract time for the project is **NINETY (90) working days**.

It is the policy of the City, as directed by City Council, to encourage the use of local area businesses in construction contracts including vendors, suppliers, labor, etc.

The City reserves the right to reject any and all bids and to waive any minor irregularities in the bid documents. Bidders may not withdraw their bid for a period of ninety (90) days after date set for opening thereof.

The Contractor must follow the procedures as set forth in the Instructions to Bidders for acceptance of bids. Bids will be accepted only if submitted on a proposal form furnished by the City. Each bid must be accompanied by cash, certified check, cashier's check, or bidder's bond made payable to the City of San Fernando or issued by a surety admitted to do business in California, for an amount equal to at least ten percent (10%) of the amount bid. Such guaranty to be forfeited to the City should the bidder to whom the contract is awarded fail to enter into the contract.

Bids will be accepted only from contractors licensed in accordance with the provisions of the Business and Professional Code of the State of California. Prior to contract execution, the contractor and his/her subcontractors shall obtain a City business license. Prior to beginning work, the Prime Contractor must possess a valid **Class A license** issued by the State of California. Subcontractor performing valve-adjustment work must possess a valid **Class A or C-34 license** issued by the State of California.

AB44 EFFECTIVE JULY 1, 2014. If a bidder submits a bid that includes a subcontractor who would be performing work in amount in excess of ½ of 1% of the bidder's total bid or in the case of bids for the construction of streets or highways, including bridges, in excess of ½ of 1%

of the bidder's total bid or \$10,000, whichever is greater, then in addition to the subcontractor's name and business address, the subcontractor's State contractor's license number must be included as part of the information submitted for that proposed subcontractor. Failure to provide the subcontractor's license number shall render the bid non-responsive.

SB854 EFFECTIVE MARCH 1, 2015. Contractors and Subcontractors wishing to work on a public works project must be registered with the State of California, Department of Industrial Relations. All public works projects with bids submitted after March 1, 2015, or awarded on or after April 1, 2015, shall use only registered contractors and subcontractors. No bid will be accepted nor any contract entered into without proof of the Bidder's and its subcontractors' current registration with the Department of Industrial Relations. If awarded a contract, the Bidder and its subcontractors of every tier shall maintain active registration with the Department of Industrial Relations for the duration of the Project.

The State General Prevailing Wage Rate Determination as established by the California Department of Industrial Relations is available at <http://www.dir.ca.gov/DLSR/PWD/index.htm>, and in the Public Works Department at City Hall.

At the request and expense of the Contractor, securities equivalent to the five percent (5%) to be withheld from progress payments pursuant to the City's Standard General Conditions shall be deposited with the City Clerk or a state or federally chartered bank as the escrow agent, who shall pay such monies to the contractor upon satisfactory completion of the contract. Securities eligible for investment shall include those listed in Section 16430 of the Government Code 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 thereof.

Copies of the plans and specifications, including the approved proposal form, are available on the City website, www.sfcity.org, for downloading at no charge. **In order to be eligible to submit a bid for the project, you MUST contact Patsy Orozco, Civil Engineering Assistant II, via e-mail at POrozco2@sfcity.org to be placed on the plan holders list.**

Any questions pertaining to the project shall be submitted by **4:00 p.m. on Thursday, October 16, 2025** and must be submitted by email only to Patsy Orozco at POrozco2@sfcity.org.

Addenda, if any, will NOT be distributed to the plan holders, and will ONLY be posted on the City website. **It shall be the Bidder's responsibility to check the City website for any addenda.**

City of San Fernando

Date: _____

By: _____
Wendell Johnson, Director of Public Works

INSTRUCTIONS TO BIDDERS

1. GENERAL Proposals under these Contract Documents shall be submitted on the blank forms furnished herewith. When presented, the proposal forms must be completely made out in the manner and form indicated therein, and must be properly signed by the bidder. The bidder's address, telephone number, and California State Contractor's License number must be included. To be eligible to perform work, the bidder must be a state licensed contractor in good standing prior to beginning work. The City Council reserves the right to reject any bid if all the above information is not furnished.

Each proposal submitted must be presented in a sealed cover, and must be filed prior to the time and at the place designated in the Notice Inviting Bids. All proposals submitted as prescribed will be publicly opened and read at the time and place designated in the Notice Inviting Bids.

Bid Quotes and Unit Price Extensions – The unit prices and the lump sum prices quoted by the bidder must be entered in the spaces provided on the Contractor's Proposal form. In case there is a discrepancy between the unit price and the item total, the unit price shall govern and will be considered as representing the Bidder's intention. The bid total will be corrected to conform to the specified unit price.

Bid Retention and Award – The City reserves the right to retain all bids for a period of ninety (90) days for examination and comparison. The City also reserves the right to waive non-substantial irregularities in any bid, to reject any and all proposals, to reject or delete one part of a proposal and accept the other, except to the extent that the bids are qualified by specific limitations, and to make award to the lowest responsible bidder as the interest of the City may require.

Communications Regarding Bid – All timely requests for information submitted in writing will receive a written response from the City. Telephone communications with City staff are not encouraged, but will be permitted. However, any such oral communication shall not be binding on the City.

2. EXAMINATION OF PLANS, CONTRACT DOCUMENTS, AND WORK SITE The Contract Documents and plans, if any, are on file and available for inspection in City Hall.

The Bidders are required to carefully examine the site and the proposal, plans, Contract Documents, and contract forms. The Bidders must satisfy themselves as to the requirements of the Contract Documents and the contract; as to the location of the proposed work and by such other means as they may prefer; and as to the actual conditions and requirements of the work, and shall not, at any time after submission of the bid, dispute, complain, or assert that there was any misunderstanding in regard to the nature or amount of work to be done. It is mutually agreed that submission of a proposal shall be considered prima facie evidence that the bidder has made such examinations.

3. DISQUALIFICATION OF BIDDERS AND PROPOSALS More than one proposal for the same work from any individual, firm, partnership, corporation or association under the same or different names will not be accepted and reasonable grounds for believing that any bidder is interested in more than one proposal for the work will be cause for rejecting all proposals in which such bidders are interested.

Proposals which show obviously unbalanced prices, and those which are incomplete or show any alteration of form, or contain any additions or conditional or alternate bids that are not called for or otherwise permitted, may be rejected. Proposals that do not bear the Bidder's

signature will be rejected.

4. AWARD AND EXECUTION OF CONTRACT The award of the contract, if awarded, will be made to the lowest responsive bidder whose proposal complies with all the prescribed requirements. The right is reserved, however, to reject any or all bids and to waive technical errors or discrepancies if it is deemed to best serve the interests of the City. An award will be made only until all necessary investigations are made as to the responsiveness of the low bidder.

Failure to execute a contract and file acceptable bonds as provided herein within the above timeline, not including Sundays, shall be just cause for the annulment of the award and the forfeiture of the proposal guaranty.

The Contractor will be required to obtain a City Business License prior to award of the contract.

5. SIGNATURE OF CONTRACTOR

- a. Corporation Any bids submitted by a corporation must include the name of the corporation, and must be signed by the President and Secretary or Assistant Secretary, and the corporate seal must be affixed. Other persons may sign for the corporation in lieu of the above if a certified copy of a resolution of the corporate board of directors so authorizing them to do so is on file in the City Clerk's Office.
- b. Partnerships Any bids submitted by a partnership must contain the names of all persons comprising the partnership or co-partnership. The bid must be signed by all partners comprising the partnership unless proof in the form of a certified copy of a certificate of partnership acknowledging the signer to be a general partner is presented to the City Clerk.
- c. Joint Ventures Any bids submitted by a joint venture must so state that and must be signed by each joint venturer.
- d. Individuals Any bids submitted by an individual must be signed by that individual unless an up-to-date power of attorney is on file in the City Clerk's Office, in which case the person indicated in the power of attorney may sign for the individual.

The above rules also apply in the case of a fictitious firm name. In addition, however, where the fictitious name is used, it must be so indicated where the signature appears.

6. BONDS

- a. Bid Bonds Bid must be accompanied by cash, cashier's check, certified check, or surety bond in an amount equal to ten percent (10%) of the total amount in the Contractor's Proposal. Checks and bonds shall be made payable to the City of San Fernando.
- b. Contract Bonds The Contractor simultaneously with execution of the Agreement shall furnish a surety bond in an amount equal to one hundred percent (100%) of the contract price as security for the faithful performance of this contract and a separate surety bond in an equal to one hundred percent (100%) of the contract price as security for the payment of all persons performing labor and furnishing materials in connection with this contract, as required by the terms of an Act entitled:

"An Act to secure the payment of the claim of persons employed by Contractors upon Public Works, and the claims of persons who furnish materials, supplies, teams, implements; or machinery used or consumed by such Contractors in the

performance of such works, and prescribing the duties of certain public officers with respect thereto," approved May 10, 1919, as amended.

Bond Forms required are included in these specifications. Copies will be furnished to prospective bidders upon request.

Whenever any Surety or Sureties on any such bonds, or any bonds required by Law for the protection of the claims of laborers and material men become insufficient or the City Engineer has cause to believe that such Surety or Sureties have become insufficient, a demand in writing may be made of the Contractor for each further bond or bonds or additional surety, not exceeding that originally required, as is considered necessary, considering the extent of the work remaining to be done. Thereafter, no payment shall be made upon such contract to the Contractor or any assignee of the Contractor until such further bond or bonds or additional surety has been furnished.

7. RETURN OF BIDDER'S GUARANTIES Within ten (10) days after the award of the contract, the City will return the proposal guaranties accompanying those proposals which are not to be considered in making award. All other proposals which are to be held until the contract has been finally executed, will be returned to the respective bidders after award of contract.
8. CONFLICT OF INTEREST In the procurement of supplies, equipment, construction, and services by sub-recipients, the conflict of interest provisions in 24 CFR 85.36, OMB Circular A-110, and 24 CFR 570.611, respectively, shall apply. No employee, officer or agent of the sub-recipient shall participate in selection, or award or administration of a contract supported by Federal funds if a conflict of interest, real or apparent, would be involved.

The following documents in the PROPOSAL section of these Contract Documents must be completed and submitted with the bid package:

- Contractor's Proposal
- Bid Schedule
- Bidder's Bond
- Contractor Information
- List of References
- List of Subcontractors
- Certificate of Secretary of Adoption of Resolution
- List of Subcontractors, Suppliers, & Vendors Contacted to Receive Prices in Preparation of Bid Proposal
- Non-Collusion Affidavit

CONTRACTOR'S PROPOSAL

CITY OF SAN FERNANDO
117 MACNEIL STREET
SAN FERNANDO, CALIFORNIA 91340

HONORABLE MAYOR AND
MEMBERS OF THE CITY COUNCIL:

The undersigned declares that this proposal was prepared by carefully examining the location of the proposed work, the Plans, the Specifications, and the Contract Documents entitled:

**CALLES VERDES PROJECT
JOB NO. 7605, PLAN NO. P-727**

The undersigned hereby proposes to furnish all labor, materials, notifications, equipment, tools, transportation, and services to perform all work required and to complete said work within **ninety (90)** working days after the commencement date stated in the Notice to Proceed. All work shall be performed in accordance with the Plans, Specifications, and Contract Documents, including the Special Provisions and Technical Provisions, for the prices set forth in the bid schedule.

Dated

Bidder

Signature

Name (Print/Type)

Title

**BID SCHEDULE
CALLES VERDES PROJECT
JOB NO. 7605, PLAN NO. P-727**

STREETS IMPROVEMENTS BASE BID					
ITEM NO.	DESCRIPTION	UNIT	ESTIMATED QUANTITY	UNIT PRICE	ITEM TOTAL
1	Mobilization	LS	1		
2	Traffic Control and Implementation	LS	1		
3	Stormwater Pollution Prevention Plan	LS	1		
4	Clearing and Grubbing	LS	1		
5	Sawcut and Removal of Existing Asphalt	SY	3,000		
6	Curb Cut Inlet Parkway Swale	EA	46		
7	Curb Cut Inlet Vegetated Curb Extension	EA	44		
8	Remove and Disposal of Existing Curb and Gutter and Associated Concrete Surfaces	LS	1		
9	6 Inch PCC Curb and Gutter per SPPWC STD Plan 120, Type A3-6	LF	580		
10	28 Inch Vertical Curb	LF	440		
11	Parkway Swale	LS	1		
12	Vegetated Curb Extension	LS	1		
13	Cool Paving Slurry	LS	1		
14	Adjust Water Valve/Gas Valve/Water Meter to Grade	LS	1		
15	Swale Tree Wells	EA	17		
16	Parking Lot Tree Wells	EA	11		
17	Furnish and Install Traffic Striping, Signage, Curb Marking, Pavement Marking	LS	1		
18	ADA Ramp Detectable Warning Surface	EA	20		
19	Relocate Lighting Electrical Conduit (Parking Lot)	LS	1		
20	Irrigation	LS	1		
21	Landscaping	LS	1		
22	Resident Notifications	LS	1		
23	Remove and Replace Traffic Loop Detectors	EA	4		
24	Furnish and Install Parking Lot Striping and Signage	LS	1		
				BID TOTAL	\$

Total Bid in numbers: \$ _____

Total Bid in words: _____ Dollars
And _____ Cents

The Contract shall be awarded to the lowest qualified bidder based on the Base Bid Total (Items 1-24). In case of discrepancy between the words and the number, the words shall prevail.

The bidder acknowledges receipt of the following addendum issued for the above project. If no addendum has been received, write "None".

List of Addendum Received: _____

The City does not expressly or by implication agree that the actual amount of work will correspond with the foregoing quantities, but reserves the right to increase or decrease the amount of any class or portion of the work or to omit portions of the work as may be deemed necessary or advisable by the Engineer.

The bidder further agrees that in case of not executing the required contract with necessary bonds within ten (10) days, not including Sundays, after having received notice that the contract is ready for signature, the proceeds of the check or bond accompanying his bid shall become the property of the City of San Fernando.

By submission of the Contractor's Proposal, the bidder also certifies that the bid is a balanced bid.

BIDDER'S BOND

KNOW ALL MEN BY THESE PRESENTS:

that we, _____ as Principal,
and _____ as Surety,
are held and firmly bound unto the City of San Fernando in the sum of _____ (\$_____)

to be paid to the said City of its certain Attorney, its successors and assigns; for the payment of which sum well and truly made, we bind ourselves, our heirs, executors and administrators, successors or assigns, jointly and severally, firmly by these presents.

THE CONDITION OF THIS OBLIGATION IS SUCH, that if the certain proposal of the above bounden _____ to construct _____ (insert names of streets and limits to be improved) dated _____ is accepted by the City of San Fernando, and if the above bounden his heirs, executors, administrators, successors and assigns, shall duly enter into and execute a contract for such construction, and shall execute and deliver the two bonds described within ten (10) days (not including Sunday) from the date of the mailing of a notice to the above bounden _____ by and from the said City of San Fernando that said contract is ready for execution, then this obligation shall become null and void; otherwise it shall be and remain in full force and virtue.

IN WITNESS WHEREOF, we hereunto set our hands and seals this _____ day of _____, 2025.

Principal

Surety

By _____

By _____

Its _____

Its _____

By _____

By _____

Its _____

Its _____

Surety signatures on this bond must be acknowledged before Notary Publics, and a sufficiently power of attorney must be attached to the bond to verify the authority of any party signing on behalf of a surety.

All notices and demands to the surety shall be delivered via first class mail to the following:

CONTRACTOR INFORMATION

Company Name _____

Address _____

Telephone _____ Fax _____ E-mail _____

Type of Firm: Individual () Partnership () Corporation ()

Corporation organized under the laws of the State of _____

Contractor's License Number _____ State ____ Classification _____ Expiration Date _____

DIR Registration Number _____ Expiration Date _____

Names and titles of all officers of the firm

LIST OF REFERENCES

(To be submitted by contractors who have not worked with the City of San Fernando.)

1. NAME OF CITY OR BUSINESS _____
CONTACT PERSON AND PHONE NO. _____
TYPE/DATE OF WORK PERFORMED _____
TOTAL CONTRACT AMOUNT \$ _____
2. NAME OF CITY OR BUSINESS _____
CONTACT PERSON AND PHONE NO. _____
TYPE/DATE OF WORK PERFORMED _____
TOTAL CONTRACT AMOUNT \$ _____
3. NAME OF CITY OR BUSINESS _____
CONTACT PERSON AND PHONE NO. _____
TYPE/DATE OF WORK PERFORMED _____
TOTAL CONTRACT AMOUNT \$ _____
4. NAME OF CITY OR BUSINESS _____
CONTACT PERSON AND PHONE NO. _____
TYPE/DATE OF WORK PERFORMED _____
TOTAL CONTRACT AMOUNT \$ _____
5. NAME OF CITY OR BUSINESS _____
CONTACT PERSON AND PHONE NO. _____
TYPE/DATE OF WORK PERFORMED _____
TOTAL CONTRACT AMOUNT \$ _____
6. NAME OF CITY OR BUSINESS _____
CONTACT PERSON AND PHONE NO. _____
TYPE/DATE OF WORK PERFORMED _____
TOTAL CONTRACT AMOUNT \$ _____

LIST OF SUBCONTRACTORS

The bidder is required to fill in the following blanks in accordance with the provisions of Section 4100 to 4108, inclusive, of the Government Code of the State of California.

Name under which subcontractor is licensed: _____

Address of office, mill or shop: _____

Specific description of subcontract: _____

License No.: _____ Amount of Subcontract: _____

DIR Registration Number: _____ Expiration Date: _____

Name under which subcontractor is licensed: _____

Address of office, mill or shop: _____

Specific description of subcontract: _____

License No.: _____ Amount of Subcontract: _____

DIR Registration Number: _____ Expiration Date: _____

Name under which subcontractor is licensed: _____

Address of office, mill or shop: _____

Specific description of subcontract: _____

License No.: _____ Amount of Subcontract: _____

DIR Registration Number: _____ Expiration Date: _____

Name under which subcontractor is licensed: _____

Address of office, mill or shop: _____

Specific description of subcontract: _____

License No.: _____ Amount of Subcontract: _____

DIR Registration Number: _____ Expiration Date: _____

I, _____ (insert name of Secretary), do hereby certify that I am the Secretary of _____ (insert name of corporation) a California corporation, and do hereby certify that the following resolution is a full, true and correct copy of a resolution passed by the Board of Directors of said corporation at a meeting thereof held on the ____ day of _____, 2025 (insert proper date), in accordance with the bylaws of said corporation, and that said resolution has not to the date of this certificate been in any manner amended, modified, revoked, rescinded or annulled, and the same is now in full force and effect.

BE IT FURTHER RESOLVED, that any and all persons, firms, corporations and other entities, including public entities, shall be entitled to rely on the authority of (any one of such officers) (any two of such officers acting together) (strike out inapplicable portion), above named, to bind this corporation by the execution and delivery of any such bids, authorizations, contracts, bonds and agreements.

BE IT FURTHER RESOLVED, that the authority herein contained shall remain effective until the person, corporation, or public entity relying upon the authority herein contained, receives written notice to the contrary signed by duly authorized officers of this corporation, that all previous authorizations theretofore given with respect to the matters herein contained are revoked. That the revocation of the authority herein contained shall not affect the validity of any instrument herein referred to signed by any person or persons at the time authorized to act."

Secretary _____

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**LIST OF SUBCONTRACTORS, SUPPLIERS, & VENDORS CONTACTED TO
RECEIVE PRICES IN PREPARATION OF BID PROPOSAL**

1. NAME & LOCATION OF BUSINESS _____

CONTACT PERSON AND PHONE NO. _____
ITEM OR TYPE OF WORK PROPOSED _____
PRICE OR AMOUNT \$ _____
2. NAME & LOCATION OF BUSINESS _____

CONTACT PERSON AND PHONE NO. _____
ITEM OR TYPE OF WORK PROPOSED _____
PRICE OR AMOUNT \$ _____
3. NAME & LOCATION OF BUSINESS _____

CONTACT PERSON AND PHONE NO. _____
ITEM OR TYPE OF WORK PROPOSED _____
PRICE OR AMOUNT \$ _____
4. NAME & LOCATION OF BUSINESS _____

CONTACT PERSON AND PHONE NO. _____
ITEM OR TYPE OF WORK PROPOSED _____
PRICE OR AMOUNT \$ _____
5. NAME & LOCATION OF BUSINESS _____

CONTACT PERSON AND PHONE NO. _____
ITEM OR TYPE OF WORK PROPOSED _____
PRICE OR AMOUNT \$ _____
6. NAME & LOCATION OF BUSINESS _____

CONTACT PERSON AND PHONE NO. _____
ITEM OR TYPE OF WORK PROPOSED _____
PRICE OR AMOUNT \$ _____

CALLES VERDES
JOB NO.7605, PLAN NO. P-727

the party making the foregoing bid; that such bid is not made in the interest of or on behalf of any undisclosed person, partnership, company, association, organization or corporation; that such bid is genuine and not collusive or sham; that such bidder 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 said bidder has not in any manner, directly or indirectly, sought by agreement, communication or conference with anyone to fix the bid price of said bidder or of any other bidder, or to fix any overhead, profit or cost element of such bid price, or of that of any other bidder, or to secure an advantage against the public body awarding the contract or anyone interested in the proposed contract; that all statements contained in such bid price or of that of any other bidder, or to secure an advantage against the public body awarding the contract or anyone interested in the proposed contract; that all statements contained in such bid are true; and, further, that said bidder has not, directly or indirectly, submitted his 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 in connection therewith to any corporation, partnership, company, association, organization, bid depository, or to any member or agent thereof, or to any other individual except to such person or persons as have a partnership or other financial interest with said bidder in his general business.

Date _____

Bidder

Authorized Signature _____

STATE OF CALIFORNIA)
) SS
COUNTY OF _____)

Name (Print/Type)

Title _____

On _____, 2025 before me, _____

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

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

(Notary Seal)

Signature of Notary Public



CONSTRUCTION CONTRACT/AGREEMENT

CALLES VERDES PROJECT JOB NO. 7605, PLAN NO. P-727

THIS AGREEMENT, made and entered into this ____ day of _____ 2025, by and between CITY OF SAN FERNANDO, a municipal corporation of the State of California, hereinafter referred to as "CITY" and _____ "CONTRACTOR."

WITNESSETH:

That the CITY and the CONTRACTOR, for the consideration hereinafter named, mutually agree as follows:

1. The complete contract consists of the Contract Documents which includes all of the following documents incorporated herein by this reference: Approved **CALLES VERDES PROJECT JOB NO. 7605, PLAN NO. P-727**, Notice Inviting Bids, Instructions to Bidders, Contractor's Proposal, Contract/Agreement, Special Provisions, Technical Provisions, and all modifications and amendments thereto.

2. CONTRACTOR shall perform everything required to be performed, shall provide and furnish all the labor, materials, necessary tools, expendable equipment, and all utility and transportation services required for the following work of improvement: **CALLES VERDES PROJECT JOB NO. 7605, PLAN NO. P-727**, (the "Work of Improvement") all in accordance with the Contract Documents and Contractor's Proposal dated _____, 2025.

CONTRACTOR agrees to perform all the work and furnish all the materials at his own cost and expense necessary to construct and complete in a good and workman-like manner and to the satisfaction of the City Engineer of the CITY, the Work of Improvement in accordance with the plans, specifications, and Contract Documents (the "Specifications") therefore prepared by City's Engineering Department and adopted by the City Council.

3. CITY agrees to pay and CONTRACTOR agrees to accept in full payment for this Work of Improvement the stipulated sum of _____ (\$_____).

CITY agrees to make monthly payments and final payment in accordance with the method set forth in the Specifications.

4. CONTRACTOR agrees to commence construction of the Work of Improvement within ten (10) days after issuance of a Notice To Proceed, and to continue in a diligent and workman-like manner without interruption, and to complete the construction thereof within ninety (90) working days

CONSTRUCTION CONTRACT/AGREEMENT

CALLES VERDES PROJECT JOB NO. 7605, PLAN NO. P-727

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5. Time is of essence of this Contract, and it is agreed that it would be impracticable or extremely difficult to ascertain the extent of actual loss or damage which the CITY will sustain by reason of any delay in the performance of this Agreement. It is, therefore, agreed that CONTRACTOR will pay as liquidated damages to the CITY the following sum: One Thousand Dollars (\$1000.00) for each day's delay beyond the time herein prescribed for finishing work. If liquidated damages are not paid, as designated by the CITY, the CITY may deduct the amount thereof from any money due or that may become due the CONTRACTOR under this Agreement in addition to any other remedy available to CITY. The CONTRACTOR shall not be assessed liquidated damages for any delay caused by the failure of a public utility to relocate or remove an existing utility required for the performance of this Contract.

6. The CONTRACTOR will pay, and will require all subcontractors to pay, all employees on the work of improvement a salary or wage at least equal to the prevailing salary or wage established for such work as set forth in the wage determinations for this work. Travel and subsistence pay shall be paid in accordance with Labor Code Section 1773.8. The CONTRACTOR shall forfeit to the CITY, as penalty, Fifty Dollars (\$50.00) for each calendar day or portion thereof for each worker paid (either by him or any subcontractors under him) less than the prevailing rate described above on the work provided for in this Agreement, all in accordance with Section 1775 of the Labor Code of the State of California.

7. In the performance of this Contract, not more than eight (8) hours shall constitute a day's work, and the CONTRACTOR shall not require more than eight (8) hours in a day from any person employed by him hereunder, except as provided in the Labor Code of the State of California. The CONTRACTOR shall adhere to Article 3, Chapter 1, Part 7 (Sections 1810, et seq.) of the Labor Code of the State of California, and it is agreed that the CONTRACTOR shall forfeit to the CITY as a penalty the sum of Twenty-five Dollars (\$25.00) for each worker employed in the execution of this Contract by the CONTRACTOR or any subcontractor for each calendar day during which any worker is required or permitted to labor more than eight (8) hours in violation of that article.

8. CONTRACTOR, by executing this Agreement hereby certifies:

"I am aware of the provisions of Section 3700 of the Labor Code which requires every employer to be insured against liability for Worker's Compensation or to undertake self-insurance in accordance with the provisions of that Code, and I will comply with such provisions before commencing the performance of the work of this Contract."

9. CONTRACTOR shall, prior to the execution of this Contract, furnish two bonds approved by the CITY, one in the amount of One Hundred Percent (100%) of the Contract price, to guarantee the faithful performance of the work, and one in the amount of One Hundred Percent (100%) of the Contract price to guarantee payment of all claims for labor and materials furnished. This Contract shall not become effective until such bonds are supplied to and approved by the CITY. CONTRACTOR shall, prior to the release of the performance and payment bonds or the retention payment, furnish a warranty performance and payment bond equal to at least ten percent of the final contract price or \$1,000, whichever is greater.

CONSTRUCTION CONTRACT/AGREEMENT
CALLES VERDES PROJECT JOB NO. 7605, PLAN NO. P-727

Page 3 of 3

IN WITNESS WHEREOF, the said CONTRACTOR and the CITY MANAGER and CITY CLERK of the CITY have caused the names of said parties to be affixed hereto, each in triplicate, the day and year first above written.

CONTRACTOR

BY _____

Title

BY _____

Title

CITY OF SAN FERNANDO
A Municipal Corporation

KANJIKA KITH
INTERIM CITY MANAGER

ATTEST:

JULIA FRITZ
CITY CLERK

APPROVED AS TO FORM:

RICK R. OLIVAREZ
CITY ATTORNEY
OLIVAREZ MADRUGA, P.C.

PERFORMANCE BOND

KNOW ALL MEN BY THESE PRESENTS: that we, _____
as Principal, and _____ as Surety,
are held and firmly bound unto the CITY OF SAN FERNANDO, hereinafter called the
Owner, in the sum of _____ (\$_____)
for the payment of which sum well and truly to be made, we bind ourselves, our heirs,
executors, administrators and successors, jointly and severally, firmly by these presents.

The conditions of this obligation are such that whereas the Principal entered into a
contract, attached hereto, with the Owner dated _____ for _____
_____.

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 thereof, and any extensions thereof that may be granted by the Owner with
or without notice of the Surety, and during the life of any guaranty 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 shall be void; otherwise this
obligation shall remain in full force and virtue.

Further, the said Surety, for value received, hereby stipulates and agrees that no change,
extension of time, alteration or modification of the contract documents or of the work to
be performed thereunder shall in any way affect its obligations on this bond; and it hereby
waives notice of any and all such changes, extensions of time; and alterations or
modifications of the contract documents and/or of the work to be performed thereunder.
IN WITNESS WHEREOF, the above bounden parties have executed this instrument
under their several seals the __day of _____, 2025, the name and
corporate seal of each corporate party being hereto affixed and these presents duly
signed by each party's undersigned representative, pursuant to authority of its governing
body.

(Principal)

ATTEST:

(Address)

(By)

(Title)

(Surety)

ATTEST:

(Address)

(By)

(Title)

(To be filled in by Surety)

Rate of premium on this bond is \$_____ per thousand.

Total amount of premium charge is \$_____.

Surety signatures on this bond must be acknowledged before Notary Publics, and a sufficiently power of attorney must be attached to the bond to verify the authority of any party signing on behalf of a surety.

All notices and demands to the surety shall be delivered via first class mail to the following:

PAYMENT (LABOR AND MATERIAL) BOND

KNOW ALL MEN BY THESE PRESENTS: that we, _____
as Principal, and _____ as Surety,
are held and firmly bound unto the CITY OF SAN FERNANDO, hereinafter called the
Owner, in the sum of _____ (\$ _____)
for the payment of which sum well and truly to be made, we bind ourselves, our heirs,
executors, administrators and successors, jointly and severally, firmly by these presents.

