CITY OF LAFAYETTE

3675 Mt. Diablo Boulevard, Suite 210
(925) 284-1951
www.ci.lafayette.ca.us

NOTICE TO CONTRACTORS
BID PROPOSAL
CONTRACT AGREEMENT
CONTRACT SPECIAL PROVISIONS

FOR

FIRST STREET RAIN GARDEN

Project No. 014-9722

Bid Opening Date
July 14th, 2022, 2:00 p.m.

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NOTICE TO CONTRACTORS

Sealed proposals will be accepted at the office of the City Clerk, 3675 Mt. Diablo Boulevard, Suite 210, Lafayette, California until 2:00 P.M., Thursday, July 14, 2022, at which time they will be publicly opened and read, for: Construction of **First Street Rain Garden, Project No. 014-9722**, including, but not limited to: mobilization; traffic control and construction signage; clearing and grubbing including tree and vegetation trimming; removal and disposal of asphalt concrete pavement and subgrade, concrete curb, gutter, sidewalk, curb ramps, and chain link fencing; construction of minor concrete structures, concrete curb, gutter, sidewalk, curb ramps; storm drain facilities, stabilized decomposed granite pathways, landscaping, irrigation; lighting and electrical improvements, traffic stripes, markers, markings and signage; and all other miscellaneous work as shown on the Plans and as described in the Specifications to provide a complete project.

The Engineer's cost estimate is $450,000**.**

An electronic link to the contract documents, including the Plans and Specifications, may be obtained free of charge through the City of Lafayette Engineering Services Division by contacting the Engineering Assistant at tkain@lovelafayette.org or (925)284-1951.

This project shall be constructed in accordance with the March 2013 edition of the City of Lafayette Standard Specifications, which may be obtained at the City of Lafayette Engineering Services Division. The cost of the Standard Specifications is $20 per set; the cost of mailing is an additional $8.

Bids shall be submitted in a sealed envelope titled **"Proposal: First Street Rain Garden Project, Project No. 014-9722".**

The Contractor shall possess a Class "A" license at the time this contract is awarded.

Bidder's attention is directed to requirements in Sections 2 and 3 of the Standard Specifications General Provisions. All bids shall be accompanied by a cashier's or certified check, or a bidder's bond executed by a corporate surety insurer. The bidder's guarantee shall be in the amount equal to at least ten (10) percent of the total bid and shall be made payable to the City of Lafayette. The successful bidder shall furnish a payment bond and a performance bond.

The City reserves the right to waive any informalities or to reject any or all bids.

The City Council has ascertained the General Prevailing Rates of Wages applicable to this work, and these rates are on file in the office of the City of Lafayette Engineering Services Division.

Time of completion allowed for this project will be **sixty-five (65) working days**. Bidder's attention is directed to the schedule stated in Section SP-8 of the Special Provisions.

Questions regarding the project plans or specifications may be directed to Matt Luttropp, City Engineering Office, (925) 284-1951.

The plan holders list, as well as the City Standard Specifications, the Project Special Provisions and the General Prevailing Rates of Wages applicable to this work may be downloaded free of charge from the City of Lafayette web site at http://www.ci.lafayette.ca.us (click on *Public Works and Construction* under the Quick Links sidebar on the homepage, then *City Construction Projects*; **First Street Rain Garden Project** is accessible under *Projects Bidding*). Or you may contact the Engineering Assistant at (925) 284-1951.

CITY OF LAFAYETTE

Date: 6/9/2022

By: _____/s/_____
Matt Luttropp, Engineer Services Manager

CITY OF LAFAYETTE
CALIFORNIA

BID PROPOSAL

FIRST STREET RAIN GARDEN PROJECT

PROJECT NO. 014-9722

TO THE CITY COUNCIL OF THE CITY OF LAFAYETTE:

In compliance with the annexed notice inviting sealed proposals, the undersigned bidder hereby proposes and agrees to perform the work therein described and to furnish all labor, materials and equipment necessary therefor, in accordance with the Plans and Specifications therefor, and further agrees to enter into a contract therefor, at the following prices:

ITEM NO.	ITEM DESCRIPTION	ESTIMATED QUANTITY	UNIT	UNIT PRICE	TOTAL

(SEE ATTACHED BID SCHEDULE)

NOTES:
- All unit prices shall be considered the prices for providing a complete, in-place facility.
- In the event of a discrepancy between the unit price and item total on the Bid Schedule, the unit price shall be used.

o o o

Bidder acknowledges the receipt of the following addenda to the drawings and specifications.