The conditions of this obligation are such that whereas the Principal entered into a contract, attached hereto, with the Owner dated _____ for _____

NOW, THEREFORE, if the Principal shall promptly make payment to all persons supplying labor and material in the prosecution of the work provided for in said contract, and any and all duly authorized modifications of each contract that may hereafter be made, then this obligation shall be void, otherwise this obligation shall remain in full force and virtue.

The condition of this obligation is such that, if said Principal or his or its subcontractors, or the heirs, executors, administrators, successors or assigns thereof, shall fail to pay any of the persons named in Section 3181 of the Civil Code of the State of California for any materials, provisions, provender or other supplies used in, upon, for or about the performance of the work or labor performed by any such claimant or any amounts required to be deducted, withheld, and paid over to the Franchise Tax Board from the wages of employees of the contractor and his subcontractors pursuant to Section 18806 of the Revenue and Taxation Code, with respect to such work and labor, then said Surety will pay for the same, in the amount not exceeding the sum set forth hereinabove and also, in case suit is brought upon the bond, will pay a reasonable attorney's fee to be fixed by the court. This bond shall insure to the benefit of any and all persons named in the aforesaid Civil Code Section 3131 so as to give a right of action to them or their assigns in any suit brought upon the bond.

Further, the said Surety, for value received, hereby stipulates and agrees that no change, extension of time, alteration or modification of the contract documents or of the work to be performed thereunder shall in any way affect its obligations on this bond; and it hereby waives notice of any and all such changes, extensions of time; and alterations or modifications of the contract documents and/or of the work to be performed thereunder.

ATTEST:	_____ (Principal)
_____	_____ (Address)
_____	_____ (By)
_____	_____ (Title)
ATTEST:	_____ (Surety)
_____	_____ (Address)
_____	_____ (By)
_____	_____ (Title)

Rate of premium on this bond is \$_____ per thousand.

Total amount of premium charge is \$_____.

All notices and demands to the surety shall be delivered via first class mail to the following:

WARRANTY PERFORMANCE AND PAYMENT BOND

KNOW ALL MEN BY THESE PRESENTS: that _____ as Principal, hereinafter called Contractor, and _____, licensed and domiciled in the state of California as Surety, hereinafter called Surety, are held and firmly bound unto CITY OF SAN FERNANDO as Obligee, hereinafter called Owner, in the amount of _____ (\$_____)

for the payment whereof Contractor and Surety bind themselves, their heirs, executors, administrators, successors and assigns, jointly and severally, firmly by these presents.

WHEREAS, _____ as Contractor, has by written agreement dated _____, 2025, entered into a contract with Owner for CALLES VERDES PROJECT JOB NO. 7605, PLAN NO. P-727 in accordance with Drawings and Specifications contained in a written and executed contract, which contract is by reference made a part hereof, and is hereinafter referred to as the Contract.

WHEREAS, said contract provides that the Principal shall furnish a bond which shall remain in force for a period of one year after the date of the notice of completion and which shall be conditioned to guarantee against all defects in workmanship and materials which shall become apparent during said period.

NOW THEREFORE, the condition of this obligation is such that, if Contractor shall promptly and faithfully perform said Contract, then this obligation shall be null and void; otherwise it shall remain in full force and effect.

The Surety hereby waives notices of any alteration or extension of time made by the Owner.

Whenever Contractor shall be, and declared by Owner to be in default under the Contract, the Owner having performed Owner's obligations thereunder, the Surety may promptly remedy the default, or shall promptly:

- (1) Complete the Contract in accordance with its terms and conditions, or;
- (2) Obtain a bid or bids for completing the Contract in accordance with its terms and conditions, and upon determination by Surety of the lowest responsible bidder, arrange for a contract between such bidder and Owner, and make available as work progresses (even though there should be a default or a succession of defaults under the contract or contracts of completion arranged under this paragraph) sufficient funds to pay the cost of completion less the balance of the contract price, but not exceeding, including other costs and damages for which the Surety may be liable hereunder, the amount set forth in the first paragraph hereof. The term "balance of the contract price," as used in this paragraph, shall mean the total amount payable by Owner to Contractor under the Contract and any amendments thereto, less the amount properly paid by Owner to Contractor.

The transaction of insurance as evidenced by this bond is agreed by all parties to have taken place in the State of California in conformance with the laws therein, the Surety hereby accepts jurisdiction for adjudication of all claims in the state wherein the claims have occurred.

This bond is for the protection of the owner and gives no protection to any claimant other than those provided for by statute in the state wherein the claim occurs. The owner hereby agrees that no payments shall be made in excess or advance of any work specifically performed under the contract without the express written consent of the Surety.

For claims regarding non-payment for services provided or materials supplied under the contract, a claimant is defined herein as one having a direct contract with the Principal and/or subcontractor of the Principal. No suit or action shall be commenced hereunder by any claimant unless claimant shall:

1. Notify the Surety of the direct contract with the Principal or Subcontractor of the Principal within 30 days of entering into such contract and;

2. Notify the Surety of any demands for payment under such direct contracts concurrently with the Principal and/or Subcontractor of the Principal and;
3. Notify the Surety by certified mail within 15 days of any payment not made when due, or within 30 days of demand.

As the purpose of this bond is to warrant work previously performed by the Principal in the contract specified herein, the Owner shall notify Surety immediately by certified mail upon demand for work to be performed under this bond.

IN WITNESS WHEREOF, the above bounden parties have executed this instrument under their several seals the _____ day of _____, 2025, the name and corporate seal of each corporate party being hereto affixed and these presents duly signed by each party's undersigned representative, pursuant to authority of its governing body.

	_____ (Principal)
ATTEST:	_____ (Address)
_____	_____ (By)
_____	_____ (Title)
	_____ (Surety)
ATTEST:	_____ (Address)
_____	_____ (By)
_____	_____ (Title)

(To be filled in by Surety)

Rate of premium on this bond is \$ _____ per thousand.

Total amount of premium charge is \$ _____.

Surety signatures on this bond must be acknowledged before Notary Publics, and a sufficiently power of attorney must be attached to the bond to verify the authority of any party signing on behalf of a surety.

All notices and demands to the surety shall be delivered via first class mail to the following:

PART I

GENERAL PROVISIONS

The documents that control construction, work performed, and materials furnished hereunder are the Contract Documents. The Contract Documents include the Notice Inviting Bids, Contractor's Proposal, Contract/Agreement, Bonds, Specifications, and the documents in the Appendix, if any, all of which are hereby incorporated and made a part of these Contract Documents. The Specifications include the Standard Specifications, these Special Provisions which supplement or modify the Standard Specifications, Plans, Standard Plans, and the Technical Specifications.

STANDARD SPECIFICATIONS

The Standard Specifications is the latest edition of the Standard Specifications for Public Works Construction (SSPWC or "Greenbook"), including supplements, written and promulgated by the Southern California Chapter of the American Public Works Association and the Southern California Districts of the Associated General Contractors of California, and the American Water Works Association (AWWA) Standards.

In case of conflict between documents, the precedence of documents shall follow Subsection 3-7.2 of the Standard Specifications, except that the Technical Provisions precede the Special Provisions. However, for any other precedence of documents, the Technical Provisions shall be considered part of the Special Provisions.

For the convenience of the Contractor, the section and subsection numbering system used in these Special Provisions corresponds to that used in the Standard Specifications.

SECTION 1 – GENERAL, TERMS, DEFINITIONS, ABBREVIATIONS, UNITS OF MEASURE, AND SYMBOLS

Subsection 1-2 Terms and Definitions

Add the following to the provisions of Subsection 1-2, "Terms and Definitions":

Reference Specifications- The Standard Specifications, Standard Plans, and Manual of Traffic Controls, latest edition of each, of the State of California, Department of Transportation, and the Los Angeles County Department of Public Works Standard Plans, the City of San Fernando Standard Plans, and the American Water Works Association (AWWA) are incorporated herein by reference and are hereby accepted as Reference Specifications. These Reference Specifications are intended to govern certain construction materials, methods, and details except as modified herein or are inconsistent with the provisions herein. In case of conflict between the Reference Specifications and the Technical Provisions, the Technical Provisions shall govern.

Subsection 1-7 Award and Execution of the Contract

Add the following to the provisions of Subsection 1-7.1, "General":

By mutual consent in writing of the parties signatory to the contract, alterations or deviations, increase or decreases, additions or omissions, in the plans and specifications may be made and the same shall in no way affect or make void the contract.

Add the following to the provisions of Subsection 1-7.2, "Contract Bonds":

The performance bond shall remain in effect at least until the date of substantial completion/notice of completion, except as otherwise provided. The contractor warrants and guarantees to the City that all work will not be defective. The contractor shall furnish a warranty performance and payment bond equal to at least one hundred percent of the final contract price or \$1,000, whichever is greater, before the contract performance and payment bonds can be released or the retention payment paid. The warranty performance and payment bond shall be in effect until at least one year after the date of the notice of completion, except that utility work shall require it to be in effect for three years.

SECTION 2 - SCOPE OF THE WORK

Subsection 2-2 Permits

Add the following to the provisions of Subsection 2-2, "Permits":

The Contractor shall procure all permits and licenses, pay all charges and fees, and give all notices necessary and incidental to the due and lawful prosecution of the work.

Pursuant to State Bill 854, the following new requirements apply to all public works projects:

A contractor or subcontractor shall not be qualified to bid on, be listed in a bid proposal, subject to the requirements of Section 4104 of the Public Contract Code, or engage in the performance of any contract for public work, as defined in this chapter, unless currently registered and qualified to perform public work pursuant to Section 1725.5. It is not a violation of this section for an unregistered contractor to submit a bid that is authorized by Section 7029.1 of the Business and Professions Code or by Section 10164 or 20103.5 of the Public Contract Code, provided the contractor is registered to perform public work pursuant to Section 1725.5 at the time the contract is awarded. The website for contractor registration with the Department of Industrial Relations (DIR) is <https://efiling.dir.ca.gov/PWCR>; the annual non-refundable fee, valid July 1 through June 30 (state fiscal year), is \$300.

Contractors who are awarded a public works project must submit electronic payroll records to the DIR's Compliance Monitoring Unit (CMU) in addition to providing wet-ink original copies to the City or its designated labor compliance enforcement officer.

Subsection 2-8 Extra Work

Add the following to the provisions of Subsection 2-8, "Extra Work":

Change Order (C/O) requests must be on company letterhead and within the letter provide detailed information for what C/O consists of and what triggered C/O.

All C/O requests, even if still within contingency, needs to be submitted to City in manner stated above. Additionally, no work related to C/O can be done until letter request has been received by City and funds available to cover C/O have been confirmed.

When extra work is determined to be warranted by the Contractor, due to any type of problems, such as changed conditions, plan interpretations, progress billing, or others, the following procedure shall be followed:

- 1) The Contractor shall notify the inspector and follow up in writing to the Engineer

- 2) Inspector informs the Engineer, and Engineer investigates the matter
- 3) Engineer reviews and submits findings to the City Engineering, including recommendations for approving/denying Contractor's request
- 4) Engineer notifies Contractor with the City decision in writing.

The contractor shall proceed with extra work only upon written order from the Engineer. For such extra work the contractor shall receive payment as agreed upon in writing, or he shall be paid on force account. The contractor shall not exceed any of the quantities in the proposal unless prior authorization from the engineer is obtained in writing.

The Contractor shall notify in writing the Engineer within three (3) working days following the discovery of potential extra work or change order. Failing to notify the Engineer within the time required shall constitute a waiver of any potential change order.

Subsection 2-9 Changed Conditions

Add the following to the provisions of Subsection 2-9, "Changed Conditions":

The Contractor's failure to provide written notice of changed conditions within 48 hours upon their discovery to the Engineer and before they are disturbed shall constitute a waiver of compensation and claims in connection therewith.

The contractor shall proceed with extra work only upon written order from the Engineer. For such extra work the contractor shall receive payment as agreed upon in writing, or he shall be paid on force account. The contractor shall not exceed any of the quantities in the proposal unless prior authorization from the engineer is obtained in writing.

Subsection 2-10 Disputed Work

Add the following to the provisions of Subsection 2-10, "Disputed Work":

- A. In accordance with Public Contract Code Section 20104, and for the purposes of Paragraphs B only, the term "Defined Claim" shall mean a separate demand by the Contractor to the Owner of a value of \$375,000 or less, for any of the following: (a) a time extension, (b) payment of money or damages arising from work done by the Contractor pursuant to the Contract Documents and payment of which is not otherwise expressly provided for or the Contractor is not otherwise entitled to, or (c) an amount of payment which the Owner disputes.
- B. RESOLUTION OF DEFINED CLAIMS Pursuant to Sections 20104 et seq., of the Public Contracts Code, the provisions of this Paragraph B shall apply to all "Defined Claims," as such term is defined in Paragraph A (i.e., claims that are in the amount of \$375,000 or less).

Filing and Response to Defined Claim

The Defined Claim shall be in writing, include the documents necessary to substantiate the Defined Claim, and be filed with the Owner on or before the date of the final payment for the work.

If the Defined Claim is less than \$50,000, the new Owner shall respond in writing to the Defined Claim within 45 days of its receipt; or the Owner may request in writing within 30 days of receipt of the Defined Claim any additional documentation supporting the Defined Claim or relating to defenses or claims the Owner may have against the Contractor, and

in such event the Owner's response shall be submitted to the Contractor within the later of 15 days after the receipt of the further documentation, or the time taken by the Contractor in producing the additional information.

If the Defined Claim is over \$50,000, the Owner shall respond in writing to the Defined Claim within 60 days of its receipt, or the Owner may request in writing within 30 days of receipt of the Defined Claim any additional documentation supporting the Defined Claim or relating to defenses or claims the Owner may have against the Contractor, and in such event the Owner's response shall be submitted to the Contractor within the later of 30 days after the receipt of the further documentation, or the time taken by the Contractor in producing the additional information or requested documentation.

Meet and Confer Regarding Defined Claim

If the Contractor disputes the Owner's written response, or if the Owner fails to respond within the prescribed time, to the Defined Claim, the Contractor may notify the Owner in writing within 15 days, and demand an informal conference to meet and confer for settlement of the issues in dispute. Upon receipt of the demand, the Owner shall schedule a meet and confer conference within 30 days. If the claim or any portion thereof remains in dispute following the meet and confer conference, the Contractor may file a claim pursuant to Government Code Section 900, et seq. For purposes of this Paragraph B, the running of the period of time within which a claim must be filed shall be tolled from the time the Contractor submits the Defined Claim until the time such Defined Claim is denied, including any period of time utilized by the meet and confer conference.

Procedures for Civil Actions Filed to Resolve Defined Claims

The following procedures shall apply to any civil action filed pursuant to this Paragraph B:

Non-Binding Mediation Within 60 days, but no earlier than 30 days, following the filing of responsive pleadings, the court shall submit the matter to non-binding mediation unless waived by mutual stipulation of both parties. The mediation process shall provide for the selection within 15 days by both parties of a disinterested third person as mediator, and shall be commenced within 30 days of the submittal and shall be concluded within 15 days from the commencement of the mediation unless a time requirement is extended upon a good cause showing to the court.

Judicial Arbitration If the matter remains in dispute, the case shall be submitted to judicial arbitration pursuant to Section 1141.10, et seq., of the Code of Civil Procedure, notwithstanding Code of Civil Procedure Section 1141.11. The civil discovery procedures of Code of Civil Procedure Section 2016, et seq., shall apply, consistent with the rules pertaining to judicial arbitration. In addition to the provisions of Code of Civil Procedure Section 1141.10, et seq., (a) arbitrators shall, upon stipulation of the parties, be experienced in construction law, and (b) any party appealing an arbitration award who does not obtain a more favorable judgment shall, in addition to payment of costs and fees, also pay the attorneys fees on appeal of the other party.

Interest on Award of Judgment In any suit filed pursuant to Paragraph (G)3.2, the Owner shall pay interest at the legal rate on any arbitration award or judgment, which interest shall begin to accrue on the date the suit is filed in a court of law.

- C. RESOLUTION OF CLAIMS OTHER THAN DEFINED CLAIMS The provisions of this Paragraph C shall apply to all claims that are not "Defined Claims," as such term is defined in Paragraph A (i.e., claims that are in excess of \$375,000.00).

Written Claim

If the Contractor is not satisfied with any action by the City Council to resolve the protest of any claim other than a Defined Claim, it shall file with the City Council, within fifteen (15) days after such determination, a written claim which shall comply with the requirements for a claim under Division 3.6 of Title 1 (commencing with Section 810) of the California Government Code. The City Council shall take action with respect to any such claim as provided in Division 3.6 of Title 1 of the Government Code. Denial of such claim by the City Council shall be a prerequisite to the institution of any legal proceeding challenging the action of the City Council. If the Contractor fails to file a claim within the time specified herein, it shall be deemed satisfied with the action of the City Council with respect to its protests, and such failure to file a claim shall be deemed to be a waiver of all claims and demands arising out of or relating to this Contract.

Limitation Period

Demand for Arbitration of any claim other than a Defined Claim shall be served upon the Owner within the time limits set forth in Division 3.6 of the California Government Code for commencement of legal proceedings against a local public agency.

Arbitration

Except as provided to the contrary herein, arbitration of any claim other than a Defined Claim may be initiated by the Contractor and shall be conducted in accordance with the provisions of California Code of Civil Procedure Sections 1280, et seq. The parties hereto agree that there shall be a single neutral Arbitrator who shall be selected in the following manner: (1) The Demand for Arbitration shall include a list of five names of persons acceptable to the Contractor to be appointed as Arbitrator. The Owner shall determine if any of the names submitted by Contractor are acceptable and, if so, such person will be designated as Arbitrator; (2) In the event that none of the names submitted by Contractor are acceptable to Owner or if for any reasons the Arbitrator selected in Step (1) is unable to serve, the Owner shall submit to Contractor a list of the five names of persons acceptable to Owner for appointment as Arbitrator to Contractor who shall in turn have 10 days in which to determine if one such person is acceptable; (3) If after Steps (1) and (2) the parties are unable to mutually agree upon a neutral Arbitrator, the matter of selection of an Arbitrator shall be submitted to the Los Angeles County Superior Court pursuant to Code of Civil Procedure Section 1281.6.

SECTION 3 – CONTROL OF THE WORK

Subsection 3-4 Authority of The Board and The Engineer

Add the following to the provisions of Subsection 3-4, "Authority of The Board and The Engineer":

The Engineer shall retain all written protests filed, and, upon completion of the work, shall submit all such protests to the City Council, together with a copy of the Engineer's prior written decisions for consideration by the City Council at the time of final acceptance of the work. The Contractor or its representative may appear and be heard by the City Council concerning any such protests. In connection with acceptance of the work and final payment under the Contract, the City Council

shall make its determination with respect to each protest filed with the Engineer. The decision of the City Council shall be final.

Subsection 3-5 Inspection

Add the following to the provisions of Subsection 3-5, "Inspection":

Inspection work requested by the contractor outside of the prescribed working hours shall be paid by the contractor at the City's overtime rate.

Subsection 3-7 Contract Documents

Add the following to the provisions of Subsection 3-7, "Contract Documents":

3-7.3 Alterations. All authorized alterations affecting the requirements and information given on the approved plans shall be in writing. No changes shall be made of any plan or drawing after the same has been approved by the Engineer, except by written direction of the Engineer. Should it appear that the work to be done, or any matter relative thereto is not sufficiently detailed or explained in these Specifications, Special Provisions, Technical Provisions, or Plans, the contractor shall apply to the Engineer for such further explanations as may be necessary and shall conform to such explanation or interpretation as part of the original specifications. In the event of doubt or questions relative to the true meaning of the specifications, reference shall be made to the City Council, whose decision thereon shall be final.

3-7.4 Record Drawings. All corrections on record drawings shall be done in red ink. Record drawings shall be a control set of the construction plans kept on the site for daily recording of "as built" conditions. Show dimensioned location of all buried facilities, such as drains, sumps, pipe, valves, electrical conduit, and irrigation wire.

Dimensions must be taken from above ground permanent, architectural objects, not plants or irrigation heads. All dimensions, notes, etc., shall be legible.

Record drawing shall be reviewed prior to all progress payment requests and submitted prior to final inspection.

Subsection 3-10 Surveying

Add the following to the provisions of Subsection 3-10.1, "General":

The Contractor shall preserve all benchmarks, monuments, survey marks, centerline ties and stakes and, in case of their impending removal or destruction by his/her operations he/she shall be responsible for notifying the City Engineer **prior** to their removal. Failure to provide such notification will result in the Contractor being liable for all costs associated with their replacement.

Permanent Survey Markers

The Contractor shall retain a Licensed Land Surveyor or a Registered Civil Engineer authorized to practice land surveying within the State to Reset Survey Monuments. The Contractor is responsible for the filing and recording of the Survey Monuments.

Survey Service

The Contractor shall retain a Licensed Land Surveyor or a Registered Civil Engineer authorized to practice land surveying within the State to provide construction staking. The Contractor is responsible for the accuracy of surveying adequate for construction.

Measurement and Payment. The following section is hereby added:

Full compensation for Construction Survey, including furnishing all labor, materials, tools, equipment, surveyor, supervision, and incidentals for doing all the work involved shall be considered as included in the other items of work.

Payment for monumentation restoration shall be paid at the contract unit price bid per intersection, including furnishing all labor, materials, tools, equipment, surveyor supervision, filing and recordation and other incidental for doing all the work involved and no separate payment shall be made thereof.

Subsection 3-12 Work Site Maintenance

Subsection 3-12.1 General

Add the following to the provisions of Subsection 3-12.1, "General":

All excess dirt and construction debris shall be hauled away from job site each day.

Subsection 3-12.4 Storage of Equipment and Materials

Add the following to the provisions of Subsection 3-12.4.2, "Storage in Public Streets":

Overnight stockpiling of construction debris or excavated materials is not allowed. Contractor must obtain written approval from the Engineer prior to storage of construction materials and equipment on the street where improvements are planned. Adequate flashing barricades shall be provided.

Subsection 3-13 Completion, Acceptance, and Warranty

Add the following to the provisions of Subsection 3-13.2, "Acceptance":

Final inspection and recommendation of completion by the Engineer does not constitute acceptance of the project. The contractor remains responsible for the project until acceptance of the work by the City Council.

SECTION 4 - CONTROL OF MATERIALS

Subsection 4-3 Inspection

Add the following to the provisions of Subsection 4-3.2, "Inspection by the Agency":

At the option of the Engineer, the source of supply of each of the materials shall be approved by the Engineer before delivery is started and before such material is used in the work. Representative preliminary samples of the character and quality prescribed shall be submitted by the contractor or producer of material to be used in the work, for testing or examination as desired by the Engineer. All tests of industry materials furnished by the contractor shall be made in accordance with commonly recognized industry standards or special methods and tests as

prescribed in these specifications.

The Contractor shall furnish such samples of materials as are requested by the Engineer, without charge. No material shall be used until it has been approved by the Engineer. Samples will be secured and tested whenever necessary to determine the quality of material.

SECTION 5 – LEGAL RELATIONS AND RESPONSIBILITIES

Subsection 5-3.4 Hours of Labor

Add the following to the provisions of Subsection 5-3.4, "Hours of Labor":

Eight hours constitutes a legal days' work. The contractor shall forfeit, as a penalty to the City of San Fernando, \$50.00 for each workman employed in the execution of the contract by the contractor is required or permitted to work more than eight hours in any one calendar day and 40 hours in any one calendar week in violation of the provisions of the Labor Code, and in particular, Sections 1810 to 1815, thereof, inclusive, except that work performed by employees of contractors in excess of eight hours per day, and 40 hours during any one week, shall be permitted upon compensation for all hours worked in excess of eight hours per day at not less than one-and-one-half times the basic rate of pay as provided in said Section 1815.

The contractor shall comply with Labor Code Section 1775 in accordance with said Section 1775, the contractor shall forfeit as a penalty to the City of San Fernando, \$50.00 for each calendar day or portion thereof, for each workman paid less than the stipulated prevailing rates for such work or craft in which such workman is employed for any work under the contract by him or by any subcontractor under him in violation of the provisions of the Labor Code and in particular, Labor Code Sections 1770 to 1780, inclusive. In addition to said penalty and pursuant to said Section 1775, the difference between such stipulated prevailing wage rates and the amount paid to each workman for each calendar day or portion thereof for which each workman was paid less than the stipulated prevailing wage rate shall be paid to each workman by the contractor.

In accordance with the provisions of Section 1770 to 1777 inclusive, of the Labor Code of the State of California, the City Council of San Fernando has adopted the general prevailing rates of per diem wages applicable to the work to be done as have been determined by the Director of the Department of Industrial Relations for the State of California.

Subsection 5-3.5 "Apprentices"

Add the following to the provisions of Subsection 5-3.5, "Apprentices":

Attention is directed to the provisions in Sections 1777.5 (Chapter 1411, Statutes of 1968) and 1777.6 of the Labor Code concerning the employment of apprentices by the contractor or any subcontractor under him.

Section 1777.5, as amended, requires the contractor or subcontractor employing tradesmen in any apprenticeable occupation to apply to the joint apprenticeship committee nearest the site of the public works project and which administers the apprenticeship program in that trade for a certificate of approval. The certificate will also fix the ratio of apprentices to journeymen that will be used in the performance of the contract. The ratio of apprentices to journeymen in such cases shall not be less than one to five except:

1. When unemployment in the area of coverage by the joint apprenticeship committee has exceeded an average of 15 percent in the 90 days prior to the request for certificate, or
2. When the number of apprentices in training in the area exceeds a ratio of one to five, or
3. When the trade can show that it is replacing at least 1/30 of its membership through apprenticeship training on an annual basis statewide or locally, or
4. When the contractor provides evidence that he employs registered apprentices on all of his contracts on an annual average of not less than one apprentice to eight journeymen.

The contractor is required to make contributions to funds established for the administration of apprenticeship programs if he employs registered apprentices or journeymen in any apprenticeable trade on such contracts and if other contractors on the public works site are making such contributions.

The contractor and any subcontractor under him shall apply with the requirements of Sections 1777.5 and 1777.6 in the employment of apprentices.

Information relative to apprenticeship standards, wage schedules, and other requirements may be obtained from the Director of Industrial Relations, ex officio the Administrator of Apprenticeship, San Francisco, California, or from the Division of Apprenticeship Standards and its branch offices.

Subsection 5-4 Insurance

Add the following to the provisions of Subsection 5-4, "Insurance":

5-4.5 Public Liability Insurance. The public liability insurance shall include protection from claims caused by automobiles, trucks, or other vehicles of the contractor or any subcontractor while in use both within and outside the contract premises. The property damage insurance shall cover damage or destruction of any and all property other than that which is owned, leased, or in the care, custody or control of the Contractor or any subcontractor, with the liability limit applying to any one (1) accident, disaster or claim. All coverage provided by Contractor shall be considered primary and shall be completely exhausted before City coverage, if any and to be considered secondary, is exercised.

By appropriate endorsement, such policies of insurance required shall name the City of San Fernando as additionally insured with the Contractor with respect to the construction project described in these specifications and shall provide that such insurance coverage shall not be canceled or reduced without thirty (30) days prior written notice to the City of San Fernando. Said endorsement shall be a separate document. Certificates of the insurance carried evidencing such insurance coverage shall be delivered to the City of San Fernando concurrently with the execution of the contract by the Contractor.

Subsection 5-7 Safety

Add the following to the provisions of Subsection 5-7, "Safety":

In the event that the Contractor fails to adequately provide for the public safety during the course of construction under this contract, and the City is required to provide for said public safety, the Contractor shall pay the City the cost of each service call, which will include all direct labor and

material costs including fringe benefits, overhead, and applicable rental rates for the various pieces of equipment. Any and all costs incurred by the City as a result of the failure of the Contractor to provide for the public safety will be deducted from the amount due to the Contractor for the work done under this contract.

In the event that any street must be closed, request must be received by the Engineer for approval and the following parties shall be notified at least 48 hours in advance.

- | | | |
|----|-------------------------|--------------|
| a. | Public Works Department | 818-898-1293 |
| b. | Police Department | 818-898-1267 |
| c. | Fire Department | 818-989-8561 |
| d. | Mauran Ambulance | 818-365-3182 |

The Contractor may choose to comply with the requirements of W.A.T.C.H. (Work Area Traffic Control Handbook) in providing devices and signage for pedestrian and vehicular traffic. The Contractor shall provide flagmen as necessary.

Overnight parking of construction equipment in the project site shall comply with the City parking restriction/regulations. Contractor shall provide adequate flashing barricades.

Add the following section:

SECTION 5-8 COOPERATION WITH UTILITIES

Subsection 402-1 Location

Add the following to the provisions of Subsection 402-1, "Location":

Utilities for the purpose of these Special Provisions shall be considered as including but not limited to; pipelines; conduits; transmission lines; appurtenance of both public utilities and private industries, business, or individual; storm drains; sanitary sewers; and street lighting conduits.

The City has endeavored to locate and indicate on the drawings all underground utilities, facilities, and obstructions within the limit of the work under this contract or so nearly adjacent thereto as to interfere with the execution of the work. However, the accuracy and completeness of the utilities location indicated on the plans is not guaranteed. Sewer service lines, gas service connections, and street lights and traffic signal conduits may not be shown on the plans.

The contractor is responsible to determine the exact location of utilities and its service connections during construction. The contractor shall notify the City of the exact location of any utility or service connection which is not shown or incorrectly shown on the plans.

The contractor shall be expected to maintain liaison with the affected utility company representatives, and shall notify them prior to beginning of the job and each time the particular utility is or could possibly be affected at least 24 hours in advance:

- | | | |
|----|------------------------------------|--------------|
| 1. | Frontier Communications | 844-257-4691 |
| 2. | Southern California Edison Company | 800-611-1911 |
| 3. | Southern California Gas Company | 800-427-2200 |
| 4. | San Fernando Water Department | 818-898-1293 |
| 5. | Spectrum Cable | 877-311-1013 |

SECTION 6 – PROSECUTION AND PROGRESS OF THE WORK

Subsection 6-1 Construction Schedule and Commencement of Work

Add the following to the provisions of Subsection 6-1, "Construction Schedule and Commencement of Work":

The Contractor shall begin work within three (3) days of the commencement date stated in the Notice to Proceed and shall diligently prosecute the same to completion before the time required to complete the work stated in the Contractor's Proposal expires.

Subsection 6-2 Prosecution of the Work

Add the following to the provisions of Subsection 6-2, "Prosecution of the Work":

Construction work is limited to normal working hours unless prior written approval is obtained from the Engineer. Normal working hours for construction are between 7 a.m. and 3 p.m.

Subsection 6-3 Time of Completion

Add the following to the provisions of Subsection 6-3, "Time of Completion":

Where a single shift is worked, eight (8) consecutive hours between 7 a.m. and 5 p.m. shall constitute a day's work at straight time for all workers. Forty (40) hours between Monday, 7 a.m., and Friday, 5 p.m. shall constitute a week's work at straight time. Holidays as herein referred to shall be deemed to be:

- | | |
|---------------------------|--------------------------|
| ▶ New Year's Day | ▶ Independence Day |
| ▶ Martin Luther King Day | ▶ Labor Day |
| ▶ President's Day | ▶ Veterans Day |
| ▶ Cesar Chavez's Birthday | ▶ Thanksgiving Day |
| ▶ Memorial Day | ▶ Day after Thanksgiving |
| ▶ Juneteenth | ▶ Christmas |

Subsection 6-4 Delays and Extensions of Time

Add the following to the provisions of Subsection 6-4, "Delays and Extensions of Time":

The Contractor shall not be assessed with liquidated damages nor the cost of engineering and inspection during any delay in the completion of the work caused by Acts of God or of war, acts of the City, fire, floods, epidemics, quarantine restrictions, strikes, freight embargoes, and weather or delays of subcontractors due to such causes, provided that the Contractor shall within ten (10) days from the beginning of any such delay notify the Engineer in writing of the cause of delay, who shall ascertain the facts and the extent of the delay, and his findings of the facts thereon shall be final and conclusive.

Subsection 6-9 Liquidated Damages

Add the following to the provisions of Subsection 6-9, "Liquidated Damages":

It is agreed by the parties to the contract that liquidated damages for work under this contract is the sum of One Thousand Dollars (\$1,000.00) per day for each and every day's delay beyond the time prescribed to complete the work. Contractor agrees to pay such liquidated damages as herein provided, and in case the same are not paid, Contractor agrees that the City of San

Fernando may deduct the amount thereof from any money due or that may become due the Contractor under the contract.

It is further agreed that in case the work called for under the contract is not finished and completed in all parts and requirements within the time specified, the City Council shall have the right to extend the time for completion or not, as may seem best to serve the interest of the City; and if it decides to extend the time limit for the completion of the contract, it shall further have the right to charge to the Contract, his heirs, assigns or sureties; and to deduct from the final payment for the work, all or any part, as it may deem proper, of the actual cost of engineering, inspection, superintendence, and other overhead expenses which are directly chargeable to the contract, and which accrue during the period of such extension, except that the cost of final surveys and preparation of final estimates shall not be included in such charges.

SECTION 7 - MEASUREMENT AND PAYMENT

Subsection 7-3 Payment

Add the following to the provisions of Subsection 7-3, "Payment":

It is mutually agreed between the parties to the contract that no certificate given or payments made under the contract, except the final project acceptance, shall be conclusive evidence of the performance of the contract, either wholly or in part, against any claim of the party of the first part, and no payment shall be construed to be an acceptance of any defective work or improper materials.

The Contractor further agrees that the payment of the final amount due under the contract, and the adjustment and payment for any work done in accordance with any alterations of the same, shall release the City of San Fernando, City Council, and the Engineer from any and all claims of liability on account of work performed under the contract or any alteration thereof.

Subsection 7-3.2 Partial and Final Payment

Add the following to the provisions of Subsection 7-3.2, "Partial and Final Payment":

The City shall, once in each month, cause an estimate in writing to be made by the Engineer of the total amount of work done and the acceptable materials furnished and delivered by the Contractor on the ground and not used, at the time of such estimate; and the value thereof. The City of San Fernando shall retain five percent (5%) of such estimated value of the work done and fifty percent (50%) of the value of the materials so estimated to have been furnished and delivered and unused as aforesaid as part security for the fulfillment of the contract by the Contractor, and shall monthly pay the Contractor, while carrying on the work, the balance not retained, as aforesaid, after deducting therefrom all previous payments and all sums to be kept or retained under the provisions of the contract. No such estimate or payment shall be required to be made, when, in the judgment of the Engineer, the work is not proceeding in accordance with the provisions of the contract, or when in his judgment, the total value of the work done since the last estimate amounts to less than Three Hundred Dollars (\$300.00).

The Contractor may be required to submit updated work schedules and current record drawings (as-built) with requests for progress payments.

Subsection 7-4.3 Markup

Add the following to the provisions of Subsection 7-4.3, "Markup":

Work by Contractor. The following percentages shall be added to the contractor's costs and shall constitute the markup for all supervision and management (direct or indirect); home office and field overhead and all profits, which shall be deemed to include all items of expense not specifically designated as materials or tool and equipment rental as in sections 7-4.2.2, "Materials", and 7-4.2.3, "Tool and Equipment Rental".

Labor	20%
Materials	15%
Equipment Rental	15%
Other Items and Expenditures	15%

To the sum of the costs and markups provided for in this subsection, a maximum of one percent (1%) shall be added as compensation for bonding upon proof of actual payment to the suret(ies).

Add the following to the provisions of Subsection 7-4.3.2, "Work by a Subcontractor":

When all or any part of the extra work is performed by a subcontractor, the markup established in subsection 7-4.3 shall be applied to the subcontractor's actual cost of such work, to which a markup of 10 percent on the first \$2,000 of the subcontracted portion of the extra work and a markup of 5 percent on work in excess of \$2,000 of the subcontracted portion of the extra work may be added by the contractor.

SECTION 8 - FACILITIES FOR AGENCY PERSONNEL

No field offices for AGENCY personnel shall be required; however, the AGENCY's personnel shall have the right to enter upon the project at all times and shall be admitted to the offices of the Contractor if so provided by the Contractor for his own personnel.

SECTION 400 PROTECTION AND RESTORATION OF EXISTING IMPROVEMENTS

Add the following to the provisions of subsection 400-1, "General"

Existing improvements damaged or removed without written authorization shall be replaced by the contractor at no cost to the City. The contractor shall leave the work area in the same or better condition as compared to before beginning contract work.

PART 2 CONSTRUCTION MATERIALS

SECTION 200 – Rock Materials

200-2 UNTREATED BASE MATERIALS.

200-2.4 Crushed Miscellaneous Base.

200-2.4.1 General.

Replace the first sentence with the following:

Crushed miscellaneous base shall consist of broken and crushed asphalt concrete, Portland cement concrete, lean concrete base, or cement treated base and may contain aggregate base and other rock materials.

200-2.5 Processed Miscellaneous Base.

200-2.5.1 General.

Replace the first sentence with the following:

Processed miscellaneous base shall consist of broken or crushed asphalt concrete, Portland cement concrete, lean concrete base, cement treated base, railroad ballast, glass, crushed porcelain material, crushed rock, rock dust, or natural material.

SECTION 201 – CONCRETE, MORTAR, AND RELATED MATERIALS

201-1 PORTLAND CEMENT CONCRETE.

201-1.1 General.

Add the following:

The same brand type, source of cement, and aggregate shall be used for all portland cement concrete. Fly ash shall not be used.

201-1.3.3 Mixtures Specified by Class and Alternate Class.

Add the following:

Portland Cement Concrete (PCC) shall be 560-C-3250.

201-1.7 Tests.

Delete the following tests from the first paragraph:

- e) Flexural Strength..... ASTM C78
- h) Unit Weight Yield..... ASTM C138
- i) Setting of Mortar.....ASTM C191 or C266
- k) Drying Shrinkage (with admixture)California Test 530

Replace the penultimate paragraph of this subsection with the following:

Concrete represented by compressive strength tests that fail to meet the requirements of this subsection shall be removed from the Work.

201-2 REINFORCEMENT FOR CONCRETE

201-2.4 Samples for Testing.

201-2.4.1 General.

Add the following:

Unless otherwise specified, certified mill test reports along with a Certificate of Compliance conforming to Section 4-5 and truck bills of lading are required in lieu of a physical test. The certified mill test reports shall include the name and location of the mill at which the steel was produced. An additional report shall be furnished to the Engineer prior to installation for each heat or size of reinforcing steel.

Add the following Section:

201-10 CURB RAMP DETECTABLE WARNING SURFACE.

Curb ramps shall be constructed with detectable warning surface panels complying with California Building Code Title 24. Detectable warning surface panels shall consist of vitrified polymer composite, with at least 25% by weight aluminum oxide, nominally 0.20" thick, colorfast and UV stable. Panels may be bolt-down type or embedded. Embedded panels shall have perforated embedment ribs at 3" on center, at least 1" deep.

Other physical properties shall be as follows:

Compressive Strength	Greater than 18,000 psi	ASTM D695
Flexural Strength	Greater than 24,000 psi	ASTM D790
Tensile Strength	Greater than 10,000 psi	ASTM D638
Water Absorption	Less than 0.35%	ASTM D570
Slip Resistance	Greater than 0.80	ASTM C1028
Flame Spread Index	Less than 25	ASTM E84
Salt Spray	No Change (200 hours)	ASTM B117

Chemical Stain Testing	No Deterioration	ASTM 1801
Abrasion Resistance	Less than 0.030 (1,000 cycles)	ASTM D2386
Accelerated Weathering	No Damage (2,000 hours)	ASTM G29
Load Bearing at 16,000 lbs.	No Damage	AASHTO-H20
Freeze / Thaw / Heat	No Disintegration	ASTM C1026

The color of the panels shall be yellow. The Contractor shall install panels in accordance with manufacturer's recommendations.

Where shown on the plans or otherwise specified, curb ramps shall be constructed with detectable warning surface coating composed of resins, reactive monomers, pigments, glass beads and fillers. The surface coating shall have the following properties:

Viscosity, Brookfield #2 spindle @ 20 rpm, 77°F	6000 – 12000 cps	ASTM D2196
Tracking, 50 mils wet , 77°F	None after 60 minutes	ASTM D711
VOC	25 g/L, max.	ASTM D2205
Hardness, Shore Durometer, A-1	80 minimum after 24 hours	
Tensile Strength	125 psi minimum at break	ASTM D638
Percent Elongation	20% minimum	ASTM D638
Water Absorption	Maximum 0.5%	ASTM D570
Chemical Resistance, 7 day immersion in Motor oil, Anti-freeze, Transmission fluid, Gasoline, and Diesel fuel	No effect	
Adhesion to portland cement	200 psi	
Skid Resistance, British pendulum	45, minimum	ASTM E303
Reflectivity	200 millicandela, minimum initial reading	
Color	Yellow	

Detectable warning surface coating shall be installed per manufacturer's recommendations.

Detectable warning surface coating shall have a 5-year warranty against more than 5% loss of surface installation/adhesion, color and non-skid characteristics.

200-10.1 Payment.

The City will pay for the Work to **ADA RAMP DETECTABLE WARNING SURFACE** as shown in Section 1.6 of the Technical Specifications at the unit prices shown in the Bid Schedule

SECTION 203 – BITUMINOUS MATERIALS

203-1 PAVING ASPHALT.

203-1.3 Test Reports and Certification.

Replace the first paragraph with the following:

Paving asphalt shall be supplied by vendors approved by the California Department of Transportation. At delivery time, the supplying vendor will deliver to the purchaser certified copies of the test report. This report shall indicate the vendor's name, grade of asphalt, date and point of delivery, quantity delivered, ticket number, purchase order number, and results of specified tests. The certified test report and the testing required in connection with this report shall be submitted to the Agency in accordance with 2-5.3.4.

203-6 ASPHALT CONCRETE

203-6.5 Type III Asphalt Concrete Mixtures.

203-6.5.1 Class and Grade.

Add the following:

Asphalt concrete material shall be Class and Grade III-C3-PG 64-10 (15 percent maximum RAP).

203-10 UNUSED.

Replace the entire subsection with the following:

203-10 COOL PAVEMENT SEALCOAT.

203-10.1 General. "Cool Pavement Sealcoat" shall refer to any material or product applied to the surface of the street as a sealcoat for the purpose of reflecting heat away from the pavement, thereby reducing its surface temperature and, by extension, cooling the surrounding areas.

203-10.2 Testing Requirements. "Cool Pavement" sealcoat materials, undiluted except as noted, shall conform to the following requirements:

TABLE 203-10.2

Test Description	Test Method	Specifications
Laboratory Testing		
Unit Weight (density), lbs. per gallon	ASTM D1429-13	11lbs/gallon, minimum
Nonvolatile component (%)	Per Note 1.	50% Min. by weight
Wet Track Abrasion Test (WTAT), grams/ft ²	ASTM D3910-21 Per Note 2.	25 grams/ft ² maximum
Solar Reflectance	ASTM E903-12	0.33, minimum
Field Testing		
Surface Skid Resistance, coefficient of friction	California Test No. 342	0.35 minimum
Static Coefficient of Friction (Slip Test)	ASTM C1028-07	0.60 minimum (tested dry and wet)
Solar Reflectance	ASTM C1549-16	0.33, minimum

1. Weigh 10 grams of homogeneous product into a previously tarred, small ointment can lid. Place in a constant temperature oven at 325°F (163°C) for 1-1/2 hours. Cool, reweigh, and calculate nonvolatile components.
2. Two disk-shaped WTAT specimens of Type I slurry seal shall be prepared in accordance with ASTM D3910-21. Both specimens shall be prepared using the same batch of prepared slurry seal and dried to constant weight. The first specimen shall remain uncoated and must meet WTAT requirements per Greenbook 2021 Table 302-4.9.1. Then, two coats of the Cool Pavement material shall be applied to the second specimen, dried, and tested per ASTM D3910-21. The second specimen must meet the WTAT requirement in Table 1 above. Report the wear value (WTAT loss) for each specimen in grams/ft².

Performance evaluation and acceptance of all Cool Pavement products shall be at the discretion of the City. The material shall demonstrate to the satisfaction of the City that the product produces a sufficient and measurable reduction the pavement surface temperature as compared with uncoated asphalt pavement

SECTION 217 - BEDDING AND BACKFILL MATERIALS

217-2 TRENCH BACKFILL.

217-2.1 General.

Add the following:

The material obtained from the open trench excavations **can be used** as trench backfill, subject to the provisions specified herein, and provided that all organic material, rubbish, debris, and other objectionable materials are first removed. Each trench must have a uniform bearing throughout the entire length and must be free of jagged rubble, rock, broken concrete, asphalt concrete and sharp objects greater than 2 inches in

greatest dimension.

The Contractor's attention is directed to the fact that some of the material to be excavated may have a high moisture content. The Contractor shall consider that drying the soil and a high compaction effort may be necessary to obtain the required relative compactions.

If trench excavation materials with excessive moisture content are considered for use as trench backfill, the Contractor may find it necessary to do one or more of the following to attain the required relative compaction:

- a) Suitably dry the wet material.
- b) Blend the wet material with dry material, such dry material being from the open trench excavations or imported backfill conforming to 217-2.3.
- c) Waste the wet material and use suitable open trench excavation material or imported backfill conforming to 217-2.3.

217-2.2 Imported Backfill.

Add the following:

If imported backfill is required or if the Contractor elects to import material from a source outside the Project limits for use as backfill, said material shall be clean soil, free from organic material, trash, debris, rubbish, broken Portland cement concrete, bituminous pavement, or other objectionable substances, and shall have a minimum sand equivalent of 20.

The Contractor shall inform the Engineer of the actual street address or location from which the intended material will be furnished not less than 15 Days prior to its proposed use. The Agency will perform testing as deemed appropriate by the Engineer.

PART 3

CONSTRUCTION METHODS

SECTION 300 – EARTHWORK

300-1 CLEARING AND GRUBBING.

300-1.1 General.

Add the following:

Clearing and grubbing shall include but is not limited to demolishing, removing, and disposing of all natural and artificial objectionable materials from the construction site, to the limits shown in the Plans. This work shall consist of furnishing labor, equipment, tools, materials, and performing all of the work necessary to complete the removal and disposal process, in conformance with these Specifications. The roadway and adjacent areas shall be left with a neat and finished appearance.

A meeting at the site is required before the work begins. All items to be removed shall be marked for inspection and approved by the City Inspector prior to commencement of work.

The Contractor shall remove all rocks greater than 18 inches in any direction that require removal for construction of the proposed improvements.

All vegetation shall be stripped to a minimum depth of six inches. Root concentrations are considered unsuitable material and shall be removed from the project site.

All holes resulting from material removal shall be backfilled with material equivalent to surrounding material and compacted to 95% relative density and dispose of all trash within the above limits.

Except for materials indicated to remain City property, cleared materials shall become Contractor's property and shall be removed from the project site.

300-1.2 Root Pruning and Tree Trimming.

Add the following:

300-1.2.1 Root Shaving. The Contractor shall remove and dispose of roots exposed at the surface of subgrade after the removal of existing surface improvements. The Contractor shall cut and remove surface roots as required to accept proposed portland cement concrete improvements, then complete subgrade preparation.

300.1.2.2 Tree Pruning. The Contractor shall perform tree pruning prior to root pruning and root removal. The Contractor shall provide the services of an arborist certified by the International Society of Arboriculture. The arborist shall oversee all tree-pruning operations. Tree pruning shall be done by an experienced tree maintenance firm regularly performing this type of work. Tree pruning shall reduce branch growth and thin out the crown by 20 percent.

300.1.2.3 Root Removal. The Contractor shall prune roots to clear the length and depth of root barriers to be installed. In other areas, the Contractor shall excavate soil and roots to 1 foot below the subgrade for the improvement to be constructed. The Contractor shall screen the excavated material to remove roots and other unsuitable materials. The Contractor shall replace the soil in its previous location and proceed with subgrade preparation.

300-1.4 Payment.

Replace with the following:

The City will pay for the Work to **CLEARING AND GRUBBING** as shown in Section 1.6 of the Technical Specifications at the unit prices shown in the Bid Schedule

300-2 UNCLASSIFIED EXCAVATION.

300-2.1 General.

Add the following:

Unclassified excavation shall consist of all excavation, including roadways, bituminous pavement, and concrete pavement, curb, walk, gutters, cross gutters, driveways, and access ramps.

300-2.1.1 Requirements

Add the following:

1. Bituminous Pavement. Bituminous pavement shall be removed to neatly sawed edges. Saw cuts shall be to a minimum depth of 3 inches. Where only the surface of existing bituminous pavement is to be removed, the method of removal shall be approved by the Engineer. Where bituminous pavement adjoins a trench, the edges adjacent to the trench shall be saw cut to neat straight lines before resurfacing to ensure that all areas to be resurfaced are accessible to the rollers used to compact the subgrade or paving materials.

Bituminous pavement on curb and gutter, sidewalk or drive approaches shall be removed by heating with a torch to soften the pavement without creating smoke. Softening shall be performed until the bituminous material can be easily scraped away down to the underlying PCC surface. The blade used for scraping shall be

maintained straight along its edge and clean. Bituminous material shall be scraped in this manner until it is completely removed.

2. Concrete Curb and Gutter: Curb and gutter shall be sawed to a depth of 1½-inches on a neat line at right angles to the curb face.

300-2.7 Selected Material.

Replace with the following:

Selected materials encountered in the excavations within the project limits that meet the specifications for base material, trench bedding or backfill, topsoil, or other specified materials shall be used as shown on the Plans, in the Specifications, or as directed by the Engineer. Topsoil excavated may be considered only for the purpose of backfilling areas to be planted.

300-2.8 Measurement.

Add with the following:

The City will measure unclassified excavation based on its volume before excavation.

300-2.9 Payment.

Replace the first sentence with the following:

Payment for unclassified excavation performed as part of the work for “remove and construct” bid items, including removal of extra AC thickness shall be paid for as part of the work for that item, and no additional compensation will be allowed. Payment for all unclassified excavation shall be considered as included in various items of the Bid.

300-4 UNCLASSIFIED FILL

300-4.10 Payment. *Replace with the following:*

Full compensation for furnishing all labor, materials, tools and equipment, and doing all the work involved in unclassified fill construction shall be considered as included in the price paid for “remove and construct” bid item and shall include full compensation for the cost of all grading, shaping, compacting or consolidating and extra fill, if required, or other work that is required under this subsection. No additional payment will be made for unclassified fill.

300-5 BORROW EXCAVATION.

300-5.2 Imported Borrow. *Add the following:*

Imported borrow, if used, shall be free of rocks, broken concrete or other solid material, vegetation, animal life and other undesirable material. Imported borrow shall have a minimum resistance value (R-Value) of 28 as determined by Test Method Number California 301 or a minimum sand equivalent of 15.

300-5.4 Measurement and Payment. *Add the following:*

Imported borrow will not be measured. Imported borrow shall be segregated and distinct from the imported topsoil of 800-1.1.

The project is expected to export excess material, and import borrow will be at the contractors preference and will not be compensated.

SECTION 301 - SUBGRADE PREPARATION, TREATED MATERIALS AND PLACEMENT OF BASE MATERIALS

301-1.6 NOT USED.

Replace the entire subsection with following Subsection:

301-1.6 Adjustment of Manhole Frame and Cover Sets to Grade.

301-1.6.1 Adjustment or Replacement of Water Gate Boxes.

Water valve box frame and cover within the area to be paved or graded shall be set to finish grade by the Contractor as required by the Plans and Specifications. In the case of portland cement concrete, water valve box frame and cover shall be set to finish grade by the Contractor before paving.

Add the following Subsection:

301-1.6.2 Adjustment of Gas Facility Boxes.

The Contractor shall prepare and adjust existing gas valve boxes to grade during each phase of construction and paving. The Contractor shall not bury the valves and valve boxes or otherwise leave them inaccessible at any time. The Contractor shall maintain valves immediately accessible for shut-off at all times. Some valve boxes may contain cathodic protection wires. The Contractor shall exercise care to ensure that these wires are not broken or damaged in any way.

The Contractor shall replace existing boxes that are broken or not suitable for adjustment with new boxes. Local Gas and Oil Department will furnish any required new boxes at no cost to the Contractor, available at one of its regular supply depots within the City. The Contractor shall notify the Gas and Oil Department one week before starting any construction adjacent to or adjustment of valve boxes. The Contractor shall cooperate and coordinate with local Gas and Oil Department

whenever it is necessary for the Gas and Oil Department to perform work at its installations. The Contractor shall not activate or disturb any valves.

301-1.7 Payment. *Replace the second and third paragraphs with the following:*

Adjustment of water valve and gas valve slip can type frame and covers to grade shall be the responsibility of the Contractor. Utility companies will be responsible for checking and ensuring that such frame and covers do slip properly, such that the Contractor can slip them to grade at time of paving. The exact number of such frames and covers may vary from the number shown on the plan, but it is the responsibility of the Contractor to survey the project. Contractor shall notify the Engineer at the earliest possible time after discovery if a frame and cover does not slip, but in no case less than 10 days prior to paving.

The City will pay for the Work to **ADJUST WATER VALVES/GAS VALVES/WATER METERS TO GRADE** as shown in Section 1.6 of the Technical Specifications at the unit prices shown in the Bid Schedule.

301-2 UNTREATED BASE.

301-2.4 Measurement and Payment.

Revise to read:

The City will make no separate measurement or payment for furnishing, placing, and compacting untreated base, the cost of which is considered as incidental to and included in the payment for the various other items of Work in the bidding schedule.

SECTION 302 - ROADWAY SURFACING

302-1.9 Traffic Signal Loop Detectors. *Replace this Subsection with the following:*

Loop detectors shall conform to the provisions in Section 86, "Signals and Lighting," of the State Standard Specifications, State Standard Plan No.s ES-5A and ES-5B, and these Special Provisions.

The Contractor shall furnish and install loop detectors at the locations shown on the Plans and where destroyed during cold milling, construction of the vegetative curb extensions, or other removal operations. The Contractor shall replace at least the same number of detectors as are destroyed. Any damage to any portion of the loop detector will require a full removal and replacement of the loop.

Inductive detector traffic loops shall be 6 feet diameter, type "E" and Type "F" as shown on the plans. The Contractor shall install loops and lead-in wire prior to surface course construction. The Contractor shall install loops 4 inches below

finished pavement grade. The Contractor shall install four turns of wire in each advance loop.

The Contractor shall wire the loops in series, alternating clockwise to counter-clockwise.

302-1.12 Payment. *Add the following:*

The City will pay for the Work to **TRAFFIC SIGNAL LOOP DETECTORS ADA RAMP** as shown in Section 1.6 of the Technical Specifications at the unit prices shown in the Bid Schedule

302-5 ASPHALT CONCRETE PAVEMENT.

302-5.1 General.

Add the following:

Placement of the surface course and overlay of cold milled areas shall be performed concurrently.

Add the following Subsections:

302-5.1.1 Preparation for Resurfacing.

The Contractor shall clean cracks or holes 1/4 inch or wider, and fill with liquid asphalt, cold mix, hot mix or as directed by the Engineer. The Contractor shall clean vegetation only from cracks smaller than 1/4 inch wide.

302-5.9 Placement.

302-5.9.1 Distribution and Spreading.

Add the following:

The Contractor shall spread the surface course and base course of the asphalt concrete pavement with a self-propelled mechanical spreading and finishing machine. The spreading and finishing machine used to construct the asphalt concrete surface course shall be equipped with an automatic screed control at least 30 feet long.

The Contractor shall use sufficient workers and equipment to accomplish proper placement and compaction of the asphalt concrete pavement to the satisfaction of the Engineer.

302-5.14 Measurement and Payment.

Revise to read:

The City will make no separate measurement or payment for Preparation for Resurfacing, furnishing and placing Tack Coat, or furnishing, placing, and compacting

Asphalt Concrete, the cost of which is considered as incidental to and included in the payment for the various other items of Work in the bidding schedule.

Add the following Subsection:

302-16 COOL PAVEMENT SEALCOAT FOR MISCELLANEOUS AREAS.

302-16.1 Materials. The materials for the sealcoat shall conform to 203-10.

302-16.2 Submittals. Prior to field application of any Cool Pavement product on public City streets and parking lots, a sample of the product shall be provided to City per Section 4. Regular sampling and verification testing of all Cool Pavement products applied on public City streets shall be performed at the discretion of the Engineer.

302-16.3 Application. Sealcoat material shall not be placed over new asphalt pavement until the pavement has cured for 30 days or as required by the Engineer. Prior to applying Cool Pavement sealcoat material, all cracked and broken pavement shall be removed and patched in accordance with the Plans and Specifications. Cracks wider than 1/8 inch shall be cleaned, treated with weed killer, and filled with an asphalt-based crack filler specified by the Engineer. The pavement surface shall be clean and free from dirt, oil, and grease deposits, and further prepared in accordance with the Cool Pavement Sealcoat material manufacturer's recommendations.

The material shall be primarily machine-applied by a computerized apparatus capable of continuously mixing the material and spreading it uniformly over the pavement. The application rate and number of coats shall be in conformance with the Cool Pavement Sealcoat material manufacturer's recommendations. Final mixing of the Cool Pavement sealcoat material shall not be performed by hand.

Application of the Cool Pavement sealcoat material to the pavement shall not be performed by hand, except in areas where machine-application is unachievable or areas where patchwork is required.

The Contractor shall exercise care to prevent sealcoat material from being deposited on other than specified surfaces and shall remove sealcoat material from surfaces not designated to be sealed, at no cost to the City.

302-16.4 Warranty. All Cool Pavement materials used on public City streets shall carry a full warranty lasting no less than five (5) years from the date of application to the street. Any and all damage experienced by the Cool Pavement coating during the warranty period shall be repaired by the Contractor at no additional cost to the City, including but not limited to: cracking, peeling, chipping, flaking, traffic wearing, and/or discoloration.

302-16.5 Payment.

The City will pay for the Work to **COOL PAVING SLURRY** as shown in Section 1.6 of the Technical Specifications at the unit prices shown in the Bid Schedule.

SECTION 303 – CONCRETE AND MASONRY CONSTRUCTION

303-1 CONCRETE STRUCTURES

303-1.1 General.

Delete the first paragraph in its entirety and Replace with the following:

Concrete bridges, culverts, catch basins, retaining walls, abutments, piers, footings, foundations, concrete liners, and similar structures shall be constructed in conformity with the Plans and Specifications. Concrete for use in work constructed under this section shall conform to Section 201-1.

303-5 CONCRETE CURBS, WALKS, GUTTERS, CROSS GUTTERS, ALLEY INTERSECTIONS, ACCESS RAMPS, AND DRIVEWAYS.

303-5.1 Requirements.

Add the following Subsection:

303-5.1.5 Curb Ramps.

The Contractor shall construct curb ramps with detectable warning surfacing in accordance with Section 201-10.

Details of adjusting pull boxes, relocating signs, and other conflicting street features are typical conditions anticipated to be encountered in the Work. The City does not guarantee that these details cover all conditions that may exist within the Work site. The City will include full payment for relocating pull box, relocating sign and/or installation of new pull box at the unit prices shown in the Bid. The City will include payment for adjustment pull box in payment for the various other items of Work, and will make no separate payment for adjustment of pull box. No separate payment for efforts required by conditions the Contractor could reasonably have determined before submitting its Bid.

Sidewalk access ramp limits shall be understood to be contained within a radial line from the BCR (beginning of curb return) to a radial line at the ECR (end of curb return), and to be a minimum width as existing adjacent sidewalk. In the event that a sidewalk joint be located three (3) feet or less to either radial line of the curb return, then the sidewalk panel from the radial line to that joint shall be replaced as well and shall be included in the cost of the curb ramp and no additional compensation will be allowed thereof.