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

o o o

CITY OF LAFAYETTE
FIRST STREET RAIN GARDEN PROJECT - NO. 014-9722

BID SCHEDULE

BASE BID

ITEM NO.	ITEM DESCRIPTION		ESTIMATED QUANTITY	UNIT	UNIT PRICE	TOTAL
1	Mobilization	(SP-12)	1	LS		
2	Project Identificaiton Sign (City Furnished)	(SP-12)	1	LS		
3	Traffic Control	(SP-14)	1	LS		
4	Clearing and Grubbing, Tree Trimming and Tree Proteciton	(SP-16)	1	LS		
5	Site Stripping	(SP-26)	15 (F)	CY		
6	Rough Grading	(SP-26)	20 (F)	CY		
7	Fine Grading	(SP-26)	2,000 (F)	SF		
8	Remove Fencing and Gates	(SP-17)	215	LF		
9	Remove Concrete Curb & Gutter	(SP-17)	72	LF		
10	Remove Concrete Sidewalk and Curb Ramp	(SP-17)	505	SF		
11	Remove Type F Inlet	(SP-17)	1	EA		
12	Abandon Existing 18-in Storm Drain Line	(SP-17)	1	EA		
13	Timber Stairs	(SP-32)	6	EA		
14	Handrails	(SP-32)	24	LF		
15	Decomposed Granite Surfacing-With Stabilizer	(SP-27)	642	SF		
16	Steel Header	(SP-27)	238	LF		
17	Concrete Seatwall	(SP-23)	46	LF		
18	Concrete Curb and Gutter	(SP-23)	36	LF		
19	Concrete Sidewalk	(SP-23)	550	SF		
20	Type 'F' Inlet	(SP-23)	1	EA		
21	Type 'G' Inlet	(SP-23)	1	EA		
22	Type I Manhole	(SP-23)	1	EA		
23	Asphalt Pavement Repair	(SP-22)	670	SF		
24	10-in HDPE Storm Drain Pipe	(SP-24)	120	LF		
25	6-in Bio-Retention Underdrain Pipe and Cleanout	(SP-24)	20	LF		
26	24-in Nyloplast Overflow with Atrium Grate	(SP-24)	1	EA		
27	Streambed Cobble Outfall / RipRap	(SP-31)	45	SF		
28	Bio-Retention Basin	(SP-30)	315	SF		
29	Topsoil	(SP-28)	10	CY		
30	4-inch Pot Plant	(SP-28)	194	EA		

ITEM NO.	ITEM DESCRIPTION		ESTIMATED QUANTITY	UNIT	UNIT PRICE	TOTAL
31	1-Gallon Plant	(SP-28)	285	EA		
32	5-Gallon Shrub	(SP-28)	19	EA		
33	Mulch (3-Inch Depth)	(SP-28)	3,040	SF		
34	Site Boulders	(SP-31)	21 (F)	EA		
35	Irrigation Controller	(SP-29)	1	LS		
36	Backflow Preventer	(SP-29)	1	LS		
37	Irrigation System	(SP-29)	1	LS		
38	Restore Pavement Markings and Markers	(SP-25)	1	LS		
39	Free Standing Metal Bench	(SP-32)	1	EA		
40	Wall Mount Bench	(SP-32)	2	EA		
41	Install Creek Icon and Foundation	(SP-32)	1	EA		
42	Install Interpretive Sign and Posts	(SP-32)	1	EA		
43	Wood and Wire Fence	(SP-32)	130	LF		
44	Wood and Wire Gates	(SP-32)	3	EA		
45	Bollard Fixtures Including Bases	(SP-33)	8	EA		
46	Recessed Wall Fixtures	(SP-33)	5	EA		
47	Sign Up Lights	(SP-33)	2	EA		
48	1" Power Conduit	(SP-33)	300	LF		
49	Pull Boxes	(SP-33)	2	EA		
50	Photocell Controller	(SP-33)	1	LS		
	TOTAL BID					