The Contractor shall be responsible to layout the proposed access ramp to comply with the maximum grades indicated on the project plans. Limits of the new access ramp shall be reviewed and approved by the Engineer prior to saw cutting.

Typical construction tolerances to construct the new access ramp shall not apply and maximum grades indicated on the project plans shall not be exceeded. The Contractor shall be responsible to remove and reconstruct access ramps deemed to be non-compliant with the project plans and these Special Provisions, repairs shall be performed to the City's satisfaction without expense to the City.

Where the type of access ramp includes a retaining curb at the back of access ramp to make up for a difference in elevation between the existing grade and access ramp grade, the construction of said retaining curb shall be considered as part of the access ramp work.

The Contractor shall verify, with a calibrated "smart level", that maximum ramp and sidewalk grades do not exceed maximum grades indicated on the project plans, when marking the required saw cut removal limits and when setting the concrete forms, prior to pouring any curb access ramp locations. It shall be the Contractor's responsibility to supervise and utilize the proper experienced personnel to ensure that the proper saw cut limits are established for all access ramp locations and the Engineer shall not be responsible to direct the Contractor's crews or otherwise serve in this management capacity. The Engineer shall be present to verify the concrete forms, prior to the Contractor pouring any PCC construction improvements for the curb access ramp. The access ramp construction work shall include all related adjustments of pull boxes, pull box covers, and protection of traffic signal poles and signs that fall within the proposed access ramp construction limits.

303-8.9 Measurement and Payment.

Revise to read:

The City will pay for the Work to **CURB CUT INLET VEGETATED CURB EXTENSION** as shown in Section 1.6 of the Technical Specifications at the unit prices shown in the Bid Schedule.

The City will pay for the Work to **CURB CUT INLET PARKWAY SWALE** as shown in Section 1.6 of the Technical Specifications at the unit prices shown in the Bid Schedule.

The City will pay for the Work to **6" PCC CURB AND GUTTER PER SPPWC STANDARD PLAN 120-3, Type A3-6** as shown in Section 1.6 of the Technical Specifications at the unit prices shown in the Bid Schedule

The City will pay for the Work to **28" VERTICAL CURB** as shown in Section 1.6 of the Technical Specifications at the unit prices shown in the Bid Schedule

SECTION 304 - METAL FABRICATION AND CONSTRUCTION

Add the following Section:

304-6 TREE WELLS GRATES

The Contractor shall construct Tree Wells Grates, per the details shown on the plans including frame and grate, concrete footing, subbase preparation, excavation, and these specifications. Grates shall be 48" X 48" cast iron with expandable tree opening.

304-6.1 Measurement and Payment

The City will pay for the Work to **PARKING LOT TREE WELLS** as shown in Section 1.6 of the Technical Specifications at the unit prices shown in the Bid Schedule.

SECTION 306 – OPEN TRENCH CONDUIT CONSTRUCTION

306-3 TRENCH EXCAVATION.

306-3.2 Removal of Surface Improvements.

Add the following:

Irrigation, water lines and electrical conduits shall be jacked or tunneled under all existing concrete curbs, gutters, cross gutters, driveways and sidewalks, or upon approval of the Engineer, such surface improvements may be removed and replaced in accordance with the appropriate Plans and 400-1 unless otherwise specified.

306-12 BACKFILL.

306-12.1 General.

Add the following after the first paragraph:

Whenever fill or backfill is specified to be placed and no method of placement is indicated, it shall mean that the material may be placed by mechanical compaction methods in accordance with 306-12.3.

306-12.3 Mechanically Compacted Trench Backfill.

306-12.3.1 General.

Add the following after the first paragraph:

During the placement of backfill by mechanical compaction methods around utilities, the use of other than hand-held vibratory plates or tamping equipment within 1 foot of any utility shall not be permitted.

Mechanical compaction methods of placement below 1 foot over the top of pipe conduits shall be limited to the use of hand-held vibratory plates or tamping equipment. The use of impact or roller type compaction equipment will not be allowed for placement of the backfill below 1 foot over the top of the pipe.

Mechanical compaction methods of placement shall not include a sheep's foot wheel mounted on a backhoe within the top 3 feet of the pipe or one-half of the internal diameter of the pipe, whichever is greater.

306-12.3.2 Compaction Requirements.

Replace the entire subsection with the following:

Mechanically compacted trench backfill shall be densified to the following minimum relative compaction:

- a) 90 percent relative compaction.
- b) 95 percent relative compaction where required by 301-1.3.

306-13 TRENCH RESURFACING.

306-13.1 Temporary Resurfacing.

Replace the entire subsection with the following:

Unless permanent pavement is placed immediately, temporary resurfacing 2 inches (50 mm) thick shall be placed and maintained wherever excavation is made through pavement, sidewalk or driveways. In sidewalk areas the temporary resurfacing shall be at least 1 inch (25 mm) thick; in all other areas it shall be at least 2 inches (50 mm) thick. Temporary resurfacing shall be placed as soon as the condition of the backfill is suitable to receive it and shall remain in place until the condition of the backfill is suitable for permanent resurfacing.

Temporary resurfacing or permanent pavement shall be in place before the traveled way is opened for vehicular traffic.

Temporary resurfacing shall be placed as soon as the backfill is densified or immediately when so directed by the Engineer. If further densification of backfill is necessary due to settlement, failure to achieve the specified compaction, or any other reason, the temporary resurfacing shall be removed and replaced at the Contractor's expense.

Prior to placing the temporary resurfacing, the street and surrounding area shall be cleared of rubbish and debris, the street swept, and the surrounding area cleaned thoroughly.

The finished surface of said temporary resurfacing shall be placed flush with the adjoining pavement grade.

Immediately after placement of temporary resurfacing, the surface and surrounding area shall be swept clean of all dust and debris utilizing a self-loading motorized sweeper with spray nozzles (pick-up broom).

The Contractor shall stockpile enough temporary resurfacing material on the Project site to ensure a ready supply at all times for necessary repairs to the temporary resurfacing already placed.

Temporary resurfacing shall not be left in place longer than 30 Days unless otherwise permitted by the Engineer. Permanent resurfacing shall be placed immediately following the removal of the temporary resurfacing.

306-14 MEASUREMENT.

Replace the entire subsection with the following:

Trench excavation will not be measured for payment.

306-15 PAYMENT.

Replace the entire subsection with the following:

The City will pay for the cost for furnishing all labor, materials, tools, equipment, supplies, supervision, and incidental, for pipe and conduit required under this section and the following:

- a) the control of surface waters;
- b) trench excavation;
- c) removal of interfering portions of existing conduits and improvements;
- d) the sealing or removal of abandoned conduit and structures;
- e) subgrade preparation;
- f) bedding;
- g) all wyes, tees, bends, monolithic catch basin connections, and specials shown on the Plans;
- h) furnishing and placing prefabricated or precast conduit;
- i) erection and removal of forms;
- j) joining and connecting to existing pipe or conduit;
- k) sealing open ends of pipe or conduit;
- l) drying, blending, transporting, and importing backfill;
- m) backfilling the trench, including compaction;
- n) Installation of AC Pavement and crush aggregate base
- o) Cold Mill and overlay
- p) pressure testing;
- q) dewatering;

- r) shoring and bracing;
- s) valves, buried structures, and pipeline appurtenances;
- t) temporary resurfacing; and

all other work necessary to construct the pipe or conduit, complete in-place, except as otherwise specified as a separate Bid item, shall be considered as included in the work for **IRRIGATION** and **RELOCATE LIGHTING ELECTRICAL CONDUIT (PARKING LOT)** as shown in Section 1.6 of the Technical Specifications at the unit prices shown in the Bid Schedule.

No separate or additional payment will be made for additional bedding or a higher strength of pipe necessitated by the Contractor exceeding the maximum trench width.

SECTION 314 – TRAFFIC STRIPING, CURB AND PAVEMENT MARKINGS, AND PAVEMENT MARKERS

314-1 GENERAL.

Add the following:

New striping and markings shall be alkylid thermoplastic, 1.5 mm to 2.5 mm thick.

Curb paint shall be water-based with a 2-year guarantee against color fading. The Contractor shall submit to the City written proof of the manufacturer's 2-year guarantee before starting construction.

The Contractor shall furnish samples of materials to the Engineer at least 3 weeks before the materials are to be applied.

Traffic striping and pavement markers shall be re-installed per existing layout and color scheme. Fire hydrant reflectors shall be installed throughout the entire project site, including where missing and/or removed during construction.

The Contractor shall be responsible for identifying pre-existing striping, pavement markers, and paint colors and provide such information to the Engineer prior to the start of the pavement repair work.

Where existing painted curb is to be reconstructed, the Contractor shall repaint all curb markings to match existing conditions.

The Contractor shall re-stripe existing striping and curb markings obliterated by new construction, whether or not shown on the Plans for replacement.

Replace Section 314-2, "Removal of Traffic Striping and Curb and Pavement Markings," and 314-3, "Removal of Pavement Markers," with the following:

314-4 APPLICATION OF TRAFFIC STRIPING AND CURB AND PAVEMENT MARKINGS.

314-4.2 Control of Alignment and Layout.

314-4.2.1 General.

Add the following:

The Contractor shall notify the Engineer after completing layout and at least 3 working days before commencing installation of striping, markings and markers.

Within two days following curb painting, the Contractor shall contact the City's Traffic Operations Division at (562) 570-3264. The City will paint the City's logo on the newly painted curb as required.

314-6 PAYMENT.

Replace the various "Payment" subsections of 314 with the following:

Bid Schedule.

The City will pay for **FURNISH and INSTALL TRAFFIC STRIPING, SIGNAGE, CURB MARKINGS, PAVEMENT MARKINGS** as shown in Section 1.6 of the Technical Specifications at the unit prices shown in the Bid Schedule.

The City will pay for **COOL PAVING SLURRY** as shown in Section 1.6 of the Technical Specifications at the unit prices shown in the Bid Schedule.

The City will include payment for replacement of obliterated striping and markings in the payment for the various other items of Work, and will make no separate payment for such replacement.

PART 4 EXISTING IMPROVEMENTS

SECTION 401 –REMOVAL

404-1 GENERAL

Add the following:

This work shall consist of furnishing labor, equipment, tools, materials, and performing all of the work necessary to complete the removal and disposal process, in conformance with these Specifications. The roadway and adjacent areas shall be left with a neat and finished appearance.

The materials to be removed for this Work generally consist of concrete curb, electrical conduit and appurtenances, asphalt concrete pavement, concrete pavement, and excess soil. Other removal items are detailed hereafter or are shown on the Plans.

Except for materials indicated to remain City property, cleared materials shall become Contractor's property and shall be removed from the project site.

The Contractor shall remove all rocks greater than 18 inches in any direction that require removal for construction of the proposed improvements.

The Contractor shall remove and dispose of all trash within the above limits.

All holes resulting from material removal shall be backfilled with material equivalent to surrounding material and compacted to 95% relative density.

401-2 ASPHALT CONCRETE PAVEMENT.

Add the following:

If the edge of trench is within 12 inches of the edge of an existing concrete gutter (including integral curb and gutter) or edge of concrete pavement, the existing bituminous pavement shall be completely removed and replaced to join the existing concrete edge of gutter (including integral curb and gutter), or edge of concrete pavement.

Existing bituminous pavement to be removed to accommodate a new asphalt concrete pavement, as shown on the Plans, shall be removed by the use of cold milling machines in accordance with Section 404.

401-3 CONCRETE AND MASONRY IMPROVEMENTS.

401-3.2 Concrete Curb, Walk, Gutters, Cross Gutters, Driveways and Alley Intersections.

Add the following:

Concrete removal shall include removal of existing asphalt concrete ramps adjacent to curb, gutter, sidewalk, driveways and curb ramps to be constructed.

Longitudinal saw cuts in the flow line or curb and gutter will not be allowed.

Add the following subsection:

401-8 CONSTRUCTION AND DEMOLITION DEBRIS RECYCLING.

401-8.1 Definitions.

- a) **“Applicant”** means any individual, firm, limited liability company, association, partnership, political subdivision, government agency, municipality, industry, public or private corporation, or any other entity whatsoever who applies to the City for the applicable permits to undertake any construction, demolition, or renovation project within the City.
- b) **“Class III Landfill”** means a landfill that accepts non-hazardous resources such as household, commercial, and industrial waste, resulting from construction, remodeling, repair, and demolition operations. A Class III landfill must have a solid waste facilities permit from the California Integrated Waste Management Board (CIWMB) and is regulated by an Enforcement Agency (as defined in Public Resources Code Section 40130).
- c) **“Construction”** means the building of any facility or structure or any portion thereof including any tenant improvements to an existing facility or structure.
- d) **“Construction and Demolition Debris (C&D Debris)”** means building materials and solid waste resulting from construction, remodeling, repair, cleanup, or demolition operations that are not hazardous as defined in California Code of Regulations, Title 22, Sections 66261.3, et seq. This term includes, but is not limited to, asphalt, concrete, Portland cement concrete, brick, lumber, gypsum wallboard, cardboard, and other associated packaging, roofing material, ceramic tile, carpeting, plastic pipe and steel. The material may be commingled with rock, soil, tree stumps, and other vegetative matter resulting from land clearing and landscaping for construction or land development projects.
- e) **“C&D Recycling Center”** means a facility that receives only C&D material that has been separated for reuse prior to receipt, in which the residual (disposed) amount of waste in the material is less than ten percent (10%) of the average weight of material separated for reuse received by the facility over a one month period.

- f) **“City-sponsored project”** means a project constructed by the City or a project receiving fifty percent (50%) or more of its financing from the City.
- g) **“Covered Project”** means shall have the meaning set forth in Section 18.97.020.
- h) **“Deconstruction”** means the carefully dismantling buildings and structures in order to salvage as much material as possible.
- i) **“Demolition”** means the decimating, razing, ruining, tearing down or wrecking of any facility, structure, pavement or building, whether in whole or in part, whether interior or exterior.
- j) **“Disposal”** means the final deposition of construction and demolition or inert material, to a Class III Landfill.
- k) **“Divert”** means to use material for any purpose other than disposal in a landfill or transformation facility.
- l) **“Diversion Requirement”** means the diversion of a percentage of the total Construction and Demolition Debris generated by a project via reuse or recycling, unless the Application has been granted an exemption pursuant to Section 18.97.070 in which case the Diversion Requirement shall be the maximum feasible diversion rate established by the Waste Management Plan Compliance Official in relation to the project.
- m) **“Enforcement Agency (EA)”** means an enforcement agency as defined in Public Resources Code Section 40130.
- n) **“Inert Solids/Inert Waste”** means non-liquid solid resources including, but not limited to, soil and concrete, that do not contain hazardous waste or soluble pollutants at concentrations in excess of water quality objectives established by a regional Water Board pursuant to Division 7 (Sections 13000, et seq.) of the California Water Code and does not contain significant quantities of decomposable solid resources.
- o) **“Project”** means any activity which requires an application for a building or demolition permit or any similar permit from the City.
- p) **“Recycling”** means the process of collecting, sorting, cleansing, treating, and reconstituting materials for the purpose of using the altered form in the manufacture of a new product. Recycling does not include burning, incinerating, or thermally destroying solid waste.
- q) **“Renovation”** means any change, addition or modification in an existing structure.
- r) **“Reuse”** means the use, in the same or similar form as it was produced, of a material which might otherwise be discarded.

- s) **“Solid Waste”** means all putrescible and non-putrescible solid, semisolid, and liquid wastes, including garbage, trash, refuse, paper, rubbish, ashes, industrial wastes, demolition and construction wastes, abandoned vehicles and parts thereof, or chemically fixed sewage sludge which is not hazardous waste, manure, vegetable or animal solid and semisolid wastes, and other discarded solid and semisolid. “Solid Waste” does not include any of the following wastes:
1. Hazardous waste, as defined in Public Resources Code Section 40141.
 2. Radioactive waste regulated pursuant to the Radiation Control Law [Chapter 8 (commencing with Section 114960) of Part 9 of Division 104 of the Health and Safety Code].
 3. Medical waste regulated pursuant to the Medical Waste Management Act [Part 14 (commencing with Section 117600) of Division 104 of the Health and Safety Code].
- t) **“Waste Management Plan (WMP)”** means a completed Waste Management Plan form, approved by the City for the purpose of compliance with this Article, submitted by the Applicant for any Covered or Non-covered Project.
- u) **“Waste Management Plan Attachments”** means a list of permitted haulers, reuse facilitators, disposal and recycling facilities, conversions for mass to weight, and green building material suggestions.
- v) **“Waste Management Plan Compliance Official”** means the Director of Planning and Buildings or his or her designee.

401-8.2 Recycling Summary.

The Contractor shall prepare and submit the Final Report and Compliance Form summarizing the disposal, reuse, and/or recycling activities which occurred throughout the Contract duration. This report shall be submitted to the City within 30 Days after Field Acceptance of the Work.

Failure of the Contractor to submit the Final Report within the time specified will result in damages being sustained by the City. Such damages are, and will continue to be, impracticable and extremely difficult to determine. For failure to submit the Final Report within the time specified, the Contractor shall pay the City, or have withheld from monies due it, the sum of \$10,000.

Execution of the Contract shall constitute agreement by the City and Contractor that \$10,000 is the minimum value of costs actual damage caused by the failure of the Contractor to submit the Final Report within the time specified. Such sum is liquidated damages and shall not be construed as a penalty, and may be deducted from payments due the Contractor.

401-8.3 Recycling Payment.

The City will include payment for Recycling in payment for the various other items of Work, and will make no separate payment for such salvage and delivery.

SECTION 402 – UTILITIES

402-1 LOCATION.

402-1.1 General

Add the following:

The City has determined the locations of all known existing subsurface facilities from records and field investigations and these facilities are shown on substructure drawings, which are available for review in the office of the City Engineer. However, the City does not guarantee the accuracy of the indicated locations or that all facilities are shown.

The City may arrange for and conduct a preconstruction meeting between the Contractor, the Engineer, and the utility owners to discuss scheduling, coordination of any required utility relocations, and the protections of existing utilities. The Contractor shall attend any preconstruction meeting scheduled by the Agency and shall cooperate with all utility owners performing utility markings, relocation or installation work on the Work site.

The Contractor shall notify the owners of all utilities at least 48 hours before any excavation or work adjacent to utility structures. The utility owners and their contact information are as follows:

1. Underground Service Alert (USA/SC)
Telephone: 1-800-227-2600
2. Water
CITY OF SAN FERNANDO
543 GLENOAKS BLVD. SAN FERNANDO, CA 91340
DANNY GARCIA
818-898-1293
3. Wastewater
CITY OF SAN FERNANDO
543 GLENOAKS BLVD.
SAN FERNANDO, CA 91340
ROBERT DAVIDSON OR RICHARD DE LA PENA
818-898-1293
4. Southern California Edison Company or USA/SC
SOUTHERN CALIFORNIA EDISON COMPANY EMERGENCY CALLS
1-800-611-1911

5. Gas or USA/SC
SOUTHERN CALIFORNIA GAS COMPANY EMERGENCY CALLS
1-800-427-2200
6. Frontier Communications
FRONTIER EMERGENCY CALLS
1-800-483-1000
7. Cable
SPECTRUM EMERGENCY CALLS
818-700-6500

The Contractor shall conduct its operations such that fire hydrants, meter vaults, water and gas shutoff valves, and similar facilities are not buried during the course of the Work.

402-1.2 Payment.

Delete the entire subsection.

Add the following subsections:

402-1.2 Removal of Utility Location Markings. Prior to completion of the Work, the Contractor shall fully remove utility markings from the surface to which applied. The method of removal shall not result in damage to the existing improvement and shall be approved by the Engineer. Covering of markings with black paint will not be approved.

402-1.3 Potholing. In addition to the requirements of Government Code Sections 4215 and 4216, and 402-1.1, the Plans show utilities for which the Contractor shall determine the actual horizontal and vertical location. Location of these facilities shall be considered as potholing.

Potholing shall be performed by open excavation or vacuum extraction methods. The Contractor shall complete excavation, backfill, and placement of temporary resurfacing on the same Day. Backfill shall conform to 306-12. Temporary resurfacing shall conform to 306-13.1.

The Contractor shall submit the horizontal and vertical location of each utility facility potholed, based on the horizontal stationing and vertical datum shown on the Plans, within 2 Days after completion.

402-1.4 Payment. No separate or additional payment will be made for the location of utilities pursuant to Government Code Sections 4215 and 4216, and 402-1.1, removal of utility location markings, or for attendance at the preconstruction meeting. Payment shall be considered as included in the various items of Work.

No separate or additional payment will be made for potholing in accordance with 402-1.3. Payment shall be considered as included in the various items of Work.

402-4 RELOCATION.

Add the following:

The Contractor shall perform work on utilities only when authorized by the utility's owner and only using the services of firms pre-qualified by the owner.

Certain manholes, vaults, valve boxes or other appurtenances belonging to utility owners or others may need resetting to grade. The City does not guarantee that all such facilities are shown on the Plans. The Contractor is not required to do the work of resetting such to grade, except sewer and storm drain manholes, Long Beach Energy Resources Department and Long Beach Water Department valve boxes and meter boxes, and City-owned communications vaults; however, the Contractor shall notify the owners at least 1 week in advance of construction to give them opportunity to perform the necessary work in conjunction with the Work to be performed by the Contractor.

Add the following subsection:

402-7 UNKNOWN FACILITIES.

If the Contractor encounters any unknown facility, or if any known facility's actual location is different than shown on the Plans, the Contractor shall immediately notify the Engineer and not disturb the facility except in the presence of the Engineer. Unknown utilities encountered during construction shall be shown on the as-built plans.

Add the following subsection:

402-8 FACILITIES REQUIRING SPECIAL PRECAUTIONS.

The Contractor's attention is directed to the existence of certain underground facilities that may require that the Contractor take special precautions to protect the health, safety and welfare of workers and the public. Facilities requiring special precautions include, but are not limited to, conductors of petroleum products, oxygen, chlorine, and toxic or flammable gases; natural gas in pipelines; underground electric supply system conductors or cables either directly buried or in duct or conduit which do not have concentric neutral conductors or other effectively grounded metal shields or sheaths; and underground electrical conductors with a potential-to-ground of more than 300 volts. The Contractor shall notify the Engineer at least 48 hours before performing any Work in the vicinity of such facilities.

If such facilities are not shown on the Plans in both alignment and elevation, the Contractor shall perform no work in the vicinity of these facilities until the owner, or its representative, has located the facility by potholing, probing, as-built plans or other means.

SECTION 404 – COLD MILLING

404-1 GENERAL.

Add the following:

All milled material shall become the property of the Contractor.

The City will include payment for salvage and delivery of the stated quantity of milled material in payment for the various other items of Work, and will make no separate payment for such salvage and delivery.

SECTION 414 – TRAFFIC STRIPING, CURB AND PAVEMENT MARKINGS, AND PAVEMENT MARKERS

All equipment, materials, and components for signing and striping, and the installation thereof, shall conform to the 2010 Caltrans Standard Plans, and Standard Specifications, Section 56, "Signs," Section 84, "Traffic Stripes and Pavement Markings," and Section 85, "Pavement Markers," unless otherwise noted in these Special Provisions and on the Plans. These Plans and Specifications are hereinafter referred to as State Standard Plans and State Standard Specifications. Copies of these documents are available from Caltrans, District 7 office at 100 South Main Street, Los Angeles, California 90012 or from Caltrans, 6002 Folsom Boulevard, Sacramento, California 95819, (916) 445-3520.

All materials required for the completion of work as shown on the Plans shall be provided by the Contractor.

SECTION 56 - SIGNS

56-4 ROADSIDE SIGNS

56-4.03 Construction. Relocated signs shall be installed using existing posts at new locations and shall be set at a minimum 30-inch depth and at a minimum 12-inch square portland cement concrete (PCC). The post depth of the concrete footing shall be sufficient to extend at least 6-inches below the bottom of the posts. ¼-inch expansion paper shall be placed between the sign foundation and sidewalk.

New signs shall be installed using metal posts set at a minimum of 30-inch depth in a minimum 12-inch square PCC, except as specified otherwise, the metal post shall be a 2-inch square, galvanized steel "Quick Punch" post. The length of the metal post shall be sufficient to extend from the top of the sign to 30-inches below

the top of the concrete footing and provide a 7-foot clearance between the finished grade and the bottom of the sign. The depth of the concrete footings shall be sufficient to extend at least 6-inches below the bottom of the posts. ¼-inch expansion paper shall be placed between the sign foundation and sidewalk.

Marker and delineators shall conform to the provision in Section 82, "Markers and Delineators."

56-4.04 Payment. Payment for signing shall be included in the Bid item unit and price in Section 1.6 of the Technical Specifications for REPLACE, FURNISH, AND INSTALL TRAFFIC STRIPING, SIGNAGE, CURB MARKING, AND PAVEMENT MARKING and no additional compensation will be allowed therefor.

SECTION 84 - TRAFFIC STRIPES AND PAVEMENT MARKINGS

84-1 GENERAL

84-1.02 Materials. Traffic stripes, pavement markings, crosswalks, and arrows shall be thermoplastic unless otherwise shown on the Plans. Curb markings shall be paint, 2 coats. Contractor shall repaint all curb markings within the project limits.

84-1.03A Tolerances and Appearance. The Contractor shall furnish the necessary control points for all striping and markings, and shall be responsible for the completeness and accuracy thereof to the satisfaction of the Engineer.

The Contractor shall establish all traffic striping between these points by stringline or other method to provide striping that will vary less than ½-inch in 50-feet from the specified alignment.

When no previously applied figures, markings, or traffic striping are available to serve as a guide, suitable layouts shall be spotted in advance of the permanent paint application. Traffic lines may be spotted by using a rope as a guide for marking spots every 5-feet, by using a marking wheel mounted on a vehicle, or by any other means satisfactory to the Engineer.

The Contractor shall mark or otherwise delineate the traffic lanes in the new roadway or portion of roadway, or detour before opening it to traffic.

The Contractor shall provide an experienced technician to supervise the location, alignment, layout, dimensions, and application of the paint.

Spotting shall be completed prior to the removal of any existing stripes. Existing stripes and markings shall be removed prior to painting new stripes

and markings, but in no case shall any section of street be left without the proper striping for more than 24 hours, or over weekends or holidays.

Existing traffic stripes (including raised pavement markers), pavement legends, and markings that do not conform to the plans shall be removed by wet sandblasting per Section 15-2.02C, "Remove Traffic Stripes and Pavement Markings," and Section 15-2.02D, "Remove Pavement Markers," of the State Standard Specifications.

84-2 THERMOPLASTIC TRAFFIC STRIPES AND PAVEMENT MARKINGS

84-2.02 Materials. Traffic striping shall be thermoplastic including crosswalks, arrows and other pavement legends.

The installation of traffic stripes includes placement of raised pavement markers when called for on the plans.

Adhesive for raised pavement markers shall be per Section 85, "Pavement Markers." Epoxy shall be the Rapid Set type.

84-2.04 Payment. Payment for striping details, pavement markings, and curb marking shall be included in the Bid item unit and price in Section 1.6 of the Technical Specifications for REPLACE, FURNISH, AND INSTALL TRAFFIC STRIPING, SIGNAGE, CURB MARKING, AND PAVEMENT MARKING and no additional compensation will be allowed therefor.

84-3 PAINTED TRAFFIC STRIPES AND PAVEMENT MARKINGS

84-3.02 Materials. Paint for curb markings shall be ready-mixed rapid dry type.

84-3.03 Construction. Paint shall be applied in two coats.

The second coat of paint shall be applied no less than 24 hours from application of the first coat.

84-3.07 Payment. Payment for striping details, pavement markings, and curb marking and repainting existing painted curb shall be included in the Bid item unit and price in Section 1.6 of the Technical Specifications for REPLACE, FURNISH, AND INSTALL TRAFFIC STRIPING, SIGNAGE, CURB MARKING, AND PAVEMENT MARKING and no additional compensation will be allowed therefor.

SECTION 85 – PAVEMENT MARKERS

85-1.03C Epoxy Adhesive. Adhesive for raised pavement markers shall be rapid set type epoxy.

Removal of pavement markers shall be per Section 15-2.02D, "Remove Pavement Markers."

85-1.04 Payment. Payment for pavement markers shall be included in the Bid item unit and price in Section 1.6 of the Technical Specifications for REPLACE, FURNISH, AND INSTALL TRAFFIC STRIPING, SIGNAGE, CURB MARKING, AND PAVEMENT MARKING and no additional compensation will be allowed therefor.

PART 6

TEMPORARY TRAFFIC CONTROL

SECTION 600 – ACCESS

600-1 GENERAL.

Add the following subsection:

600-1.1 PUBLIC CONVENIENCE AND SAFETY.

600-1.1.1 Traffic and Access.

The Contractor shall maintain a minimum of one lane of traffic in each direction with left-turn pockets from 8:30 a.m. to 3:30 p.m.

The cost to accomplish the Work within the specified constraints, including any costs for night-time work and high-early strength concrete, shall be considered as included in the lump sum price, and no additional payment will be made.

The Contractor shall submit to the Engineer, for approval, a traffic control and detour plan for each phase of construction.

The methods and procedures for traffic control during construction shall conform to the California Manual on Uniform Traffic Control Devices (CAMUTCD) (latest edition). Electronic changeable message signs (CMS) are required for all lane closures on non-local streets.

The Contractor shall give one-week advance notice prior to the start of construction to all residences and businesses facing or siding on the construction area. The notice shall be in writing on the Contractor's letterhead and shall explain in concise terms the extent and nature of the Work, the anticipated schedule, and office and emergency telephone numbers where the Contractor's representative can be reached.

The Contractor shall provide and maintain temporary ramps for pedestrians, driveways and for street ramps at intersections. The Contractor shall construct temporary driveway and curb ramps with crushed miscellaneous base and steel plates as directed by the Engineer. When vehicular access to the area cannot be maintained during the workday due to the nature of the Work, The Contractor shall notify residents of affected properties two working days in advance of the time access to the area will be cut off.

The Contractor shall conduct operations such that fire hydrants, meter vaults, water and gas shutoff valves, and similar facilities are not buried during the course of the Work and so as to offer the least possible obstruction and inconvenience to public

traffic and to properties fronting the construction areas. The Contractor shall maintain adequate access to affected businesses and residences.

Parking may be prohibited by means of tie-on temporary "No Parking" signs during construction. The Contractor shall remove tie-on signs as soon as construction is completed. The Contractor shall use signs furnished by the Engineer.

Bus service will be maintained on bus routes with posted bus stops and the Contractor shall maintain adequate all weather landings for bus patrons. To the extent necessary, the Contractor shall locate temporary landings adjacent to the traveled lane and provide adequately lighted barricades to provide easy and safe access to the landing from the walk area. The Contractor shall notify the local Public Transportation Company before moving the location of any bus stop.

Where traffic is directed around or adjacent to the construction area, the Contractor shall provide, install, maintain and remove temporary striping, delineators, barricades, lights, signs, and other devices required for the control of traffic as required by the applicable City and State traffic regulations and the 2016 edition of "Work Area Traffic Control Handbook." The City shall have the right to relocate traffic control devices.

If the Contractor fails to take necessary precautions to provide for proper public convenience and safety, the City may take necessary corrective action including the erection of suitable and sufficient barriers, signs, lights and other protective devices. The City will, upon completion of any such work, notify the Contractor in writing of the character and extent of, and reason for, the work. The City will deduct the cost of the work from the money due or to become due to the Contractor.

SECTION 601 – TEMPORARY TRAFFIC CONTROL FOR CONSTRUCTION AND MAINTENANCE WORK ZONES

601-1 GENERAL.

Add the following:

The City will allow reflectorized temporary road signs, if the Contractor maintains them in good condition at all times.

After the devices have been installed the Contractor shall, at its sole expense, maintain and keep them in good repair until the acceptance of the Work. The Contractor shall also, during the term of the Contract, pay the cost of replacing such devices that are lost or damaged to such an extent as to require replacement, regardless of the cause of such loss or damage. The Contractor shall remove temporary and existing striping not obliterated by new construction, as required for temporary traffic control, by sandblasting as directed by the Engineer. The Contractor shall remove by sandblasting existing

pavement markings, where temporary pavement markings are provided. The Contractor shall not cover these markings.

601-3 TEMPORARY TRAFFIC CONTROL (TTC) ZONE DEVICES.

Add the following:

Full payment for temporary traffic control devices, including furnishing, installing, maintaining and removing said devices, sandblasting existing markings, flagging, if required, and giving advance notices shall be considered as included in the lump sum price, and no additional payment will be made.

601-4 TEMPORARY TRAFFIC STRIPING AND PAVEMENT MARKINGS.

601-4.1 General.

Add the following:

The Contractor shall commence placement of the permanent traffic striping and pavement markings on the calendar day following completion of final roadway paving, unless otherwise authorized by the Engineer, and diligently perform the Work to completion. In any event, the Contractor shall complete all permanent traffic striping and pavement markings within two calendar weeks following completion of final roadway paving. The Contractor's attention is directed to the Special Provisions concerning public convenience and safety during the time period in which the existing pavement markings are obliterated by new construction.

PART 8

LANDSCAPE AND IRRIGATION

SECTION 800 – MATERIALS

800-1 LANDSCAPE MATERIALS.

800-1.1 Topsoil

800-1.1.1 General

Add the following:

a) Agronomic Soil Report.

- 1) Prior to the delivery of imported topsoil and bioswale soil to the Work site, the Contractor shall submit to the Engineer agronomic soil report(s) and growth (herbicide) test results in report form (test report) at a minimum of (1) report and additional report(s) for every 150 cubic yards of soil. The test reports shall include the name, location, history and description of the source/site from which the soil was excavated and the depth of harvesting. If imported topsoil is obtained from more than one source/site, the Contractor shall submit the name and location of each source/site and submit test reports per source/site at the aforementioned frequency. Test reports shall be prepared specifically for the Project and shall be dated no earlier than the date of execution of the Contract. Soil test performance and test report submittal shall be shown as individual activities on the Contractor's baseline schedule in accordance with subsection 6-1.

The Contractor shall submit the test reports in accordance with the following:

- i) If existing site soil is used for the Project, the Contractor shall submit test reports for the existing soil after the completion of the grading operations and prior to soil preparation. Soil shall be samples at six (6) locations as shown on the Plans
- ii) The Contractor shall submit the test reports in accordance with the following:
 1. The Contractor shall submit test reports for the existing soil after the completion of the grading operations and prior to soil preparation. Soil shall be sampled at the locations identified on the Plans. Each location shall have two tests at the following depths: 0"-12" and 12"-24".
 2. Soil report shall include soil analysis and recommendations per the Water Efficient Landscape Ordinance California, section 492.5. The test reports shall be prepared by one of the following agronomic soils testing laboratories

The test reports shall be prepared by one of the following agronomic soils testing laboratories, or Agency approved equal:

Wallace Laboratory
365 Coral Circle
El Segundo, CA 90245
(310) 615-0116
Email: gaw@wlabs.net

Waypoint Analytical
4741 East Hunter Ave. Suite A,
Anaheim, CA 92807
(714) 282-8777
Email: supportca@waypointanalytical.com

Healthy Soil
1390 N. Manzanita St,
Orange, CA 92867
(800) 414-3111
Email: http://www.healthysoil.com/contact_us

- 2) Additional agronomic soils and growth testing may be required at any time during construction. Areas of testing shall be as directed by the Project Manager.
- 3) Unless otherwise approved by the Project Manager, soil samples shall be collected and sampled by the testing laboratory as a part of their services.
- 4) For imported topsoil, 1 sample (one pint each) shall be collected for the testing laboratory.
- 5) The report shall indicate soil analysis for plant growth suitability, including permeability rate, and recommendations for soil preparation in all planting areas and soil mix for backfill of planting container material.
- 6) The recommendations of the agronomic soil report(s) shall take precedence over the quantities of soil amendments and material mix specified in the backfill mix; and only when those recommendations exceed the minimum requirements specified.
- 7) Germination and growth of monocots and dicots shall not be restricted more than 20 percent without the addition of activated charcoal when compared to the reference soil. Total petroleum hydrocarbons shall not exceed 50 mg/kg when tested in accordance with modified EPA Test Method 8015. Total aromatic volatile organic hydrocarbons (benzene, toluene, xylene, and ethylbenzene) shall not exceed 0.5 mg/kg when tested in accordance with EPA Test Method 8020.

- 8) The Contractor shall not begin any planting work until the agronomic soil report(s) has been reviewed and approved by the Agency and field work has been proven to comply with approved soil report. This may be proven through additional soil testing with laboratory reports; material submittals/receipts; and/or, field observation.

800-1.1.2 Class “A” Topsoil.

Replace the entire subsection with the following:

Class “A” topsoil shall be imported from a source outside the limits of the Work selected by the Contractor and shall conform to the following requirements:

- a) **Soil** shall be free of roots, clods, pockets of coarse sand, noxious weeds, sticks, brush, litter, and stones larger than 1 inch in greatest dimension.
- b) Soil shall not be infested with nematodes or other undesirable disease-causing organisms.
- c) Continuous, air-filled pore space content on a volume/volume basis shall be at least 15 percent when moisture is present at field capacity. Soil shall have a field capacity of at least 15 percent on a dry weight basis.
- d) Mechanical Analysis and Permeability Rate(s). The selection shall be made by the Engineer or else be similar to the Work site soil. The definition of soil texture shall be based on the United States Department of Agriculture (USDA) classification scheme. Gravel over 1/4 inch in diameter shall be less than 10 percent by weight. Hydraulic conductivity rate shall be 2-5 inches per hour when tested in accordance with the USDA Handbook Number 60, method 34b.
- e) Organic Matter Content. Organic matter (loss of ignition) shall be 3 to 5 percent by weight minimum based on the weight of the sample dried to constant weight at 100 to 110 °C, or as determined by the sulfuric acid test. Soil organic matter shall not cause toxicity or cause excessive reduction in the volume of soil due to decomposition. The carbon/nitrogen ratio shall be 9.5 to 10.5. When topsoil otherwise complies with the requirements but shows a slight deficiency in organic matter content, humus, peat moss or other approved organic matter may be incorporated when approved by the Engineer.
- f) pH. The soil pH range measured in the saturation extract (Method 21a, USDA Handbook Number 60) shall be 6.0 - 7.9.
- g) Fertility. The range of the essential elemental concentration in soil shall be as follows:

Ammonium Bicarbonate/DTPA Extraction
Parts Per Million (mg/kilogram)

Dry Weight Basis

Phosphorus	2 - 40
Potassium	40 - 220
Iron	2 - 35
Manganese	0.3 - 6
Zinc	0.6 - 8
Copper	0.1 - 5
Boron	0.2 - 1
Magnesium	50 - 150
Sodium	0 - 100
Sulfur	25 - 500
Molybdenum	0.1 - 2

- h) Salinity – Electrical Conductance. The salinity range measured in the saturation extract (Method 3a, USDA Handbook Number 60) shall be 0.5-3.0 dS/m.
- i) Chloride. The maximum concentration of soluble chloride in the saturation extract (Method 3a, USDA Handbook Number 60) shall be 150 mg/kg (parts per million).
- j) Boron. The maximum concentration of soluble boron in the saturation extract (Method 3a, USDA Handbook Number 60) shall be 1 mg/kg (parts per million).
- k) Sodium Absorption Ratio (SAR). The maximum SAR (Method 20b, USDA Handbook Number 60) shall be 3.
- l) Aluminum. Available aluminum measured with the ammonium bicarbonate/DTPA extraction shall be less than 3 parts per million.
- m) Calcium Carbonate Content. Free calcium carbonate (limestone) shall not be present.
- n) Heavy Metals. The maximum permissible elemental concentration in the soil shall not exceed the following:

1) Ammonium Bicarbonate/DTPA Extraction

Parts Per Million (mg/kilogram)

Dry Weight Basis

Arsenic	2
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Cadmium	2
Chromium	10
Cobalt	2
Lead	30
Mercury	1
Nickel	5
Selenium	3
Silver	0.5
Vanadium	3

- 2) pH. If the soil pH is between 6 and 7, the maximum permissible elemental concentration shall be reduced 50 percent. If the soil is less than 6.0, the maximum permissible elemental concentration shall be reduced 75 percent. No more than three metals shall be present at 50 percent or more of the above values.

800-1.2 Soil Fertilizing and Conditioning Materials.

800-1.2.4 Organic Soil Amendment.

Replace the entire subsection with the following:

Organic soil amendment shall be Organic soil amendment shall be Type 1 conforming to the following requirements:

- a) **Humus** material shall have an acid-soluble ash content of no less than 6 percent and no more than 20 percent. The organic matter content shall be 50 percent or more when determined on a dry weight basis.
- b) The pH shall be between 6 and 7.5.
- c) The salt content shall be less than 10 millimho/cm at 25 °C in a saturated paste extract.
- d) Boron content of the saturated extract shall be less than 1.0 part per million.
- e) Silicon content (acid-insoluble ash) shall be less than 50 percent.
- f) Calcium carbonate shall not be present if to be applied on alkaline soils.
- g) Composted wood products are conditionally acceptable (stable humus must be present). Wood-based products based on redwood or cedar are not acceptable. When applying nitrogen-stabilized wood shavings, fine grade with 1 percent nitrogen added per pound of shavings.

- h) Sludge-based materials are not acceptable.
- i) Carbon/nitrogen ratio shall be less than 25:1.
- j) Compost shall be aerobic without malodorous presence of decomposition products, stable, weed free organic matter sourced from waste materials including yard debris or other organic materials, not including biosolids or manure feedstock. Compost shall conform to California Code of Regulations Title 14, Division 7, Chapter 3.1 requirements.
- k) The maximum particle size shall be 0.5 inch. Eighty percent or more shall pass a No. 4 sieve.
- l) Agricultural gypsum shall be composed of a minimum of 92 percent calcium sulfate particles of which a minimum of 85 percent by weight must pass a No. 100 sieve.
- m) Sulfur shall be 99 percent pure. Not more than 1 percent by weight shall be retained on a No. 8 sieve.
- n) Activated charcoal shall be suitable for agricultural use.
- o) Peat shall be free from alkali.
- p) The maximum total permissible pollutant concentrations in parts per million on a dry weight basis shall be as follows:

arsenic	20
molybdenum	20
cadmium	15
nickel	100
chromium	300
selenium	50
cobalt	50
silver	10
copper	100
vanadium	500
lead	200
zinc	200
mercury	10

- q) Prepared backfill mix shall consist of the following:

- 1) Imported top soil: 60 percent by weight.
- 2) Humus soil amendment: compost, washed steer manure, mushroom compost, composted wood products(not including redwood or cedar): 40 percent by weight.
- 3) Urea formaldehyde (38-0-0): 1/3 pound per cubic yard.
- 4) Potassium sulfate (0-0-50): 1/3 pound per cubic yard.
- 5) Triple superphosphate (0-45-0): 1/3 pound per cubic yard.
- 6) Agricultural gypsum: 1 pound per cubic yard.

800-1.2.5 Mulch.

Replace the entire subsection with the following:

Mulch shall be Type 1 medium to fine textured (3/4 inch to 2 inch) ground wood by-product or shredded bark mulch and shall be dark brown in color. Mulch shall be free of freshly-cut vegetation, seeds, inorganic material, heavy metals, and fungus. Contractor shall submit the name, supplier, and physical sample in a double-lined plastic bag for review and approval prior to use.

Mulch shall be free of sand, soil, debris and deleterious materials as certified by the supplier. Mulch shall consist of shredded hardwood which knits in a manner to minimize sloughing, floating, or being kicked away. The mulch shall be stockpiled or stored for a minimum of 12 months.

800-1.4 Plants

800-1.4.1 General

Add the following:

Before proceeding with work, the Contractor shall carefully check and verify dimensions and quantities and shall immediately inform the City of any discrepancies between the Plans and Specifications and actual conditions.

Plants shall be furnished in the quantities or spacing as shown or noted and shall be of the species, kinds, sizes, and types per symbol or as described on the Plans.

The Contractor shall obtain approval from the Engineer and secure all plants required for the Project after issuance of the Notice to Proceed in accordance with subsection 6-1 of Section G.

The Contractor shall submit a list of plant materials (sizes and quantities), sample photographs of plants including size reference (e.g. known container size, yard sticks),

and the name, address, contact person, and phone number of the nursery or nurseries where the plants are to be purchased.

Once the plant submittal has been approved by the Engineer, no plant substitutions will be allowed unless such substitutions are deemed necessary due to an unforeseen cause as approved by the Engineer.

Plant materials 15 gallons and larger in size will be inspected and tagged at the nursery by the Engineer no later than 2 weeks prior to the start of planting operations. The Contractor shall coordinate the tagging of plants with the nursery and the Engineer. The provisions of 4-1.3.3 shall be applicable to the nursery location.

Plants 5 gallons in size and smaller will be inspected and approved at the Project site by the Engineer at the time of delivery.

Plants not approved by the Engineer shall be removed from the Project site and replaced with approved plants.

Plants shall be protected in transit and after delivery to the project site. Plants in broken containers will not be accepted and Plans with broken branches or injured trunks will be rejected. Plant materials damaged in planting operations shall be replaced.

800-1.4.2 Trees

Add the following:

Refer to the list of plants and respective quantities shown on the Plans. The quantity listed shall only be used as a guide. The Contractor is responsible for providing all plants shown or implied on the Plans.

The plants sizes and conditions shown on the list of plants on the Plans conforms to the most current American Nursery Standards,

[https://cdn.ymaws.com/americanhort.site-ym.com/resource/collection/38ED7535-9C88-45E5-AF44-01C26838AD0C/ANSI Nursery Stock Standards AmericanHort 2014.pdf](https://cdn.ymaws.com/americanhort.site-ym.com/resource/collection/38ED7535-9C88-45E5-AF44-01C26838AD0C/ANSI_Nursery_Stock_Standards_AmericanHort_2014.pdf)

One of each variety of plant shall be labeled with the proper botanical name, identifying genus, species and if applicable, cultivar or variety.

The City will pay for the Work to **SWALE TREE WELLS** as shown in Section 1.6 of the Technical Specifications at the unit prices shown in the Bid Schedule and shall include full compensation for furnishing all labor, materials, tools, equipment and incidentals, and for doing all the work including installation of root barrier, lining anchors, excavation, disposal of excess soil, and other ancillary items involved in installing SWALE TREE WELLS, as shown on the plans.

800-1.4.3 Shrubs

Add the following:

Refer to the list of plants and respective quantities shown on the Plans. The quantity listed shall only be used as a guide. The Contactor is responsible for providing all plants shown or implied on the Plans.

The plants sizes and conditions shown on the list of plants on the Plans conforms to the most current American Nursery Standards,

[https://cdn.ymaws.com/americanhort.site-ym.com/resource/collection/38ED7535-9C88-45E5-AF44-01C26838AD0C/ANSI Nursery Stock Standards AmericanHort 2014.pdf](https://cdn.ymaws.com/americanhort.site-ym.com/resource/collection/38ED7535-9C88-45E5-AF44-01C26838AD0C/ANSI_Nursery_Stock_Standards_AmericanHort_2014.pdf)

One of each variety of plant shall be labeled with the proper botanical name, identifying genus, species and if applicable, cultivar or variety.

800-1.5 Headers, Stakes, and Ties

Replace the entire subsection with the following:

800-1.5.2 General.

800-1.5.2 Headers and Stakes

Headers shall be 3/16-inches x 5 inches and made of aluminum. Stakes for headers shall be pointed and at least 18 inches long and made of aluminum. Headers and Stakes shall be manufactured by one of the following, or equals:

- a) Sure-Loc, SureEdge model; Tel: (1) 800-787-3562
<http://surelocedging.com/aluminum-edging/>
- b) Curv-rite, model 3000 series; Tel: (1) 800-366-2878
<http://curv-rite.com/landscapeedgning.html>
- c) Permaloc, CleanLine XL model; Tel (1) 800-356-9660
[Permaloc Aluminum Edging – CleanLine XL](#)

800-1.5.3 Tree Stakes

Replace the first sentence of the first paragraph with the following:

Tree stakes shall be constructed of pressure-treated lodge pole pine, 2 to 2-1/2 inches in diameter

Add the following subsection:

800-1.5.4 Tree Ties

Tree ties shall be rubber ties per SSPWC detail S663-1, be non-girdling and cause no damage to the tree in any way. Tree ties shall be manufactured by one of the following, or equals:

- a) Century Products, Model Century Universal tree ties, 714-632-7083

<https://centuryrootbarrier.com/specsheets/treeties.pdf>

- b) GPH Irrigation Products, Model GTT32, 866-582-9684

[Tree Ties \(gphirrigation.com\)](http://TreeTies.gphirrigation.com)

- c) Villa Root Barrier. Model Wonder Tree Tie W1446, 800-654-4067

[Villa Root Barrier Products](#)

800-1.6 Weed Control

Weed control shall be performed through a physical, cultural, biological, or organic method. The use of chemical methods is prohibited within the limits of Work. Chemical methods prohibited include pre-emergent herbicides, post-emergent herbicides, and organic herbicides (all post-emergent, non-selective).

800-1.7 Root Barrier

Polyethylene (0.08 inch thick) or polypropylene (20.32 – 2.16 mm thick), with self-locking joiners, ½" raised 90-degree molded root deflecting ribs, ground lock tabs, double top edge, UV inhibitors. Use 24" barrier unless otherwise stated.

Root barrier by Depp Root, 101 Montgomery Street, Suite 2850, San Francisco, CA 94104, 415-781, 9700, or approved equal.

800-1.8 Product Delivery, Storage, and Handling

- a) The Contractor shall notify the Landscape Architect in advance when material is scheduled for each delivery, in order to ensure satisfactory coordination of delivery and to expedite the required inspection at the point of delivery. The delivery of the material shall include invoices certifying that subject material has been inspected as required by the State Agricultural Code prior to acceptance or installation. Particular care, using approved equipment, shall be exercised to ensure safe loading, unloading, shipping and handling for all material from source to in place locations indicated on the drawings.
- b) The Contractor shall furnish the Landscape Architect with three (3) copies of signed, legible certificates and/or invoices stating the quality and quantity of all items herein specified at time of delivery. Recommendation shall be made by the

Landscape Architect or the City to stop work progress until certificates are received and reviewed by the Landscape Architect.

- c) Upon delivery of materials and/or completion of all soil amending and with the heretofore specified signed copies of required certificates, trip slips and invoices for soil preparation materials the Landscape Architect shall invoice such material, comparing the total quantities of each material furnished against the total area of each operation. If the minimum rates of application have not been met, the Landscape Architect will require the distribution of additional quantities of these materials to fulfill the minimum application requirements specified.
- d) After installation of plant materials, but prior to the pre-maintenance site observation, the Landscape Architect, with the heretofore specified signed copies of the required certificates and related items, shall invoice such material, comparing the total area and/or the amounts specified. If the minimum amounts have not been furnished, the Landscape Architect will require the installation of additional materials to fulfill the minimum requirements specified.
- e) Deliver fertilizer or soil amendments to site in original unopened containers bearing manufacturer's guaranteed chemical analysis, name, trademark, and conformance to state law. Protect material from damage or breakage. Immediately remove empty containers from site. The contractor shall furnish the Landscape Architect with a copy of signed, legible certificates or invoices stating the quality and quantity of all items herein specified at the time of delivery.

800-1.9 Mortared River Rock

River Rock shall be by Southwest Boulder & Stone or approved equal supplier. River Rock shall be rounded in shape, of the size and color specified on the plans. Install river rock as indicated in detail and embedded in concrete mortar around the rock. Rock shall be 2"-3" in size. After setting of concrete mortar river rock will be washed clean of concrete for exposed of rock.

Contractor shall submit samples of all river rock sizes and types specified in the plans in a plastic bag for Landscape Architect's approval prior to purchase and installation. Samples shall be representative of the river rock color and texture and shall include a minimum of 10 pieces.

800-1.6.1 Measurement and Payment

The City will include payment for Mortared River Rock in the payment for the various other items of Work, including **CURB CUT INLET VEGETATED CURB EXTENSION** and **CURB CUT INLET PARKWAY SWALE** as shown in Section 1.6 of the Technical Specifications at the unit prices shown in the Bid Schedule, and will make no separate payment for such replacement.

800-2 IRRIGATION SYSTEM MATERIALS.

800-2.1 Pipe and Fittings.

800-2.1.3 Plastic Pipe for Use with Solvent Weld Socket or Threaded Fittings.

Replace the entire subsection with the following:

Plastic pipe shall be rigid unplasticized polyvinyl chloride PVC 1220 (Type 1, Grade 2), conforming to ASTM D1785 (Schedule 40) or ASTM D2241 (Class 315) as applicable. Plastic pipe marked with product standard PS-21-70 conforms to the ASTM requirements. The minimum gaskets shall be rigid un-plasticized polyvinyl chloride pressure rating shall not be less than the working pressures indicated therein for the schedule and sizes listed.

a) Pipe materials shall be as follows:

- 1) For mainline pipe, 2" diameter or greater, Class 315 PVC shall be used.
- 2) For mainline pipe, 1 ½" diameter or smaller, Schedule 40 PVC shall be used.
- 3) For lateral pipe, Schedule 40 PVC shall be used.
- 4) Pipe for reclaimed water shall be purple.

Schedule 40 pipe shall be used for installation on the discharge side of the control valves when the pipe size is 2-inch or less. Schedule 40 pipe shall be used for installation on the pressurized supply line of the control valves when the pipe size is 1 ½-inch or less. Class 315 pipe shall be used for installation on the pressurized supply side of the control valves when the pipe size is 2-inch or greater.

Fittings and couplings for plastic pipe shall be threaded or slip-fitted tapered socket solvent weld type. Threaded adapters shall be provided with socket pipe for connections to threaded pipe. Plastic pipe fittings and couplings shall be PVC I or PVC I/I material supplied in the same schedule size specified for the pipe. The type of plastic material and schedule size shall be indicated on each fitting or coupling. Fittings and couplings shall conform to the requirements shown in Table 800-2.1.3.

TABLE 800-2.1.3

Socket Fittings	
Schedule 40	ASTM D2466
Schedule 80	ASTM D2467
Threaded Fittings	
Schedule 80	ASTM D2464

All PVC pipe and fittings installed aboveground shall be rated UVR.

Plastic pipe shall be continuously and permanently marked with the following information: Manufacturer's name, nominal pipe size, Schedule or Class, SDR (Standard Dimension Ratio or pressure rating in PSI) National Sanitation Foundation (NSF).

PVC primer and solvent for chemical weld of pipe and fittings shall be as

recommended by pipe manufacturer (IPS Weld-On P-70, IPS Weld-On 2711 gray cement; Spears Blue 75, SB75). Containers for solvent and primer shall be clearly marked with manufacturer's data. Solvent and primer shall not be more than one year old. Blue or red-hot glue shall not be used on the project.

Connection between steel pipe and copper pipe or tube shall use a brass nipple.

Connection between any female threaded fitting and plastic pipe shall be made with a Schedule 80 nipple. Nipples shall be Schedule 80.

All PVC pipe must bear the following markings:

1. Manufacturer's name
2. Nominal pipe size
3. Schedule or class
4. Pressure rating in P.S.I.
5. NSF (National Sanitation Foundation) approval
6. Date extrusion
7. U.P.C. shield logo (IAPMO approval)

All fittings shall bear the manufacturer's name or trademark, material designation, size, applicable I.P.S. schedule and NSF seal of approval.

Solvent cement and primer for PVC solvent-weld pipe and fittings shall be of type recommended by the manufacturer and shall follow installation methods prescribed by the pipe manufacturer.

800-2.2 Valves and Valve Boxes.

800-2.2.2 Gate Valves.

Replace the entire section with the following:

800-2.2.2 Ball Valves. All valves shall be as identified on Construction Documents and per City review and approval.

Ball valves shall be AWWA-approved, the same size as the pipe in which they are to be installed and shall installed with handle on the side. Refer to the Plans for the manufacturer's name and model number.

a) Ball valves for sizes 2-inch and smaller shall conform to the following:

- 1) 125 psi/8.6 bar saturated steam rated.
- 2) Bronze body
- 3) Equipped with a stainless steel handle

b) Ball valves shall be manufactured by one of the following:

Nibco
model T-585-70

800-2.2.4 Remote Control Valves.

Replace the entire subsection with the following:

Remote control valve manufacturer and sizes shall be as indicated in the Plans and legend. Remote control valves shall be:

- a) Battery or hydraulically operated.
- b) Equipped with flow control adjustment and capability for manual operation.
- c) Refer to the Plans for the size(s) of proposed remote control valves. All valves furnished shall be from the same manufacturer. Remote control valves shall be manufactured by

Netafim LVCZS8010075-LF 1"

- d) Valves shall be normally closed.
- e) Valves shall only have one-piece diaphragms. "O" rings will not be allowed.
- f) Valves shall be completely serviceable from the top without removing the valve body from the mainline system.
- g) Identification tags for electrical remote control valves shall be manufactured from an ultraviolet light stabilized polyurethane material. The tags shall be hot-stamped with black letters on yellow background. The tags shall be numbered to match the programming shown on the Plans. One tag for each electric remote control valve shall be provided.

800-2.2.6 Quick-coupling Valves and Assemblies.

Add the following:

Quick-coupling valves shall have a lockable lid with a rubber cover. Refer to the Plans for the approved manufacturer's name(s), model number, and size. All valves furnished shall be from the same manufacturer and by one of the following, or equals:

- a) Rainbird, model 33-DLRC
<http://www.rainbird.com/landscape/products/valves/quickCouplingValves.htm>
- b) Hunter, model HQ-33-DLRC, 760-744-5240
<https://www.hunterindustries.com/irrigation-product/valves/quick-couplers>

800-2.2.7 Valve Boxes.

Replace the entire subsection with the following:

Valve boxes shall be fabricated from a durable, weather-resistant plastic material resistant to sunlight and chemical action of soils. The valve box cover shall be secured with a hidden latch mechanism or bolts. The cover and box shall be capable of sustaining a load of 1,500 pounds. Valve box extensions shall be by the same manufacturer as the valve box.

Automatic control valve boxes shall be 16"x11"x12" rectangular size. Valve box covers shall be marked "RCV" with the valve identification number "heat branded" onto the cover in 2-inch high letters / numbers.

Gate valve and quick coupler valve boxes shall be 10-inch circular size. Valve box covers shall be marked with either "BV" or "QCV" "heat branded" onto the cover in 2-inch high letters.

Valve Boxes shall be constructed of polypropylene or equivalent material for maximum durability, UV protection and corrosion resistance. The plastic body, excluding extensions, shall have pipe slots on each end and the plastic body shall have two (2) resting points for the lid to sit securely and flush. The plastic lid shall have molded diamond tread-pattern for skid resistance. Valve boxes shall have a lockable lid using a hex-bolt to secure the cover. An extension at the bottom shall be furnished and installed as necessary to adjust the height to conform to the details shown on the Plans and to meet actual field conditions. Valve boxes shall be manufactured by one of the following, or equals:

- a) Rainbird, Model VB-STD-PL, 800-724-6247
[VB Series Valve Boxes | Rain Bird](#)
- b) NDS, Model 318PBCR, 888-825-4716
<https://www.ndspro.com/PDFs/Catalogs/NDS-Valve-Boxes-Catalog-2019.pdf>
- c) Dura Plastics, Model 049081 802400, 951-845-3161
<https://www.ndspro.com/PDFs/Catalogs/NDS-Valve-Boxes-Catalog-2019.pdf>

Boxes are to be installed per the applicable details. The lid shall be permanently heat-embossed as follows (paint is not acceptable):

Gate Valve	GV
Remote Control Valve	RCV
Quick Coupler Valve	QC
Master Valve	MV
Flow Meter	FM

800-2.2.7.1 Valve Boxes In Vehicular Traffic Areas.