Attention Bidders:

Bidders shall complete both the "Base Bid" and "Alternate Bid" in order to submit a responsive bid. The contract will be awarded on the basis of the lowest responsible bid for the Base Bid. The City will determine and reserves the right and discretion after the Bid Opening whether to include Alternate Bid item(s) per bid prices submitted by the contractor selected. The contractor shall honor said bid prices. The contractor will be advised of the addition at the pre-construction meeting.

Bidder agrees that in case of default in executing and returning the required contract and bonds within ten (10) calendar days after having received the contract, proceeds of the guarantee accompanying his bid will become the property of the City of Lafayette.

o o o

In conformance with Subsection 2-13 "Listing of Proposed Subcontractors" of the Standard Specifications, the name and location of the place of business of each subcontractor is as follows:

NAME	DIR NUMBER	ADDRESS	WORK TO BE PERFORMED
1.			
2.			
3.			
4.			
5.			

o o o

Bidder certifies that he is licensed in accordance with an act providing for the registration of Contractors as follows:

License No. _____ Class _____

o o o

Bidder certifies that he has not, nor have any of his or its agents, officers, representatives, or employees, been guilty of collusion with any officer or representative of the City of Lafayette or with any other party or parties in the submission of this Proposal; nor has said bidder received any preferential treatment by any officer or employee of the City of Lafayette in the matter of making or submitting this proposal. The undersigned declares under penalty of perjury that the foregoing is true and correct.

o o o

Bidder certifies that there will be no discrimination in employment with regard to race, color, religion, sex, sexual orientation, or national origin; that all Federal, State, and local directives and executive orders regarding nondiscrimination in employment will be complied with and that the principle of equal opportunity in employment will be demonstrated positively and aggressively.

All bidders that have not had a contract with the City of Lafayette during the past three (3) years shall list below previous jobs that they have successfully completed and shall also show the amount of the contract therefor.

Name and Address of Agency or Individual for Whom Work was Done	Phone Number	Date Completed	Contract Price
1.			
2.			
3.			
4.			
5.			
6.			

NONCOLLUSION DECLARATION

The undersigned declares:

I am the _____ of _____, the party making the foregoing bid.
Title *Firm*

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

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

I declare under penalty of perjury under the laws of the State of California that the foregoing is true and correct and that this declaration is executed on _____, at
Date

_____, _____.
City *State*

By:_____
Signature

Name:_____
Printed or Typed

Date:_____

Title:_____

PROPOSAL GUARANTEE

BID BOND

FIRST STREET RAIN GARDEN PROJECT

PROJECT NO. 014-9722

KNOW ALL PERSONS BY THESE PRESENTS that _____, as BIDDER, and _____, as SURETY, are held and firmly bound unto City of Lafayette, as Owner, in the penal sum of _____ dollars ($) which is ten percent of the total amount bid by BIDDER to Owner for the above stated project, for the payment of which sum, BIDDER and SURETY agree to be bound, jointly and severally, firmly by these presents.

THE CONDITIONS OF THIS OBLIGATION ARE SUCH that, whereas BIDDER is about to submit a bid to Owner for the above stated project, if said bid is rejected, or if said bid is accepted and a contract is awarded and entered into by BIDDER in the manner and time specified, then this obligation shall be null and void, otherwise it shall remain in full force and effect in favor of Owner.

IN WITNESS WHEREOF the parties hereto have set their names, titles, hands, and seals this ____ day of _____, 2022.

BIDDER _____

_____

_____

SURETY _____

_____

_____

Subscribed and sworn to this ___ day of _____, 2022.