In vehicular traffic areas, valve boxes and covers shall be constructed of Traffic rated precast concrete with a steel lockable lid. Valve boxes and covers shall be set flush with the adjacent pavement. Markings shall be as specified in Section 800-2.2.7.

Add the following subsection:

800-2.2.8 Master Control Valves.

The master control valve manufacturer and size shall be as indicated on the Plans and legend.

Master valves shall be manufactured by one of the following, or equals:

- a) Griswold, model 2000 Series Normally closed (size per plan), 949-559-6000 <http://griswoldcontrols.com/2000-series-heavy-duty-irrigation-valves/>
- b) Buckner/Superior, model 3000 Series Normally closed (size per plan), 800-997-0500 <https://www.bucknersuperior.com/product/3200-rw/>
- c) Rainbird, model EFB-CP Series Normally closed (size per plan), 800-724-6247 [EFB-CP Series | Rain Bird](#)

800-2.4 Sprinkler Equipment.

Replace this subsection with the following:

Irrigation drip tubing and flush valves shall be as indicated on the Plans and legend or approved equal.

800-2.5 Backflow Preventer Assembly.

The backflow preventer shall be a double check reduced pressure type. It shall be installed near the irrigation point of connection unless otherwise indicated on the Plans. The backflow preventer shall be as manufactured by Febco Co. or approved equivalent.

- a) Backflow prevention assembly is to be housed within expanded metal backflow prevention assembly enclosure, constructed of #9 expanded stainless steel, with stainless steel frame. Size as required to completely enclose entire backflow preventer assembly. Lemeur, Rainman, Strong Box, or approved equal.
- b) Pressure regulator on backflow prevention assembly: Pressure regulator shall consist of a bronze body and bell housing, a separate access cover for the plunger, and a bolt to adjust the downstream pressure. The bronze bell housing and access cap shall be threaded to the body and shall not require the use of ferrous screws. The assembly shall be of the balanced piston design and shall reduce pressure in both flow and no-flow conditions. The assembly shall be accessible for maintenance without having to remove the body from the line. See irrigation legend for manufacturer and model type.
- c) "Y" type strainer on backflow prevention assembly: The main body and cover of the "Y" type strainer shall be cast brass or bronze. The strainer screen shall be 20mesh, 300 series stainless steel, and shall be accessible for maintenance

without removing the device from the line. See irrigation legend for manufacturer and model type.

800-3 ELECTRICAL MATERIALS.

800-3.2 Conduit and Conductors.

800-3.2.1 Conduit.

Replace the entire section with the following:

Conduit and sweeps shall be Schedule 40 PVC, gray in color and specifically manufactured for use as electrical installation. The conduits shall be sized twice the diameter of the wire bundle to be carried within. All ends of conduit in valve and pull boxes shall be sealed using a waterproof material that can be easily removed from the conduit openings for the purpose of pulling wire through the conduit.

800-3.2.2 Conductors.

Add the following paragraphs to this section:

Low voltage control wires shall have a single solid copper conductor with colored PVC coating. The pilot control wires shall be color-coded a specific color per controller and the common wires color-coded white with a strip matching the color of the pilot wires.

The electrical system shall be installed in accordance with the National Electrical Code most recently adopted by the City. Connections between the automatic controllers and the electric control valves shall be made with direct burial copper wire AWG-U.F. 600 volt. Pilot wires shall be a different color wire for each automatic controller. Common wires shall be white with a different color stripe for each automatic controller. Install in accordance with valve manufacture's specifications and wire chart. In no case shall wire size be less than #14.

Wiring shall occupy the same trench and shall be installed along the same route as pressure supply or lateral lines wherever possible. Install wires inside Schedule 40 Conduit anywhere it is not possible to place in pipe trench, or where wires must go under pavement. Conduit size shall be large enough to contain all necessary wires.

Where more than 1 wire is placed in a trench, the wiring shall be taped together at intervals of 10 feet.

An expansion curl shall be provided within 3 feet of each wire connection and at least every 100 feet of wire length on runs more than 100 feet in length and also at each

change of direction. Expansion curls shall be formed by wrapping at least 5 runs of wire around a 1-inch diameter pipe, then withdrawing the pipe.

All splices shall be made with Pen-Tite wire connector, or approved equal. Use one splice per connector sealing pack.

Field splices between the automatic controller and electrical control valves will not be allowed without prior approval of the City.

800-3.3 Controller Unit.

Replace the entire section with the following:

The type of controller unit shall be battery operated as shown on the Plans. It shall be fully automatic, with provisions for manual operation, sized to accommodate the number of stations or control valves included in the system. The controller shall be housed within a RCV valve box with a vandal-proof bolted or locking cover.

Additional control system equipment such as flow meter shall be of the type and size shown on the Plans.

SECTION 801 - INSTALLATION.

801-2 EARTHWORK AND TOPSOIL PLACEMENT.

801-4 PLANTING.

801-4.1 General. *Replace the entire section with the following:*

- 1) Provide labor, material, equipment, and appliances necessary to provide trees, plants, and ground cover as indicated on Drawings, specified, and as required for a complete installation.
- 2) Planting materials shall be inspected before planting, including those tagged at nursery.
 - a) Perform planting with material, equipment and according to procedures favorable to optimum growth of plant. Do not plant during windy conditions.
 - b) Except as noted for specimen planting in sub-section 3.04D, commence planting operations immediately following completion of irrigation system.

- c) Project Inspector will verify that irrigation systems are operating before starting Work of this section.
 - d) Inspection: Notify ARCHITECT at least 72 hours in advance to schedule following inspections
 - i. Plant material at time of delivery to Project site.
 - ii. Final location of plants prior to preparation of planting pits.
 - iii. Trees of 24-inch box size and larger at their source before delivery to Project site.
 - iv. Finish grades prior to sodding or seeding areas.
 - v. Landscape construction items prior to start of maintenance of plant establishment period.
 - vi. Final inspection.
 - e) Existing Utilities and Plant Materials:
 - f) Protect utilities and plant materials from damage.
 - i. Perform modifications only as permitted by ARCHITECT, in accordance with applicable provisions noted or specified on Drawings, or in other sections of these Specifications.
 - g) Replace damaged plant material with like type and size material. ARCHITECT shall determine cost of irreplaceable plant material according to "square inch" method as described by Council of Tree and Landscape Appraisers' "Manual for Plant Appraisers" handbook, Current Edition, and "Guide for Establishing Values of Trees and Other Plants".
- 3) Verification of Dimensions and Quantities:
- a) Verify scaled dimensions and quantities before starting landscaping Work.
 - b) Promptly notify ARCHITECT of any discrepancies between Drawings, Specifications or actual Project site conditions.
 - c) Tree Tagging: ARCHITECT will tag 24-inch box and larger trees at nursery. Request tree tagging from ARCHITECT by providing 3 days advance notice.

d) **Pest Management Method and Products:**

- 4) CONTRACTOR shall ensure that plants provided are clean, healthy, free of physical damage, and show no symptoms of abiotic injury. Plants must also be free of diseases, arthropod pests, and any other type of plant pests. Before applying pesticides to plants on District property, the following criteria must be met:
- a) Individuals who apply pesticides on behalf of CONTRACTOR's company must have a Qualified Applicator License in appropriate category of pest control issued by California Department of Pesticide Regulation and registered to conduct pest control for hire as a business by Los Angeles County Agricultural Commissioner's Office.
 - b) Products used must be listed on LAUSD's OEHS approved product list.
 - c) Length of time from date of use of a pesticide products until beneficial occupancy by OWNER may not be less than five half lives of products used.
 - d) Contact District's Pest Management Department at (213) 743-1102 prior to any pesticide application to verify items above.
 - e) Complete written records of pesticide applications made by a contractor and or their representative on District property, must be provided to District's Pest Management Department within 10 days of applications.

801-4.2 Protection and Storage. *Replace the entire section with the following:*

- 1) Maintain plantings delivered to Project site in a healthy condition.
- 2) Do not allow plantings to dry out.
- 3) Separate bare root stock and "heal in" in moist earth or other suitable material.
- 4) Cover root ball of bailed or burlap wrapped plantings with moist sawdust, wood chips, or other permitted materials.
- 5) Plants shall be protected in transit and after delivery to the Project site. Plants in broken containers and plants with broken branches or injured trunks will be deemed defective Work.
- 6) Plant materials damaged in planting operations shall be replaced.

801-4.3 Layout and Plant Locations. *Replace the entire section with the following:*

- 1) Plant locations indicated on Drawings are approximate.
- 2) Plants may be re-spotted before planting as required by ARCHITECT.
- 3) Provide a detailed layout of plants and landscape elements in planting areas and obtain review of ARCHITECT before actual planting operations.
- 4) Locate first row of plantings in areas designated for on center spacing at one-half the designated spacing from edge of area.

801-4.4 Specimen Planting. *Replace the entire section with the following:*

Plantings in boxes 24 inches or larger shall be installed before installation of lateral irrigation lines. Re-route irrigation lines in conflict with specimen locations to clear root ball.

801-4.5 Tree and Shrub Installation. *Replace the entire section with the following:*

- 1) Excavate planting holes approximately square with vertical sides shall be twice the width of plant container or root ball; larger if necessary to permit handling and installation without damage to root ball system. Bottom of plant container or root ball shall be placed on existing undisturbed soil.
- 2) Do not install plantings having a broken or cracked root ball.
- 3) Containers should be opened and removed in such a manner not to damage root system.
- 4) Remove balled plant wrappings after plant is positioned in hole.
- 5) Scarify native soil at bottom half of holes to a depth of 6 inches.
- 6) Backfill bottom half of hole with specified backfill mix minus fertilizers. Settle with water.
- 7) After water settling bottom half of hole, set planting approximately in center of hole and adjust root flush to finish grade.
- 8) Backfill balance of hole with specified backfill mix and fertilizer and water settle.
- 9) Prune or remove any broken or damaged limbs.

- 10) Form a circular watering basin slightly larger than hole; 4-inch high for trees and 2-inch high for shrubs. Shape bottom of basin to be slightly lower than finish grade.
- 11) Restore area around plantings to finish grade.
- 12) After installation, plantings shall be plumb with root crown at its natural depth with respect to finish grade.
- 13) New trees in sod areas to be installed with tree trunk protectors.

801-4.6 Plant Staking and Guying.

Use the following, as modified:

801-4.6.1 Method "A" Tree Staking.

Delete hose and wire ties and add 36-inch Z STRAPS by Villa Landscape Products, Inc. (800) 654-4067 or approved equal.

801-4.7 SUBMITTALS

- 1) Submit complete lists of landscape materials and equipment to be used, including manufacturer name and address, specific trade names, catalog numbers complete with illustrations and descriptive literature and clearly mark or underline proposed items; list sources of landscape topsoil.
- 2) Shop Drawings: Required for any landscape structure.
- 3) Material List: Plant materials list.
 - a) Certification: In addition to other required certification, furnish a certificate with each delivery of bulk material, including topsoil, planter mix soil, bark mulch, stating its source, quantity, type of material furnished and that such item or material conforms to requirements of this section.
 - b) Sample: Submit topsoil Sample and soil amendments with analysis.
 - c) Fertilizer analysis: Provide labels of each fertilizer used and quantities used at each applications recommended in Soil Analysis Report.
 - d) USGA Sand-based Rootzone import material with additives. Provide product data sheets, pre-mix source and location,

plus a one gallon physical sample to landscape architect for review.

- e) Soil Test: After completing soil rough grading, have soil tested for fertility and agricultural suitability. Soil shall be tested from minimum of (3-4) locations per acre of planted area. Record locations where samples were taken. A copy of soil test results shall be submitted to the District and ARCHITECT before landscape work begins. Pay cost of soil test.

801-4.8 QUALITY ASSURANCE

- 1) Workers: Furnish skilled workers thoroughly trained and experienced in required crafts and familiar with specified requirements for proper performance of Work of this section.
- 2) Codes and Regulations: Materials, fabrication, and installation in this section shall comply with applicable State Codes and Regulations. Deliver permits and testing certifications to Project Inspector.
- 3) Quality and Size: Comply with current edition of "Horticultural Standards" for number one nursery stock as adopted by "American Association of Nurserymen".
- 4) Plants:
 - a) True to name, with name of plants in accordance with standards of practice of "American Association of Nurserymen."
 - b) Botanical names take precedence over common names.

801-4.9 WARRANTY

- 1) Shrubs and groundcover shall be growth and health guaranteed by installer for a period of 90 days after completion of maintenance period. Trees shall be installer guaranteed to live and grow in upright position for a period of one year after completion of maintenance period.
- 2) Within 15 days after notification by OWNER, remove and replace failed plantings. Replacement plantings shall be guaranteed as specified for original plantings.

801-4.10 Backfill Planting Mix. *Add the following section:*

Consists of 70 percent specified topsoil, and 30 percent nitrogen fortified sawdust mulch plus the amendments indicated in soil analysis report.

801-4.11 Raised Planter Mix. *Add the following section:*

Backfill mix for raised planters and tree pits in raised planters shall be of following materials.

- a) Planter Mix by B.D. White Topsoil Co., Culver City, LAUSD Mix by AE Schmidt Co, Planter Mix by Gale Materials or equal.
- b) Weights shall be 45 pounds per cubic foot.
- c) Raised planters shall be backfilled with finish grade at 2 inches below the planter top.
- d) Required system for draining planters shall be in place prior to placing backfill.

801-4.12 Ground Cover Planting. *Add the following section:*

- a) Complete soil preparation and fine grading before installation of ground cover plantings.
- b) Install ground cover in moist soil, spaced as indicated on Drawings.
- c) Install each plant with its proportionate amount of flat soil to minimize root disturbance.
- d) The degree of soil moisture in flat shall be such that soil does not crumble when removing planting.
- e) Following installation of ground cover, restore finish grade to insure proper surface draining.

801-4.13 Transplanting of Existing Plant Material. *Add the following section:*

In accordance with current horticulture practices.

- a) Box or root system as necessary to maintain plant materials in a healthy, growing condition.
- b) Equivalent size and kind of plantings may be provided instead of transplanting an existing planting.

801-4.14 MATERIALS. *Add the following section:*

- a) Topsoil: Designated as imported topsoil as specified herein. Soil test will determine suitability of topsoil before installation. Transport topsoil from

source to its final position unless stockpiling is specified. Test in compliance with Section 01 4524.

1) Imported Soil:

- i. Shall be from a source outside Project site and in compliance with this section.
- ii. ARCHITECT may make such inspections and perform such tests as deemed necessary to determine material meets all requirements.
- iii. At least 30 days before scheduled installation, submit proposed source of topsoil and a sample to ARCHITECT. Submit a written request for review, accompanied by a written report stating that proposed source complies with these specifications by a testing laboratory registered by State of California for agricultural soil evaluation.
- iv. Comply with recommendations of soils testing laboratory and provide any soil amendments necessary to achieve proper nutrient levels to support healthy plant growth.
- v. Imported topsoil shall be of a uniform composition and structure, fertile and friable sandy loam soil, and be free of roots, decay, subsoil, clods and stones larger than ¼ inch in greatest dimension, pockets of coarse sand, noxious weeds, sticks, brush and other litter and not be infested with nematodes or other undesirable insects and plant disease organisms. Imported topsoil shall meet following additional requirements:
 - 1) Gradation Limits: Sand – 50 to 80 percent, clay – 20 percent maximum, and silt – 30 percent maximum. Sand, clay and silt gradation limits shall be as defined in ASTM D422.
 - 2) Agricultural Suitability and Fertility: Topsoil shall be fertile and friable garden soil suitable for sustaining and promoting growth of specified plants.
 - 3) Electrical conductivity less than 2.0 milliohms/centimeter or DS/m.
 - 4) Boron content maximum of 1.0 part per million.

b) Fertilizers and Conditioning Materials: Comply with applicable requirements of State of California Agricultural Code:

1. General:

- i. Fertilizing materials shall be packaged, first grade, commercial quality products identified as to source, type of material, weight and manufacturer's guaranteed analysis.
- ii. Fertilizing material shall not contain toxic ingredients and fillers in quantities harmful to animal, human or plant life.
- iii. Submit a certificate of compliance stating material substantially meets Specifications in accordance with provisions of Article 1.03B.

2. Materials:

- i. Bone Meal: Commercial raw bone meal shall be finely ground, steamed dry material with a minimum analysis of 2.5 percent nitrogen and 22 percent phosphoric acid.
- ii. Gypsum: Hydrated calcium sulfate produce containing 23 percent calcium and 18 percent sulfur with a guarantee analysis of 84 percent calcium sulfate.
- iii. Soil Sulfur: Guarantee analysis of 99 percent sulfur.
- iv. Superphosphates: First grade finely ground phosphate rock used for agricultural purpose, containing minimum 18 percent phosphoric acid by volume.
- v. Commercial Fertilizer: Pellets or granular product having a chemical analysis of 14-14-14, with a minimum of 68 percent of nitrogen from slow release nitrogen unless otherwise specified in Soil Analysis Report: it should be a free flowing material delivered in unopened bags, do not install material which becomes caked or otherwise damaged.
- vi. Nitrogen Fortified Wood Product: Derived from redwood, fir or cedar sawdust or from bark of fir or pine treated with a non-toxic agent to quickly absorb water and comply with following requirements:

a) Gradation:

SIEVE	PERCENT PASSING
-------	-----------------

SIZE	
¼-inch	95 percent minimum
#8	80 percent minimum
#35	30 percent minimum

Nitrogen Content:

NITROGEN CONTENT	PERCENT DRY WEIGHT
Redwood	0.4 to 0.6 percent
Fir	0.56 to 0.84 percent
Cedar	0.56 to 0.84 percent
Fir Bark	0.8 to 1.2 percent
Pine Bark	0.8 to 1.2 percent

- b) Salinity: Maximum saturation extract conductivity 2.5 milliohms/centimeter at 25 degrees Celsius.
- c) Absorption: When one teaspoon of water is applied to 4 cubic inches of air-dried products, material shall be become completely damp in a period of less than 2 minutes. Kellogg KRA, Sequoia Redwood/Cedar Blend or White Fir, Long Beach Soil Preparation, Bandini #101 Redwood Soil Builder or nitrogenized wood amendment.
- g. Organic Fertilizer: Treated, relatively dry friable organic compost derived from sewage sludge processed for agricultural use; containing at least 1 percent nitrogen by dry weight, 2 percent phosphoric acid and comply substantially with gradation noted in sub-section 2.1, B6. Milorganic, Kellogg's Nitrohumus, or equal.
- c) Prepared Backfill mix:
 - 1) To be based upon recommendations from soils test performed by a certified laboratory.
 - 2) Mix (for bidding purposes):
 - i. Seventy percent by volume clean excavated topsoil/import soil.
 - ii. Thirty percent by volume nitrogen stabilizer wood residual.
 - iii. One pound per cubic yard gypsum.

- iv. Two pounds fertilizer per cubic yard (14-14-14 with a minimum 68 percent of nitrogen from slow release nitrogen. Additional secondary and micronutrients preferred).

3) Mix (acid plants)

- i. Thirty percent by volume clean excavated soil/imported soil.
- ii. Seventy percent by volume nitrogen stabilized wood residual.
- iii. Two pounds per cubic yard. soil sulfur.
- iv. Two pounds fertilizer per cubic yard (14-14-14 with a minimum 68 percent of nitrogen from slow release nitrogen. Additional secondary and micronutrients preferred).

d) USGA Sand Based Rootzone

- 1) Root zone for sand based athletic turf and materials.
- 2) Pre-manufactured Sport Sand by Gail Materials, or Equal
- 3) USGA Sand Growing Medium: Refer to detail on approved plans for depth.

a) Sand shall meet the following gradation:

Sieve	Percent Retained
#10	<3%
#18	20-30%
#35 & #60	>50% combined
#100	<20%
#270	<5%
PAN	0-5% Combined

b) CU coefficient between 2.5 - 5.0.

4) Amendments:

- a) Blend peat moss at the rate of 10% by volume. Final organic content shall be 0.4 - 0.8% by weight.
- b) Reed Sedge Peat Moss 10% by volume of mix.
- c) Lassenite Pozzolan porous ceramic soil amendment 5% 8X20 per cubic yard.
- d) Fertilizer 6-20-20 mix 15 lbs. per cubic yard.

- e) Gypsum, mix 50 lbs. per cubic yard.
 - f) Mycorrhizal fungi - MycoApply® All Purpose granular material mix 1.5 pounds per 1,000 sq.ft.
 - g) AxisDE® diatomaceous earth 10% by volume of mix.
- 5) Chemistry:
- a) Salinity: Saturation extract conductivity (ECe) shall be less than 3.0 dS, @ 25 degree C.
 - b) Sodium: Sodium absorption ratio (SAR) shall be less than 6.0.
 - c) Boron: Saturation extract concentration shall be less than 1.0 ppm.
 - d) Reaction pH of saturation paste shall be 5.5 to 7.8 without height lime content.
- 6) Location(s):
- a) Use in designated field areas.
 - b) Depth shall be per details.
- 7) Available through Gail Materials, Corona, CA (951) 667-6106
- e) Plants (General): Plant names indicated or listed on Drawings shall conform with Sunset, Western Garden Book, latest edition.
- 1) Type and Size: Plant materials shall be listed on Drawings.
 - 2) Plants shall be true name, and one of each bundle or lot shall be tagged with Botanical/Common name and size of each plant in accordance with standards of practice recommended by American Association of Nurseryman
 - 3) Tag one plant of each variety for identifying purposes.
 - 4) Plantings shall be inspected before installation.
 - 5) Substitutions: When plants of a specified kind or size are not available, substitution may be requested in accordance with General Conditions.

- 6) Plants shall have a growth habit normal to species in accordance with USA Standards for Nursery Stock, latest editions; shall be sound, healthy, vigorous, and free from insect pests, plant disease, sun scalds, fresh bark abrasions, excessive abrasions or other objectionable disfigurements. Tree trunks shall have normal well developed branch systems and vigorous and fibrous root systems, not root bound and shall be free of kinked or girdling roots.
 - 7) No pruning shall be performed before inspection at nursery by ARCHITECT. (Other than normal pruning during growth period).
 - 8) Plantings specified for adverse conditions shall be Project site acclimated before planting. Purchase from local nurseries or store on Site for a period of 10 weeks for autumn planting and six weeks for spring planting.
- f) Plant Material:
- 1) Trees shall conform to type and size noted on Drawings. Measure height from root crown to last division of terminal leader and measure diameter 1 ft. above root crown. Measure height of palm trees from ground line to base of growing bud. Palms shall stand reasonably erect without support.
 - 2) Shrubs: Specified type and size selected from high quality well shaped nursery stock.
 - 3) Flatted Plants: Grown and remain in flat until transplanted at Project site. Soil and spacing of plants in flat shall insure minimum disturbance of root system at time of transplanting. Maximum plants per flat to be 64 to 100 plants, or as indicated in Drawings.
- g) Tree Stakes: Steel stakes shall be the R2 Stake System (also known as the Reddy Stake System) manufactured by J. R. Partners or equal. Provide two R2 Stakes per tree. Use 7 feet R2 Stake for 15 gallon size trees and smaller and the 9 feet R2 Stake for 24-inch box size trees or smaller. Use the Mega Stake for 36 inches and 48 inches box size trees. If trees are surrounded by steel grates, utilize the Grate Stake for 24-inch box size trees and smaller and the Mega Grate Stake for 36-inch box size trees or smaller.
- h) Tree Ties:
- 1) Cinch Tie: Flexible vinyl with adjustable interlocking capability.
- i) Tree-Root Control Barrier: Shall be fabricated from a high density and high impact plastic such as polyvinyl chloride, ABS or polyethylene, and have a

minimum thickness of 0.06 inch. Plastic shall be furnished with ½ inch to ¾ inch high raised vertical ribs on inner surface spaced at least 6 inches but not more than 8 inches apart. Install a plastic root control barrier with each new tree planted within a tree well. Deep Root Corp., or equal.

- j) Pest Management Methods and Products: Refer to paragraph 1.04.F for details pertaining to CONTRACTOR applying pesticides.

801-4.15 SURFACE CONDITIONS. *Add the following section:*

- A. Examine areas and conditions under which Work of this Section will be performed. Correct detrimental conditions before commencing Work of this section.

801-4.16 GRADING AND SOIL PREPARATION. *Add the following section:*

- A. Initial Rough Grading: Specified in Division 32.
- B. Earthwork and Topsoil Placement: Shall include excavation and backfilling for irrigation system and preparation for spreading, densification, cultivation, and raking of topsoil, including fertilization and conditioning.
- C. Preliminary Grading: Scarify existing soil to a depth of 6 inches before backfilling with topsoil. During preliminary grading operation, remove stones over ¾ inch.
- D. In Previously Paved Areas: Remove top 6 inches of existing soil and legally dispose of off Project site. Replace with approved imported topsoil to indicated finish grade.
- E. Topsoil Preparation and Conditioning:
 - 1. Type and Thickness: Topsoil shall have a minimum depth of 6 inches above subgrade or as indicated on Drawings, whichever is greater.
 - 2. Before installing topsoil, subgrade shall be cleared of weeds, rock ¾ inch and larger and other extraneous materials from designated planting areas to a depth of 6 inches. The tools acceptable for this cleaning process are a Rock Picker by Harley Enterprise, Track Screener by Cherrington, Screen USA Inc. or other tools or machines designed for the purpose. The finished planting bed preparation is subject to the approval of the OWNER's representative. OAR shall coordinate with the OWNER's Landscape Office for a site visit and approval prior to plant/lawn installation.

3. Do not process topsoil when it is so wet or dry as to cause excessive compaction or forming of hard clods or dust.
 4. Existing soil can be used as topsoil only if it meets the requirements of Article 2.01.A of this section.
- F. Fertilizing and Conditioning: Provide planting areas to finish grades, including mounds, before installation of specified fertilizer or soil conditioning materials.
1. Mechanically install following amount of fertilizer or soil conditioning materials at a uniform rate per 1,000 square feet of planting area:
 - a. Three cubic yards of nitrogen fortified wood compost.
 - b. Two cubic yards of organic fertilizer.
 - c. One hundred pounds. of gypsum.
 - d. Thirty pounds of commercial fertilizer.
 2. Quantities of required materials for planting areas shall be at Project site. Furnish Project Inspector with delivery tickets before installation to verify source, kind, and quantities delivered.
 3. After installation of fertilizer and soil conditioning materials, uniformly cultivate materials into upper 6 inches of soil with suitable equipment operated in at least two directions at approximate at right angles. Process soil until friable.
- G. Finish Grading:
1. Provide a finish grade, smooth, uniform, and free of abrupt grade changes and depressions to insure proper surface drainage.
 2. Finish grades adjacent to paving curbs or headers shall be 1 inch lower in sod areas and 2 inches lower in shrub or ground cover areas.
 3. Irrigate soil after installation of fertilizer and soil conditioning materials. Allow soil to settle. Provide a stable surface. After soil has dried out to a workable condition, re-grade, rake, and smooth to required grades and contours. Finished surfaces to be left clean and suitable for planting.
 4. Areas to be planted shall be graded and floated to provide complete surface drainage; water holding depressions and pockets shall be

eliminated. Undulations and unsightly variations in grade which will not permit the use of normal mowing equipment without scalping or missing shall be removed so that proper use of mowing equipment can be performed.

5. Areas to be planted shall also be finished graded to meet any walks, paths or other adjoining surfaces so that, after compaction, no water pockets or ridges remain.
 6. Areas where sod will interface with other modes of planting at catch basins and paved areas shall be finish shaped so as to counter sink the sod one inch such that once sod is placed, it shall be at grade with adjacent planting bed.
- H. Trenching: After completion of soil conditioning or finish grading operations, backfill upper portion of trench so specified topsoil thickness in trench is restored.
- I. Weeding: Once site has been cleared, grubbed and rough graded, landscape areas shall be maintained free of vegetation growth until start of irrigation and planting phase of work.

801-4.17 HEADER INSTALLATION. *Add the following section:*

- A. Install at locations and grades shown on Drawings, before planting.

801-5 IRRIGATION SYSTEM INSTALLATION.

801-5.1 General.

Add the following:

Due to the scale of the Plans, it is not possible to indicate all offsets, fittings, sleeves, etc., which may be required. The Contractor shall carefully investigate the structural and finished conditions affecting its work and plan the Work accordingly, furnishing such fittings, etc., as may be required to meet such conditions.

The Work shall be installed to avoid conflicts between planting and architectural features, etc.

All Work called for in the Plans by notes or details shall be furnished and installed whether or not specifically mentioned in the Specifications.

The Contractor shall not willfully install the irrigation system as shown on the drawings when it is obvious in the field that unknown obstructions, grade differences, or discrepancies in area dimensions exist that might not have been considered in

engineering. Such obstructions or differences shall be brought to the attention of the Engineer. In the event this notification is not performed, the Contractor shall assume full responsibility for any revisions necessary and shall perform such at its own expense.

The Contractor shall be responsible for the complete adjustment/modification of the existing irrigation systems within the landscaped areas where the proposed portland cement concrete walkway is being constructed. Payment for adjustment/modification of the existing irrigation system shall be considered as included in the price bid for irrigation.

Temporary Repairs.

The City reserves the right to make temporary repairs as necessary to keep the irrigation system in operating condition. The exercise of this right by the City shall not relieve the Contractor of its responsibilities under the terms of the guarantee as herein specified.

801-5.2 Trench Excavation and Backfill.

Replace the text in "b)" with the following:

Mainlines 4-inch and smaller –36 inches under paving and roadways.

Replace the text in "c)" with the following:

Lateral sprinkler lines for spray systems –12 inches (36 inches under paving).

801-5.3 Irrigation Pipeline Installation.

801-5.3.1 General.

Add the following sentence at the end of paragraph three:

A minimum of 12 inches clearance shall be maintained between irrigation pipelines and non-irrigation pipelines/conduits.

Add the following:

PVC Sleeves shall be required under areas where all hardscape materials shall be installed. Sleeving shall be done per detail on the Plans.

801-5.3.3 Plastic Pipeline.

Replace the third paragraph with the following:

All solvent welding of PVC pipe and fittings shall be a 2-step process, using primer and solvent cement applied per the manufacturer's recommendations. Cement shall be of a fluid consistency, not gel-like or ropy. Solvent cementing shall be in conformance with ASTM D2564 and ASTM D2855.

Replace the seventh paragraph with the following:

No contractor thread cutting of Schedule 80 PVC fittings shall be allowed. All Schedule 80 nipples and risers shall have manufacturer-molded threads.

Add the following to the end of the first paragraph:

PVC to metal connections shall only be accomplished by PVC male adapters screwed into metal fittings. Teflon tape shall be used on all threaded PVC to PVC, and on all threaded PVC to metal joints. Light wrench pressure is all that is required.

Add the following after paragraph four:

Handling of PVC Pipe and Fittings.

The Contractor is cautioned to exercise care in handling, loading, unloading, and storing of PVC pipe and fittings. All PVC pipe are to lie flat and not to be subjected to undue bending or concentrated external load at any point. Any section of pipe that has been dented or damaged will be discarded and, if installed, shall be replaced with new piping. Pipe and fittings shall not be stored in direct sunlight.

801-5.4 Installation of Valves, Valve Boxes, and Special Equipment.

Replace this subsection with the following:

Valves, backflow preventers, pressure regulators, and related accessories shall be furnished and installed as specified.

All valves and other equipment shall be installed in a normal upright position unless otherwise recommended by the manufacturer, and shall be readily accessible for operation, maintenance, and replacement. Sectional control valves shall not be located within range of sprinklers they control.

Ball valves shall be the same size as the pipeline in which they are installed for 2-inch pipeline and smaller. For 2½-inch pipeline, use 2-inch ball valves. Downstream piping from the control valve shall be the size indicated on the Plans. Use PVC reducing bushings as required to change between control valve sizes and pipe sizes.

Ball valves and sectional control valves shall be installed below ground. Ball valves shall be housed in a plastic valve box that will permit access for servicing. Sectional control valves shall be equipped with a sleeve and cap centered on the valve stem.

Quick-coupler valves shall be installed inside plastic valve boxes. No quick-coupler valves shall be installed projecting above grade. In lawn areas, such equipment

shall be installed in a plastic valve box set to finish grade. Quick-coupler valves and garden valves shall be installed in a triple-swing-joint riser assembly as described in 801-5.4.3 and secured to a driven No. 4 reinforcing steel rod as described in 801-5.4.3.

All valve boxes, pipe sleeves, and caps shall be set to finish grade, and valves shall be set at sufficient depth to provide clearance between the cover and the cap, valve handle, or key when the valve is in the fully open position.

Backflow preventers shall be provided with pipe supports and the accessories necessary to properly secure the assembly. All backflow preventers shall be assembled with pipe and fittings of galvanized steel.

801-5.5.2 Location, Elevation, and Spacing.

Delete the fourth and fifth paragraphs of this section.

801-5.5.3 Riser and Nozzle Line Installation.

Replace the second through seventh paragraphs in this section with the following:

Sprinkler heads shall be installed on triple swing joint assemblies. Triple swing joint assemblies shall be pre-assembled units manufactured of PVC joints and pipe with double o-ring seals. The lay length of the swing joint shall be a minimum of 6 inches. No Contractor assembled swing joints or Marlex fittings shall be allowed.

Sprinkler swing joints shall be sized per the inlet of the sprinkler on which they are to be used.

Quick coupler swing joint assemblies shall be pre-assembled triple swing units manufactured of PVC joints and pipe with double o-ring seals. Swing joints shall have a 1-inch brass MIPT outlet, for the connection to the quick coupler, and a 1-inch PVC MIPT connection on the inlet side of the assembly. Swing joint shall have an integral collar with holes for the installation of 2 No. 4 reinforcing steel rods to support the quick coupler.

801-5.5.4 Sprinkler Head Adjustment.

Add the following:

Sprinkler heads shall be adjusted to eliminate overspray onto adjacent paving, brick dust, play surfaces or other non-planted areas.

801-5.6 Automatic Control System Installation.

Replace the word "concrete" in both instances in the second sentence of the third paragraph with the word "plastic".

Replace the words "galvanized steel" in the first sentence of the fourth paragraph with the words "Schedule 40 PVC".

801-5.7 Flushing and Testing.

801-5.7.1 General.

Add the following:

Flushing of the lines shall be done before quick coupling valves and remote control valves are in place. All open ends shall be piped temporarily to exhaust flushing water up and out of the trenches.

No water will be permitted to fall into the trench. Flushing procedure will be to first open the ports nearest the source, then recap, and move progressively towards the end of the line, with only one open port flushing at anyone time.

Amend the last sentence of the first paragraph by adding "and approved in writing" at the end of the sentence.

Add the following paragraph to the end of the subsection:

When the irrigation system is completed, a coverage test shall be performed in the presence of the Engineer to determine if the water coverage for planting areas is complete, adequate, and avoids overspray onto walks, roadways, and buildings as much as possible. The Contractor shall furnish all materials and perform all work required to correct any inadequacies of coverage due to deviations from the Plans, or where the system has been willfully installed as indicated on the Plans when it is obviously inadequate, without bringing this to the attention of the Engineer. This test shall be accomplished before any ground cover is planted.

The Contractor shall request the presence of the City in writing at least 48 hours in advance of testing. The Contractor shall flush and adjust all sprinkler heads for optimum performance and to prevent overspray onto walks, roadways, and buildings as much as possible.

801-6 MAINTENANCE AND PLANT ESTABLISHMENT.

Add the following:

- a) Required: Maintain areas on a continuous basis as they are completed during progress of Work and during establishment period. Maintenance shall include continuous operations of watering, weeding, trimming, rodent control, reseeding, planting replacement irrespective of cause or any other operations necessary to assure normal plant growth.
- b) Keep planting areas free of debris and weeds. Cultivate at intervals not to exceed 10 days.

- c) Pruning: Required pruning of plants at start of plant establishment period shall be as required by ARCHITECT.
- d) Plant Establishment Inspection:
 - 1) Request an inspection to begin plant establishment period after plantings and related Work has been completed in accordance with Contract Documents.
 - 2) Upon successful completion of inspection, effective commencement date of plant establishment period shall begin.
 - 3) Plant establishment period for shrubs and ground cover, shall be 90 calendar days and for trees shall be one year or as otherwise indicated in Contract Documents.
 - 4) ARCHITECT may recommend extension of plant establishment period if planting areas are improperly maintained, appreciable plant replacement is required, or other defective Work.
- e) Damage:
 - 1) Immediately replace failed or damaged plantings.
 - 2) Provide replacement plantings of same type and size to match adjacent plantings. Furnish plantings and fertilizer as specified. New plantings shall be subject to a 30 day establishment period.
 - 3) Damage to planting areas shall be repaired immediately. Depressions caused by vehicles or foot traffic shall be filled with topsoil and leveled.
- f) Final Inspection:
 - 1) Upon completion of plant establishment period, ARCHITECT will perform a final inspection.
 - 2) If plant establishment period is completed before Substantial Completion, planting areas shall be maintained until Final Completion.

801-6.1 PESTICIDE APPLICATION *Add the following section:*

CONTRACTOR must comply with specifications outlined in paragraph 801-4.1.2d.

801-6.2 PROTECTION. *Add the following section:*

Unless noted otherwise, protect Work of this section until Substantial Completion.

801-6.3 CLEANUP. *Add the following section:*

Remove rubbish, debris and waste materials and legally dispose of off Project site.

Add the following subsections:

801-6.4 Charts, Manuals, and Drawings.

801-6.1.1 As-Built Drawings.

Contractor shall provide the Engineer with “as-built mylars” at the completion of the project at no additional cost to the City.

Contractor shall dimension from 2 permanent points of reference, building corners, sidewalk or road intersections, etc., the location of the following items:

- 1..... Ball valves
- 2..... Sprinkler control valves
- 3..... Routing of control wiring
- 4..... Quick coupling valves
- 5..... Other related equipment as directed by the City
6. Significant changes in routing of lateral lines from those indicated on the Plans

Delivery. On or before the date of the final inspection, the Contractor shall deliver the corrected and completed mylar aperture cards to the City. Delivery of the final mylar will not relieve the Contractor of the responsibility of furnishing required information that maybe omitted from the prints.

801-6.1.2 Controller Charts.

As-built drawings must be approved by the City before the Contractor prepares the controller charts.

Provide one controller chart for each controller supplied. In the case that no controller is provided, the Contractor shall prepare a new controller chart utilizing any existing system that is being protected, as well as any new systems on line, for the existing controllers.

The chart shall show the area controlled by the automatic controller and shall be the maximum size which the controller door will allow.

The chart is to be a reduced drawing of the actual as-built system. However, in the event the controlled sequence is not legible when the drawing is reduced, it shall be enlarged to a size that will be readable when reduced.

The chart shall be a blackline or blueline print and a different color shall be used to indicate the area of coverage for each station.

When completed and approved, the Contractor shall hermetically seal the chart between two pieces of plastic, each piece being a minimum of 10 mils thick.

These charts shall be completed and approved prior to final inspection of the irrigation system.

801-6.1.3 Manuals.

Operation and Maintenance Manuals. Prepare and deliver to the City within 10 calendar days after substantial completion of the project, two hard cover binders with three rings containing the following information:

1. Index sheet stating Contractor's address and telephone number and list of equipment with name and address of local manufacturer's representatives.
2. Catalog and parts sheets on every material and equipment installed under this contract.
3. Guarantee statement. The guarantee for the sprinkler irrigation system shall be made in accordance with the attached form. The Contractor shall file a complete copy of these specifications along with the guarantee prior to the acceptance of the irrigation system by the City. A copy of the guarantee form shall be included in the operations and maintenance manual. The guarantee form shall be retyped onto the Contractor's letterhead per attached form.
4. Complete operating and maintenance instructions on all major equipment.

In addition to the above-mentioned maintenance manuals, provide the City's maintenance personnel with instructions for major equipment and show evidence in writing to the City at the conclusion of the project that this service has been rendered.

801-6.2 Equipment.

801-6.2.1 Loose Equipment to be Furnished.

The following subsection shall be added (confirm each item with the Engineer prior to actual turn-over):

The Contractor shall supply as a part of this contract the following tools:

1. **Two sets of special tools** required for removing, disassembling and adjusting each type of sprinkler and valve supplied on this project.
2. **Two five-foot valve keys** for operation of gate valves.
3. **One quick coupler key and matching hose swivel** for every five of each type of quick coupling valve installed.
4. **Six spray nozzles** of each type specified on the legend.
5. **Twelve spray bodies** of each manufacturer specified on the legend.
6. **Two rotors** of each manufacturer specified on the legend.
7. **Two gate valves** - line sized - as specified on the legend.
8. **Two keys** each for controller and controller enclosure doors.

The above-mentioned equipment shall be turned over to the City at the conclusion of the project. Before final inspection can occur, evidence that the City has received material must be shown to the Engineer.

801-6.3 GUARANTEE.

Replace this subsection with the following:

The guarantee period shall begin at completion of maintenance or date of substantial completion as per the Engineer, whichever is later.

Upon acceptance, all planting, irrigation, earthwork and trenches shall be guaranteed by the Contractor for a period of 1 year against defects in materials and workmanship.

Any settling of backfill trenches which may occur during the 1-year guarantee period shall be repaired to the City's satisfaction by the Contractor without expense to the City, including the complete restoration of damaged planting, paving, or other improvements of any kind.

Within 15 days of notification by the Engineer, the Contractor shall remove and replace all guaranteed plant materials that for any reason fail to meet the requirements of the guarantee. Replacement shall be made with plant materials as indicated or specified for the original planting and all such replacement materials shall be guaranteed as specified for the original guaranteed materials.

Add the following subsection:

801-7 Payment.

The City will pay for **IRRIGATION** as shown in Section 1.6 of the Technical Specifications at the unit prices shown in the Bid Schedule.

Add the following PART:

PART 11 GREEN STREET

SECTION 1100 – GREEN STREET STORMWATER ELEMENTS

1100-1 Bioretention Soil Media (BSM)

1100-1.1 General

Bioretention Soil Media (BSM) is a formulated soil mixture that is intended to filter storm water and support plant growth while minimizing the leaching of chemicals found in the BSM itself. BSM consists of 70% to 85% by volume washed sand and 15% to 30% by volume compost or alternative organic amendment. Alternative proportions may be justified under certain conditions. BSM shall be mixed thoroughly using a mechanical mixing system at the plant site prior to delivery. In order to reduce the potential for leaching of nutrients, the proportion of compost or alternative organic amendment shall be held to a minimum level that will support the proposed vegetation in the system.

1100-1.2 Sand for Bioretention Soil Media

The sand shall conform to ASTM C33 “fine aggregate concrete sand” requirements. A sieve analysis shall be performed in accordance with ASTM C 136, ASTM D 422, or approved equivalent method to demonstrate compliance with the gradation limits shown in TABLE 1 below. The sand shall be thoroughly washed to remove fines, dust, and deleterious materials prior to delivery. Fines passing the No. 200 sieve shall be non-plastic.

Table 1. Sand Gradation Limits

Sieve Size (ASTM D422)	Percent Passing (by weight)	
	Minimum	Maximum
3/8 inch	100	100
#4	95	100
#8	80	100
#16	50	85
#30	25	60
#50	5	30
#100	0	10
#200	0	5

Note: Coefficient of Uniformity ($C_u = D_{60}/D_{10}$) equal to or greater than 4.

1100-1.3 Compost

Compost shall be certified by the U.S. Composting Council's Seal of Testing Assurance Program or an approved equivalent program. Compost shall comply with the following requirements:

- a) Organic Material Content shall be 35% to 75% by dry weight.
- b) Carbon to nitrogen (C:N) ratio shall be between 15:1 and 40:1, preferably above 20:1 to reduce the potential for nitrogen leaching/washout.
- c) Physical contaminants (manmade inert materials) shall not exceed 1% by dry weight.
- d) pH shall be between 6.0 and 7.5.
- e) Soluble Salt Concentration shall be less than 10 dS/m (Method TMECC 4.10-A, USDA and U.S. Composting Council).
- f) Maturity (seed emergence and seedling vigor) shall be greater than 80% relative to positive control (Method TMECC 5.05-A, USDA and U.S. Composting Council).
- g) Stability (Carbon Dioxide evolution rate) shall be less than 2.5 mg CO₂-C per g compost organic matter (OM) per day or less than 5 mg CO₂-C per g compost carbon per day, whichever unit is reported. (Method TMECC 5.08-B, USDA and U.S. Composting Council). Alternatively, a Solvita rating of 6 or higher is acceptable.
- h) Moisture shall be 25%-55% wet weight basis.
- i) Select Pathogens shall pass US EPA Class A standard, 40 CFR Section 503.32(a).
- j) Trace Metals shall pass US EPA Class A standard, 40 CFR Section 503.13, Tables 1 and 3.
- k) Shall be within gradation limits in Table 2 (ASTM D 422 sieve analysis or approved equivalent).

Table 2. Compost Gradation Limits

Sieve Size	Percent Passing (by weight)
16 mm (5/8")	99 to 100
6.3 mm (1/4")	40 to 95
2 mm	40 to 90

1100-1.4 Alternative Mix Components and Proportions

Alternative mix components and proportions may be utilized, provided that the whole blended mix (1000-1.5) conforms to agricultural, chemical, and hydraulic suitability criteria, as applicable. Alternative mix designs may include alternative proportions, alternative organic amendments and/or the use of natural soils. Alternative mixes are subject to approval by the City Engineer. Additional mix components, such as granular

activated carbon, zeolite, and biochar may be considered to improve performance for other parameters.

1100-1.5 Whole BSM Testing Requirements and Criteria

Contractor shall submit the following information to the City Engineer at least 30 Calendar days prior to ordering materials:

- a) Source/supplier of BSM
- b) Location of source/supplier
- c) A physical sample
- d) Available supplier testing information
- e) Whole BSM test results from a third party independent laboratory
- f) Description of proposed methods and schedule for mixing, delivery, and placement of BSM

Test results shall be no older than 120 Calendar Days and shall accurately represent the materials and feed stocks that are currently available from the supplier. Test results shall demonstrate conformance to 1000-1.6, "BSM Agricultural Suitability", 1000-1.7, "BSM CHEMICAL SUITABILITY", and 1000-1.8, "BSM Hydraulic Suitability". No delivery, placement, or planting of BSM shall begin until test results confirm the suitability of the BSM. Contractor shall submit a written request for approval which shall be accompanied by written analysis results from a written report of a testing agency. The testing agency shall be registered by the State for agricultural soil evaluation which indicates compliance stating that the tested material proposed source complies with these specifications. Third party independent laboratory testing shall be paid at contractor expense.

1100-1.6 BSM Agricultural Suitability

The BSM shall be suitable to sustain the growth of the plants specified and shall conform to the following requirements:

- a) pH range shall be between 6.0-7.5
- b) Salinity shall be less than 3.0 millimho/cm (as measured by electrical conductivity)
- c) Sodium adsorption ration (SAR) shall be less than 3.0
- d) Chloride shall be less than 150 ppm. If chloride levels exceed this value, flushing of the BSM material after placement shall be permitted and performed by pouring at least 1 inch of water over the surface of the BSM.

The test results shall show the following information:

- a) Date of Testing
- b) Project Name
- c) The Contractor's Name
- d) Source of Materials and Supplier's Name
- e) pH
- f) EC
- g) Total and plant available elements (mg/kg particle concentration): phosphorus, potassium, iron, manganese, zinc, copper, boron, calcium, magnesium, sodium, sulfur, molybdenum, nickel, aluminum, arsenic, barium, cadmium, chromium, cobalt, lead, lithium, mercury, selenium, silver, strontium, tin, and vanadium. Plant available concentration shall be assessed based on weak acid extraction

- (ammonium Bicarbonate/DTPA soil analysis or similar)
 - h) Soil adsorption ratio
 - i) Carbon/nitrogen ratio
 - j) Cation exchange capacity
 - k) Moisture content
 - l) Organic content
 - m) An assessment of agricultural suitability based on test results
 - n) Recommendations for adding amendments, chemical corrections, or both.
- BSM which requires amending to comply with these specifications shall be uniformly blended and tested in its blended state prior to testing and delivery.

1100-1.7 BSM Chemical Suitability

For systems with underdrains, the BSM shall exhibit limited potential for leaching of pollutants that are at levels of concern. Potential for pollutant leaching shall be assessed using either the Saturated Media Extract Method (aka, Saturation Extract) that is commonly performed by agricultural laboratories or the Synthetic Precipitation Leaching Procedure (SPLP) (EPA SW846, Method 1312). The referenced tests express the criteria in terms of the pollutant concentration in water that is in contact with the media. In areas in which a pollutant or pollutants are associated with a water quality impairment or a TMDL, BSM in systems with underdrains shall conform to the following Saturation Extract or SPLP criteria for applicable pollutant(s):

- a) Nitrate < 3 mg/L
- b) Phosphorus < 1 mg/L
 - i. Alternative mixtures may be considered for systems with underdrains in areas where phosphorus is associated with a water quality impairment or a TMDL or where the BSM does not achieve the Saturation Extract or SPLP criteria of < 1 mg/L total phosphorus as specified. Details regarding alternative mixtures requirements and potential components are included in 1000-1.4, "Alternative Mix Components and Proportions".
- c) Zinc < 0.1 mg/L
- d) Copper < 0.025 mg/L
- e) Lead < 0.025 mg/L
- f) Arsenic < 0.02 mg/L
- g) Cadmium < 0.01 mg/L
- h) Mercury < 0.01 mg/L
- i) Selenium < 0.01 mg/L

Criteria shall be met as stated where a pollutant is associated with a water quality impairment or Total Maximum Daily Load (TMDL) in any downstream receiving water. Criteria may be waived or modified, at the discretion of the Resident Engineer, where a pollutant does not have a nexus to a water quality impairment or TMDL of downstream receiving water(s). Criteria may also be modified at the discretion of the Resident Engineer if you demonstrate that suitable BSM materials cannot be feasibly sourced within a 50-mile radius of the project site and a good faith effort has been undertaken to investigate available materials. The chemical suitability criteria listed in this section do not apply to systems without underdrains, unless groundwater is impaired or susceptible to nutrients contamination.

1100-1.8 BSM Hydraulic Suitability

The saturated hydraulic conductivity or infiltration rate of the whole BSM shall be measured by one of the following methods:

- a) Measurement of hydraulic conductivity (USDA Handbook 60, method 34b) (commonly available as part of standard agronomic soil evaluation)
- b) ASTM D2434 Permeability of Granular Soils (at approximately 85% relative compaction Standard Proctor, ASTM D698)

BSM shall conform to hydraulic criteria associated with the BMP design configuration that best applies to the facility where the BSM will be installed:

- a) Systems with unrestricted underdrain system (i.e., media control). For systems with underdrains that are not restricted, the BSM shall have a minimum measured hydraulic conductivity of 8 inches per hour to ensure adequate flow rate through the BMP and longevity of the system. The BSM shall have a maximum measured hydraulic conductivity of no more than 20 inches per hour. BSM with higher measured hydraulic conductivity may be accepted at the discretion of the Resident Engineer. In all cases, an upturned elbow system on the underdrain, measuring 9 to 12 inches above the invert of the underdrain, shall be used to control velocities in the underdrain pipe and reduce potential for solid migration through the system.
- b) Systems with restricted underdrain system (i.e., outlet control). For systems in which the flowrate of water through the media is controlled via an outlet control device (e.g., orifice or valve) affixed to the outlet of the underdrain system, the hydraulic conductivity of the media shall be at least 15 inches per hour and not more than 40 inches per hour. The outlet control device shall control the flowrate to between 5 and 12 inches per hour.
- c) Systems without underdrains. For systems without underdrains, the BSM shall have a hydraulic conductivity at least 4 times higher than the underlying soil infiltration rate, but shall not exceed 12 inches per hour.

1100-1.9 Delivery, Storage, and Handling

Contractor shall not deliver or place soils in frozen, wet, or muddy conditions. You shall protect soils and mixes from absorbing excess water and from erosion at all times. You shall not store materials unprotected during large rainfall events (>0.25 inches). If water is introduced into the material while it is stockpiled, you shall allow the material to drain to the acceptance of the Resident Engineer before placement.

BSM shall be thoroughly mixed prior to delivery using mechanical mixing methods such as a drum mixer.

BSM shall be lightly compacted and placed in loose lifts approximately 12 inches (300 mm) to ensure reasonable settlement without excessive compaction. Compaction within the BSM area shall not exceed 75 to 85% standard proctor within the designed depth of the BSM. Machinery shall not be used in the bioretention facility to place the BSM. A conveyor or spray system shall be used for media placement in large facilities. Low

ground pressure equipment may be authorized for large facilities at the discretion of the Resident Engineer.

Placement methods and BSM quantities shall account for approximately 10% loss of volume due to settling. Planting methods and timing shall account for settling of media without exposing plant root systems.

The Resident Engineer may request up to three double ring infiltrometer tests (ASTM D3385) or approved alternative tests to confirm that the placed material meets applicable hydraulic suitability criteria in accordance with 1000-1.8, "BSM Hydraulic Suitability". In the event that the infiltration rate of placed material does not meet applicable criteria, the Resident Engineer may require replacement and/or decompaction of materials.

1100-1.10 Quality Control and Acceptance

Close adherence to the material quality controls herein are necessary in order to support healthy vegetation, minimize pollutant leaching, and assure sufficient permeability to infiltrate/filter runoff during the life of the facility. Amendments may be included to adjust agronomic properties. Acceptance of the material will be based on test results certified to be representative. Test results shall be conducted no more than 120 Calendar Days prior to delivery of the blended BSM to the project site. For projects installing more than 100 cubic yards of BSM, batch-specific tests of the blended mix shall be provided to the Resident Engineer for every 100 cubic yards of BSM along with a site plan showing the placement locations of each BSM batch within the facility.

For BSM material with chlorides exceeding 150ppm, after the flushing described in 1000-1.6 is performed, a sample of the material must be extracted and subject to the testing requirements outlined in 1000-1.5 (including covering the expense) to demonstrate acceptable chloride limits below 150ppm. Should testing show elevated chloride levels that continue to exceed the maximum allowed (150ppm), an additional material flushing shall be performed and the material re-tested.

1100-1.11 Measurement and Payment

The City will include payment for all labor, placement, soil mixture as specified herein, testing, and all other incidentals necessary to install Bioretention Soil Media (BSM) in the payment for the various other items of Work, including **PARKWAY SWALE** and **VEGETATED CURB EXTENSION** as shown in Section 1.6 of the Technical Specifications at the unit prices shown in the Bid Schedule, and will make no separate payment in the bidding schedule.

1100-2 Bioretention Soil Media (BSM)

Drainage of BSM requires the use of specific aggregate materials for filter course (aka choking layer) materials and for an underlying drainage and storage layer.

1000-2.2 Rock and Sand Products for Use in BSM Drainage

Size classifications detailed in Tables 3 and 4 shall apply with respect to BSM drainage materials. All sand and stone products used in BSM drainage layers shall be clean and thoroughly washed.

Table 3. Crushed Rock and Stone Gradation Limits

Sieve Size	Percent Passing Sieves	
	AASHTO No. 57	ASTM No. 8
3 in	-	-
2.5 in	-	-
2 in	-	-
1.5 in	100	-
1 in	95 - 100	-
0.75 in	-	-
0.5 in	25 - 60	100
0.375 in	-	85 - 100
No. 4	10 max.	10 - 30
No. 8	5 max.	0 - 10
No. 16	-	0 - 5
No. 50	-	-

Table 4. Sand Gradation Limits

Sieve Size	Percent Passing Sieves
	Choker Sand - ASTM C33
0.375 in	100
No. 4	95 - 100
No. 8	80 - 100
No. 16	50 - 85
No. 30	25 - 60
No. 50	5 - 30
No. 100	0 - 10
No. 200	0 - 3

1000-2.3 Graded Aggregate Choker Stone

Graded aggregate choker material shall be installed as a filter course to separate BSM from the drainage rock reservoir layer. This ensures that no migration of sand or other fines occurs. The filter course consists of two layers of choking material increasing in particle size. The top layer of the filter course shall be constructed of thoroughly washed ASTM C33 fine aggregate sand material conforming to gradation limits contained in Table 4. The bottom layer of the filter course shall be constructed of thoroughly washed ASTM

No. 8 aggregate material conforming to gradation limits contained in Table 3.

1000-2.4 Open-Graded Aggregate Stone

Open-graded aggregate material shall be installed to provide drainage for overlying BSM and filter course layers, provide additional storm water storage capacity, and contain the underdrain pipe(s). This layer shall be constructed of thoroughly washed AASHTO No. 57 open graded aggregate material conforming to gradation limits contained in Table 3.

1000-2.5 Spreading

Imported BSM drainage material shall be delivered to the BMP system installation site as uniform mixtures and each layer shall be spread in one operation. Segregation within each aggregate layer shall be avoided and the layers shall be free from pockets of coarse or fine material.

Aggregate shall be deposited on underlying layers at a uniform quantity per linear foot (meter), which quantity will provide the required compacted thickness within the tolerances specified herein without resorting to spotting, picking up, or otherwise shifting the aggregate material.

The thickness of the aggregate storage layer (AASHTO No. 57) will depend on site specific design and shall be detailed in contract documents.

The bottom layer of the filter course (ASTM No.8) shall be installed to a thickness of 2 inches (50 mm). The layer shall be spread in one layer. The top layer of the filter course (ASTM C33) shall be installed to a thickness of 2 inches (50 mm). The layer shall be spread in one layer. Marker stakes shall be used to ensure uniform lift thickness.

1000-2.6 Compacting

Filter course material and aggregate storage material shall be lightly compacted to approximately 80% standard proctor without the use of vibratory compaction.

1000-2.7 Measurement and Payment

The City will make no separate measurement or payment for furnishing all labor, installation, compaction, and other incidentals necessary to install the graded aggregate choker material, the cost of which is considered as incidental to and included in the payment for the various other items of Work including **PARKWAY SWALE** and **VEGETATED CURB EXTENSION** as shown in Section 1.6 of the Technical Specifications at the unit prices shown in the Bid Schedule, and will make no separate payment in the bidding schedule.

The City will make no separate measurement or payment for furnishing all labor, installation, compaction, and other incidentals necessary to install the Open-Graded Aggregate Stone, the cost of which is considered as incidental to and included in the payment for the various other items of Work including **PARKWAY SWALE** and **VEGETATED CURB EXTENSION** as shown in Section 1.6 of the Technical

Specifications at the unit prices shown in the Bid Schedule, and will make no separate payment in the bidding schedule.

The City will make no separate measurement or payment for furnishing all labor, installation, compaction, and other incidentals necessary to install the graded aggregate choker material, the cost of which is considered as incidental to and included in the payment for the various other items of Work including **PARKWAY SWALE** and **VEGETATED CURB EXTENSION** as shown in Section 1.6 of the Technical Specifications at the unit prices shown in the Bid Schedule, and will make no separate payment in the bidding schedule.

1100-3 SUBSURFACE DRAINAGE GEOTEXTILE

1100-3.1 General

Nonwoven needle-punched geotextile, manufactured for subsurface drainage applications, made from polyolefins or polyesters; with elongation greater than 50 percent; complying with AASHTO M 288 and the following, measured per test methods referenced:

1. Survivability: Class 1; AASHTO M 288.
2. Grab Tensile Strength: 205 lbf; ASTM D4632.
3. Tear Strength: 80 lbf; ASTM D4533.
4. CBR Puncture Strength: 500 lbf, ASTM D4833.
5. Apparent Opening Size: No. 80 (0.212 mm) sieve, maximum; ASTM D4751.
6. Permittivity: 0.14 per second, minimum; ASTM D4491.
7. UV Stability: 70 percent after 500 hours' exposure; ASTM D4355.

1100-3.2 Execution

1100-3.2.1 Surface Preparation

- A. Surface on which the geotextile shall be placed shall be unyielding and prepared to a relatively smooth surface condition, in accordance with the applicable portion of this specification and shall be free from obstruction, rocks, hard objects, sharp objects, debris, depressions, erosion feature, abrupt changes in grade, or vegetation. Any irregularities shall be removed so as to ensure continuous, intimate contact of the geotextile with the entire surface. Any loose material, soft or low density pockets of material, shall be removed; erosion features such as rills, gullies etc. shall be graded out of the surface before geotextile placement.
- B. Subgrade surface shall be compacted to a minimum of 95% of Relative Compaction based on the Standard Proctor Test. Weak or compressible areas

that cannot be compacted shall be removed and replaced. Subgrade damaged by construction equipment shall be repaired prior to placement.

1100-3.2.2 Installation of the Surface Drainage Geotextile

- A. The geotextile shall be placed in the manner and at the locations shown on the plans. At the time of installation, the geotextile shall be rejected if it has defects, rips, holes, flaws, deterioration or damage incurred during manufacture, transportation, installation or storage.
- B. The geotextile shall be laid smooth and free of tension, stress, folds, wrinkles, or creases. The Contractor shall adjust the actual length of the geotextile used based on initial installation experience. Trimming shall be performed in such a manner that the geotextile shall not be damaged in any way.

1100-3.2 Payment

The City will make no separate measurement or payment for furnishing, surface preparation, and installation of Surface Drainage Geotextile, the cost of which is considered as incidental to and included in the payment for the various other items of Work in the bidding schedule.

The City will make no separate measurement or payment for furnishing all labor, installation, surface preparation, and other incidentals necessary to install the Surface Drainage Geotextile, the cost of which is considered as incidental to and included in the payment for the various other items of Work including **PARKWAY SWALE** and **VEGETATED CURB EXTENSION** as shown in Section 1.6 of the Technical Specifications at the unit prices shown in the Bid Schedule, and will make no separate payment in the bidding schedule.

TECHNICAL SPECIFICATIONS

1.1 GENERAL REQUIREMENTS

All Conditions of the Contract apply to work of this Section.

In case of a conflicting statement between this section and other sections in the specifications or SSPWC, the terms in this Technical Specification shall prevail.

1.2 SCOPE OF WORK

1.2.1 This work includes furnishing labor, materials, tools, equipment, transportation and services required for complete and satisfactory construction of:

CALLES VERDES PROJECT JOB NO. 7605, PLAN NO. P-727

in accordance with the improvement Plans and Specifications prepared therefore by the City of San Fernando.

A. GENERAL NATURE OF WORK

The work to be performed includes, but is not limited to furnishing all materials, equipment, tools, notifications, labor, and incidentals as required by the plans, specifications, and contract documents for the improvements at various locations throughout the City of San Fernando. The work includes but not limited to Saw-cutting; excavation, removal, and disposal of the AC pavement; replacement and compaction of subsurface material; replacement of concrete curb and gutter; setup and maintenance of traffic control system; placement of cool pavement material; placement of tree wells and bioswales; replacement of traffic striping and pavement markings; and clean-up of the project area.

B. PRE-CONSTRUCTION MEETING AND MISCELLANEOUS REQUIREMENTS

Prior to commencing work, there will be a pre-construction meeting to be attended by the Engineer, Inspector, Street Superintendent, and Contractor, and at which time the Contractor shall be informed of specific construction and administrative procedures. The Contractor shall submit a detailed construction schedule, traffic control plan, and materials specifications proposed for use on the project during this meeting.

The Contractor shall secure approval of the traffic control plan prior to beginning any work.

C. SWPPP BEST MANAGEMENT PRACTICES (BMPs)

General

The City of San Fernando is a co-permittee with 85 other cities in Los Angeles County under the National Pollutant Discharge Elimination System (NPDES) General Permit Number CA0061654 (CI 6948) issued by the Los Angeles Regional Water Quality Control Board. This section of the specifications contains recommended practices, called Storm Water Pollution Prevention (SWPP) BMP. All contractors for the City of San Fernando must follow these practices.

Best Management Practices

Measures to retain all sediments, construction-related wastes, spills, and residues on the construction site and keep them from entering any storm drains that lead, untreated, to the ocean must be employed. These measures are required to comply with federally mandated NPDES policy. As a minimum requirement under the permit, a list of BMPs must be utilized which include sediment control, site management and material and waste management. BMPs, however, will differ from one project to the next. It is our best opinion that the BMPs in **bold** highlight in the following table will apply to this project. These BMPs are included in the following pages.

Detailed Best Management Practices

1. Dewatering Operations.....	4-3
2. Paving Operations.....	4-5
3. Material Delivery and Storage	4-9
4. Hazardous Waste Management	4-17
5. Contaminated Soil Management	4-19
6. Concrete Waste Management.....	4-21
7. Seeding and Planting	5-10
8. Mulching	5-16
9. Geotextiles and Mats.....	5-19
10. Dust Controls.....	5-25
11. Construction Road Stabilization	5-35
12. Stabilized Construction Entrance	5-37
13. Sand Bag Barrier	5-71
14. Storm Drain Inlet Protection	5-79
15. Sediment Trap.....	5-87
16. Sediment Basin	5-90

- (1) **All of the Best Management Practices are taken from the California Storm Water Best Management Practice Handbooks.**

1.3 SPECIFICATIONS AND APPENDICES

- 1.3.1 Improvement plans, which form a part of the Contract Documents, are included separately from these specifications.
- 1.3.2 Specifications which form a part of the Contract Documents consist of sections listed in the Table of Contents of these specifications.
- 1.3.3 Qualification of Standard Specifications: Wherever references are made in the Specifications to Standard Specifications or methods, reference shall be made to the Standard Specifications for Public Works Construction, 2021 Edition, as amended.

1.4 COORDINATION

The Contractors shall coordinate the work of the various trades and crafts to avoid possible interferences, duplication of work, or unfinished gaps and conflicts between operations.

The various trades and crafts shall agree that, due to field conditions, minor departures from the improvement plans are bound to occur, and that such departures are self compensating so far as cost of additions or deductions are concerned. No claims for extras or time extensions will be allowed in connection with such minor changes due solely to field conditions.

1.5 CONSTRUCTION FORCE

It shall be construed that each subcontract is an integral part of the General Contract and the Contractor shall provide and maintain, in full operation, at all times during the performance of the contract, a sufficient crew of laborers, mechanics, and foremen to execute the work with dispatch. All construction related efforts and operations shall be continuous and sustained.

1.6 BID ITEM DESCRIPTIONS

BID ITEM 1 – MOBILIZATION:

Mobilization shall consist of the following work: Bonds and insurance, mobilization of materials and equipment to the site, provide all temporary facilities and construction utilities, obtaining any necessary permits, coordination and any other items required to complete the construction not otherwise measured and paid for, demobilization of all of materials and equipment from the site, and on-going and final site clean-up.

Payment for BID ITEM 1 – MOBILIZATION shall be at the contract bid item price per lump sum (LS) and shall include full compensation for furnishing all labor, materials, tools, equipment and incidentals necessary to do all the work involved thereof, complete in place, and accepted.

BID ITEM 2 – TRAFFIC CONTROL AND IMPLEMENTATION:

Traffic control shall conform to provisions set forth by the California Manual on Uniform Traffic Control Devices (MUTCD) and Work Area Traffic Control Handbook (WATCH) Manual. Traffic control plan shall be signed and stamped by a Registered Traffic Engineer and shall be provided to the City at least ten (10) days before work commences.

Payment for BID ITEM 2 – TRAFFIC CONTROL AND IMPLEMENTATION shall be at the contract bid item price per lump sum (LS) and shall include full compensation for furnishing all labor, materials, tools, equipment and incidentals necessary to do all the work involved thereof, complete in place, and accepted.

BID ITEM 3 – STORMWATER POLLUTION PREVENTION PLAN:

The Contractor shall be responsible, at a minimum, for the following erosion control measures and stormwater pollution control measures during the duration of the project:

- Erosion control shall be provided for all erosive surfaces. All graded slopes shall be protected against erosion by installing adequate ground cover vegetation through hydroseeding per the plans, bonded fiber matrix, and installing turf reinforcement matting Series C350 by North American Green or approved equal per the plans.
- No excavation and grading activities shall be done during wet weather.
- Diversion dikes shall be constructed to channel runoff around the construction site to the satisfaction of the City.

- Stored materials shall be contained in a secure place to prevent seepage and spillage. Contractor shall store these products where they will stay dry out of the rain. Contractor shall provide secondary containment for all fuel stored on-site.
- Contractor shall eliminate or reduce pollution of stormwater from stockpiles kept on-site. Stockpiles may include soil, paving materials, asphalt concrete, pipe bedding, aggregate base, etc. Stockpiles shall be located away from concentrated stormwater flows and stormwater inlets. Stockpiles shall be covered or protected with soil stabilization measures and provide a temporary sediment barrier around the perimeter at all times.
- Contractor's employees who perform construction in the City of San Fernando shall be trained to be familiar with the City of San Fernando stormwater pollution control requirements. The Contractor shall inform subcontractors about stormwater requirements and their own responsibilities. Prior to submitting their bid, the Contractor shall contact the **Clean Water Program at (760) 633-2787** to get further information on the City of San Fernando erosion control and stormwater pollution control requirements and incorporate all costs to implement these requirements into their bid.
- Contractor shall be responsible for properly disposing of all wasted and unused construction materials. Dumping of unused or waste products on the ground, where water can carry them into the conveyance system is strictly prohibited.
- No seepage from dumpsters shall be discharged into stormwater. Berms/dikes shall be placed around dumpsters to divert natural storm runoff. Dumpsters shall be checked frequently for leaks. Dumpster lids shall remain closed at all times. Dumpsters without lids shall be placed within structures with impervious roofing or covered with tarps in order to avoid rain contact with any trash material.
- Non-recyclable materials shall be taken to an appropriate landfill or disposed of as hazardous waste. For information on disposal of hazardous material, call the **Hazardous Waste Hotline toll free at (800) 714-1195**. For information on landfills and to order **dumpsters call EDCO at (760) 436-4151**. The Contractor shall only use EDCO dumpsters.
- Pollutants shall be kept off exposed surfaces.
- Portable toilets must be in working order and checked frequently for leaks. Contractor shall provide secondary containment and locate portable toilets away from storm drain inlets on pervious surfaces.
- Construction debris shall be kept away from the street, gutter, and storm drain. The Contractor must routinely check and clean up material that may have traveled from the construction site.

The Contractor and all subcontractors shall comply with the applicable standards, orders, or regulations issued pursuant to the Clean Air Act (42 USE 1857 et. seq.) as amended and Federal Water Pollution Control Act (33 USC 1251 et. seq.) as amended.

Payment for BID ITEM 3 – STORMWATER POLLUTION PREVENTION PLAN shall be at the contract bid item price per lump sum (LS) and shall include full compensation for furnishing all labor, materials, tools, equipment and incidentals necessary to do all the work involved thereof, complete in place, and accepted.

BID ITEM 4 – CLEARING AND GRUBBING:

Work includes, but is not limited to tree and shrub removal, stump removal, root pruning and tree trimming, Ivy removal, excavation, backfill, stock piling, removing, and disposing of all natural and artificial objectionable materials from the construction site, to the limits shown in the Plans. A meeting at the site is required before the work begins. All items to be removed shall be marked for inspection and approved by the County Inspector prior to commencement of work.

Payment for BID ITEM 4 – CLEARING AND GRUBBING shall be at the contract bid item price per lump sum (LS) and shall include full compensation for furnishing all labor, materials, tools, equipment and incidentals necessary to do all the work involved thereof, complete in place, and accepted.

BID ITEM 5 – SAWCUT AND REMOVAL OF EXISTING ASPHALT:

Work shall include sawcut and asphalt removal as shown on the plans and details.

Payment for BID ITEM 5 – SAWCUT AND REMOVAL OF EXISTING ASPHALT shall be at the contract bid item price per lump sum (LS) and shall include full compensation for furnishing all labor, materials, tools, equipment, disposal, recycling, and incidentals necessary to do all the work involved thereof, complete in place, and accepted.

BID ITEM 6 – CURB CUT INLET PARKWAY SWALE:

Construction of PCC curb, subbase and subbase preparation conforming to the provisions of Section 303-5 of the Standard Specifications, SPPWC Standard Plan 120-3, Type A3-6, and the Plans. Concrete shall be Class 560-C-3250.

The replacement concrete shall be graded to drain. If additional length of concrete replacement is necessary to achieve sufficient fall, the Contractor shall immediately notify the Engineer.

Payment for BID ITEM 6 – CURB CUT INLET PARKWAY SWALE shall be at the contract

bid item price per curb cut inlet (EA) and shall include full compensation for furnishing all labor, materials, traffic control (especially on busy streets), notifications, tools, equipment, and incidentals necessary to do all the work involved thereof, complete in place, and accepted, including mortared river rock energy dissipation pad, excavation, subbase and subbase preparation, surface drainage geotextile if required, additional one (1) foot wide AC pavement cut to allow space for forms, two (2) sack slurry backfill of the resultant pavement slot, and replacement of 6" AC pavement over 12" crush aggregate base, and two (2) foot wide cold mill, and energy dissipation pad (3"-6" washed river rock mortared in place). Constructed curb and gutter shall match existing.

BID ITEM 7 – CURB CUT INLET VEGETATED CURB EXTENSION:

Construction of PCC curb, subbase and subbase preparation conforming to the provisions of Section 303-5 of the Standard Specifications, SPPWC Standard Plan 120-3, Type A2-6, and the Plans. Concrete shall be Class 560-C-3250.

The replacement concrete shall be graded to drain. If additional length of concrete replacement is necessary to achieve sufficient fall, the Contractor shall immediately notify the Engineer.

Payment for BID ITEM 7 – CURB CUT INLET VEGETATED CURB EXTENSION shall be at the contract bid item price per curb cut inlet (EA) and shall include full compensation for furnishing all labor, materials, traffic control (especially on busy streets), notifications, tools, equipment, and incidentals necessary to do all the work involved thereof, complete in place, and accepted, including mortared river rock energy dissipation pad, repairing/replacing traffic signal loop detectors, excavation, subbase and subbase preparation, surface drainage geotextile if required, additional one (1) foot wide minimum AC pavement cut to allow space for forms, two (2) sack slurry backfill of the resultant pavement slot, and Tack Coat, replacement of 6" AC pavement over 12" crush aggregate base, and two (2) foot wide cold mill, and energy dissipation pad (3"-6" washed river rock mortared in place). Constructed curb and gutter shall match existing.

BID ITEM 8 – REMOVE AND DISPOSAL OF EXISTING CURB AND GUTTER AND ASSOCIATED CONCRETE SURFACES:

Except for materials indicated to remain City property, cleared materials shall become Contractor's property and shall be removed from the project site. This work shall consist of furnishing labor, equipment, tools, materials, and performing all of the work necessary to complete the removal and disposal process, in conformance with these Specifications and the LA County Waste & Recycling Project Manager. The roadway and adjacent areas shall be left with a neat and finished appearance.

The Contractor shall remove all rocks greater than 18 inches in any direction that require removal for construction of the proposed improvements.

The Contractor shall remove and dispose of all trash within the above limits.

All vegetation shall be stripped to a minimum depth of six inches. Root concentrations are considered unsuitable material and shall be removed from the project site.

All holes resulting from material removal shall be backfilled with material equivalent to surrounding material and compacted to 95% relative density.

Payment for BID ITEM 8 – REMOVE AND DISPOSAL OF EXISTING CURB AND GUTTER AND ASSOCIATED CONCRETE SURFACES shall be at the contract bid item price per lump sum (LS) and shall include full compensation for furnishing all labor, materials, tools, equipment and incidentals necessary to do all the work involved thereof, complete in place, and accepted.

BID ITEM 9 – 6 Inch PCC CURB AND GUTTER PER SPPWC STANDARD PLAN 120-3, Type A3-6:

Construction of PCC curb and gutter, subbase and subbase preparation conforming to the provisions of Section 303-5 of the Standard Specifications, SPPWC Standard Plan 120-3, Type A3-6, and the Plans. Concrete shall be Class 560-C-3250.

The replacement concrete shall be graded to drain. If additional length of concrete replacement is necessary to achieve sufficient fall, the Contractor shall immediately notify the Engineer.

Payment for BID ITEM 9 – 6 Inch PCC CURB AND GUTTER PER SPPWC STANDARD PLAN 120-3, Type A3-6 shall be at the contract bid item price per linear foot (LF) and shall include full compensation for furnishing all labor, materials, traffic control (especially on busy streets), subbase and subbase preparation, excavation, disposal of excess soil, notifications, tools, equipment, and incidentals necessary to do all the work involved thereof, complete in place, and accepted, including additional one (1) foot wide AC pavement cut to allow space for forms, two (2) sack slurry backfill of the resultant pavement slot, and replacement of 6" AC pavement over 12" crush aggregate base, and two (2) foot wide cold mill. Constructed curb and gutter shall match existing.

BID ITEM 10 – 28 Inch VERTICAL CURB:

Construction of PCC vertical curb, subbase and subbase preparation conforming to the plans, provisions of Section 303-5 of the Standard Specifications and Special Provisions. Concrete shall be Class 560-C-3250

Payment for BID ITEM 10 – 28 inch VERTICAL CURB shall be at the contract bid item price per linear foot (LF) and shall include full compensation for furnishing all labor, materials, traffic control (especially on busy streets), subbase and subbase preparation,

excavation, notifications, tools, equipment, and incidentals necessary to do all the work involved thereof, complete in place, and accepted, including additional one (1) foot wide AC pavement cut to allow space for forms, two (2) sack slurry backfill of the resultant pavement slot, and AC pavement, aggregate base, and two (2) foot wide cold mill. Constructed curb and gutter shall match existing.

BID ITEM 11 – PARKWAY SWALE:

Construction of PARKWAY SWALE includes, but is not limited to excavation, disposal, and placement of amended soil, mulch, Bioretention Soil Media (BSM), bioretention liner and anchors as shown on the plans and details.

Payment for BID ITEM 11 – PARKWAY SWALE shall be at the contract bid item price per lump sum (LS) and shall include full compensation for furnishing all labor, materials, tools, equipment and incidentals necessary to do all the work involved thereof, complete in place, and accepted.

BID ITEM 12 – VEGETATED CURB EXTENSION:

Construction of VEGETATED CURB EXTENSION includes, excavation, disposal, and placement of amended soil, mulch, Bioretention Soil Media (BSM), bioretention liner and anchors as shown on the plans and details.

Payment for BID ITEM 12 – VEGETATED CURB EXTENSION shall be at the contract bid item price per lump sum (LS) and shall include full compensation for furnishing all labor, materials, tools, equipment and incidentals necessary to do all the work involved thereof, complete in place, and accepted.

BID ITEM 13 – COOL PAVING SLURRY:

Construction of COOL PAVING SLURRY includes but is not limited to asphalt preparation, phasing of the paving into 2 phases, furnishing and application of the cool paving slurry and seal coat material, cleaning and sealing of cracks greater than ¼", restriping of parking lot, relocation of signage within the parking lot and details and specified in these specifications.

Payment for BID ITEM 13 – COOL PAVING SLURRY shall be at the contract bid item price per lump sum (LS) and shall include full compensation for furnishing all labor, materials, traffic control, phasing, pavement preparation, notifications, tools, equipment, and incidentals necessary to do all the work involved thereof, complete in place, and accepted.

BID ITEM 14 – ADJUST WATER VALVE/GAS VALVE/ WATER METER TO GRADE:

Adjust water valve box and cover, manhole frame and cover, and gas valve box frame and cover to grade, after the 3-step construction.

Payment for BID ITEM 14 – ADJUST WATER VALVE/GAS VALVE/ WATER METER TO GRADE shall be at the contract bid item per lump sum (LS) and shall include full compensation for furnishing all labor, traffic control (especially on busy streets), materials, notifications, tools, equipment and incidentals necessary to do all the work involved thereof, complete in place, and accepted.

BID ITEM 15 – SWALE TREE WELLS:

Construction of SWALE TREE WELLS includes but is not limited to excavation and placement of amended soil, mulch, bioretention liner, root barrier, disposal of excess soil, and anchors as shown on the plans and details.

Payment for BID ITEM 15 – SWALE TREE WELLS shall be at the contract bid item price per unit (EA) and shall include full compensation for furnishing all labor, materials, tools, equipment and incidentals necessary to do all the work involved thereof, complete in place, and accepted.

BID ITEM 16 – PARKING LOT TREE WELLS:

Construction of PARKING LOT TREE WELLS includes but is not limited to excavation and placement of amended soil, mulch, frame and grate installation, disposal of excess soil, concrete footing, and other ancillary items as shown on the plans and details.

Payment for BID ITEM 16 – PARKING LOT TREE WELLS shall be at the contract bid item price per unit (EA) and shall include full compensation for furnishing all labor, materials, tools, equipment and incidentals necessary to do all the work involved thereof, complete in place, and accepted.

BID ITEM 17 – REPLACE, FURNISH, AND INSTALL TRAFFIC STRIPING, SIGNAGE, CURB MARKING, AND PAVEMENT MARKING:

The lump sum price paid for FURNISH and INSTALL TRAFFIC STRIPING, SIGNAGE, CURB MARKINGS, PAVEMENT MARKINGS shall include full compensation for furnishing all labor, materials, tools, equipment and incidentals, and for doing all the work, including cleaning and sealing of cracks, surface preparation, replacing traffic striping, and relocation of signage, involved in installing FURNISH and INSTALL TRAFFIC STRIPING, SIGNAGE, CURB MARKINGS, PAVEMENT MARKINGS, as shown on the plans

Payment for BID ITEM 17 – REPLACE, FURNISH, AND INSTALL TRAFFIC STRIPING, SIGNAGE, CURB MARKING, AND PAVEMENT MARKING shall be at the contract bid item per lump sum (LS) and shall include full compensation for furnishing all labor, materials, traffic control (especially on busy streets), tools, notifications, equipment and incidentals necessary to do all the work involved thereof, complete in place, and accepted.

BID ITEM 18 – ADA RAMP DETECTABLE WARNING SURFACE:

Construction of ADA RAMP DETECTABLE WARNING SURFACE includes but is not limited to concrete preparation, and furnishing of detectable surface as shown on the plans and details and these specifications.

Payment for BID ITEM 18 – ADA RAMP DETECTABLE WARNING SURFACE shall be at the contract bid item price per unit (EA) and shall include full compensation for furnishing all labor, materials, tools, equipment and incidentals necessary to do all the work involved thereof, complete in place, and accepted.

BID ITEM 19 – RELOCATED PARKING LOT ELECTRICAL LINES:

Construction of RELOCATED PARKING LOT ELECTRICAL LINES includes but is not limited to saw cutting and removal of AC pavement, trench excavation, subbase, PVC conduit, wiring, subbase, trench excavation and backfill, rewiring of light poles, notifications, tools, equipment, and incidentals necessary to do all the work involved thereof, complete in place, and accepted, including AC pavement, aggregate base, and two (2) foot wide cold mill as shown on the plans and details, Caltrans Standard Specifications for lighting, and these specifications.

Payment for BID ITEM 19 – RELOCATED PARKING LOT ELECTRICAL LINES shall be at the contract bid item per lump sum (LS) and shall include full compensation for furnishing all labor, traffic control (especially on busy streets), materials, notifications, tools, equipment and incidentals necessary to do all the work involved thereof, complete in place, and accepted.

BID ITEM 20 – IRRIGATION:

Construction of IRRIGATION includes but is not limited to excavation and placement of irrigation lines, valves, backflow preventors, valve boxes, saw cutting and removal of AC pavement, trench excavation, subbase, backfill, tapping of water lines, and all irrigation appurtenances including notifications, tools, equipment, traffic control, and incidentals necessary to do all the work involved thereof, complete in place, and accepted, including AC pavement, aggregate base, and two (2) foot wide cold mill as shown on the plans and

details, and these specifications.

Payment for BID ITEM 20 – IRRIGATION shall be at the contract bid item per lump sum (LS) and shall include full compensation for furnishing all labor, traffic control (especially on busy streets), materials, notifications, tools, equipment and incidentals necessary to do all the work involved thereof, complete in place, and accepted.

BID ITEM 21 – LANDSCAPING:

Construction of Landscaping includes but is not limited to excavation and placement of amended soil, mulch, plants, trees, shrubs, tree stakes and appurtenances, and tree root barriers, as shown on the plans and details, and these specifications.

Payment for BID ITEM 21 – LANDSCAPING shall be at the contract bid item per lump sum (LS) and shall include full compensation for furnishing all labor, traffic control (especially on busy streets), materials, notifications, tools, equipment and incidentals necessary to do all the work involved thereof, complete in place, and accepted

BID ITEM 22 – RESIDENT NOTIFICATIONS:

RESIDENT NOTIFICATIONS shall be at the contract bid item per lump sum (LS) and shall include full compensation for all labor, materials, tools, notifications, and equipment.

BID ITEM 23 – TRAFFIC LOOP DETECTORS:

Construction of Traffic Loop Detectors includes but not limited to installation of Inductive detector traffic loops, saw cutting, installation of lead detectives, and removal of existing loops as shown on the plans and specified in these specifications.

Payment for BID ITEM 23 – TRAFFIC LOOP DETECTORS shall be at the contract bid item per Each (EA) and shall include full compensation for furnishing all labor, traffic control (especially on busy streets), materials, notifications, tools, equipment and incidentals necessary to do all the work involved thereof, complete in place, and accepted

BID ITEM 24 – FURNISH AND INSTALL PARKING LOT STRIPING, AND SIGNAGE:

Construction of PARKING LOT STRIPING, AND SIGNAGE includes but is not limited to asphalt preparation, phasing of the paving into 2 phases, furnishing and restriping of parking lot, removal and replacement of signage within the parking lot as shown on the plans and specified in these specifications.

Payment for BID ITEM 24 – FURNISH AND INSTALL PARKING LOT STRIPING, AND

SIGNAGE shall be at the contract bid item price per lump sum (LS) and shall include full compensation for furnishing all labor, materials, traffic control, phasing, pavement preparation, notifications, tools, equipment, and incidentals necessary to do all the work involved thereof, complete in place, and accepted.

Base Bid

Calles Verdes Cost Estimate

Item No.	Approximate Quantity	Unit of Measure	Item	Unit Price (figures)	Total (figures)
1	1	LS	Mobilization	\$ 45,000	\$ 45,000
2	1	LS	Traffic Control and Implementation	\$ 40,000	\$ 40,000
3	1	LS	Stormwater Pollution Prevention Plan	\$ 25,000	\$ 25,000
4	1	LS	Clearing and Grubbing	\$ 30,000	\$ 30,000
5	1	LS	Sawcut and Removal of Existing Asphalt	\$ 50,000	\$ 50,000
6	32	EA	Curb Cut Inlet Parkway Swale	\$ 50	\$ 1,600
7	44	EA	Curb Cut Inlet Vegetated Curb Extension	\$ 50	\$ 2,200
8	1	LS	Remove and Disposal of Existing Curb and Gutter and Associated Concrete Surfaces	\$ 10,000	\$ 10,000
9	550	LF	6" PCC Curb and Gutter per SDRSD G-02, Type G	\$ 30.00	\$ 16,500
10	350	LF	Vertical Curb	\$ 30.00	\$ 10,500
11	1	LS	Parkway Swale	\$ 45,500.00	\$ 45,500
12	1	LS	Vegetated Curb Extension	\$ 32,000.00	\$ 32,000
13	40560	SF	Cool Paving Slurry	\$ 0.50	\$ 20,280
14	1	LS	Adjust Water Valve/Gas Valve/Water Meter to Grade	\$ 5,000	\$ 5,000
15	16	EA	Swale Tree Wells	\$ 1,000	\$ 16,000
16	12	EA	Parking Lot Tree Wells	\$ 3,000	\$ 36,000
17	1	LS	Furnish and Install Traffic Striping, Signage, Curb Marking, Pavement Marking	\$ 20,000	\$ 20,000
18	1	LS	ADA Ramp Detectable Warning Surface	\$ 8,500	\$ 8,500
19	1	LS	Adjust Electrical Conduit	\$ 7,500	\$ 7,500
20	1	LS	Irrigation	\$ 15,000	\$ 15,000
21	1	LS	Landscaping	\$ 40,000	\$ 40,000
22	1	LS	Resident Notifications	\$ 2,000	\$ 2,000
23	10	EA	Traffic Loop Detectors	\$ 800	\$ 8,000
24	1800	SQFT	Option 1: 6' Wide, 2" Grind and Overlay (Extent of Parkway Swales)	\$ 1	\$ 1,800
25	4500	SQFT	Option 2: 6' Wide, 2" Grind and Overlay (Extent of Parkway Swales)	\$ 1	\$ 4,500

General Conditions 7.5% (site cond., BMP's, Temp.
Restrooms, Etc.)
Contingency (10%)

Total (not inc 24 and 25) \$ **486,580**
\$ 36,494
\$ 52,307.4
Base Total \$ **575,000**