NOTARY PUBLIC _____

PROPOSAL SIGNATURE SHEET

The completed proposal submitted herewith includes all sheets numbered "P-1 through P-9" at the bottom. The following required attachments have been executed and are included:

a. Bid Proposal (with Addenda acknowledgement)
b. Bid Schedule
c. Noncollusion Declaration
d. Proposal Guarantee "Bid Bond" with Notarized Signatures
e. Proposal Signature Sheet
f. Public Works Contractor Registration Certification

Legal Name of Firm: _____

Business Address: _____

Telephone Number: ( ) _____

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

Joint Venture Proposal?: ( ) Yes ( ) No

Authorized Signature: _____

Name: _____

Position: _____

Date of Execution: _____

For a partnership, name all co-partners below,
For a corporation, name president, secretary, treasurer and manager.

NAME	**TITLE**
_____	_____
_____	_____
_____	_____
_____	_____

Corporate Seal:

PUBLIC WORKS CONTRACTOR REGISTRATION CERTIFICATION

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

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

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

Name of Contractor: _____

DIR Registration Number: _____

Contractor further acknowledges:

1. Contractor shall maintain a current DIR registration for the duration of the project.

2. Contractor shall include the requirements of Labor Code sections 1725.5 and 1771.1 in its contract with subcontractors and ensure that all subcontractors are registered at the time of bid opening and maintain registration status for the duration of the project.

3. Failure to submit this form or comply with any of the above requirements may result in a finding that the bid is non-responsive.

Signature: _____

Name and Title: _____

Dated: _____

CITY OF LAFAYETTE

CONTRACT AGREEMENT FOR CONSTRUCTION

THIS AGREEMENT is made and entered into as of _____, 2022, by and between the CITY OF LAFAYETTE ("City") and _____ ("Contractor").

RECITALS

A. City desires to retain the services of Contractor to provide services for Construction of **First Street Rain Garden, Project No. 014-9722**, including, but not limited to: mobilization; traffic control and construction signage; clearing and grubbing including tree and vegetation trimming; removal and disposal of asphalt concrete pavement and subgrade, concrete curb, gutter, sidewalk, curb ramps, and chain link fencing; construction of minor concrete structures, concrete curb, gutter, sidewalk, curb ramps; storm drain facilities, stabilized decomposed granite pathways, landscaping, irrigation; lighting and electrical improvements, traffic stripes, markers, markings and signage; and all other miscellaneous work as shown on the Plans and as described in the Specifications to provide a complete project.

B. Contractor has represented to City that it has the expertise, experience and qualifications to perform the services described in Paragraph A, above, and those services which are more fully described below.

NOW, THEREFORE, in consideration of the foregoing and the covenants and agreements set forth below, City and Contractor agree as follow:

1. Contract Documents. The contract documents for the aforesaid project shall consist of the Notice to Contractors, Bid Proposal, General Provisions, Technical Provisions, Special Provisions including appendices, Design Drawings, and all referenced specifications, details, standard drawings, and their appendices; together with this Contract Agreement and all required bonds, insurance certificates, permits, notices and affidavits; and also including any and all addenda or supplemental agreements clarifying, amending, or extending the work contemplated as may be required to insure its completion in an acceptable manner. All of the provisions of said contract documents are made a part hereof as though fully set forth herein.

2. Services. For and in consideration of the payments and agreements to be made and performed by City, Contractor agrees to furnish all materials and perform all work required for the above-stated project, and to fulfill all other obligations as set forth in the aforesaid contract documents. Contractor agrees to receive and accept the prices set forth in the Proposal as full compensation for furnishing all materials, performing all work, and fulfilling all obligations hereunder. Said compensation shall cover all expenses, losses, damages, and consequences arising out of the nature of the work during its progress or prior to its acceptance including those for well and faithfully completing the work and the whole thereof in the manner and time specified in the aforesaid contract documents; also including those arising from actions of the elements, unforeseen difficulties or obstructions encountered in the prosecution of the work, suspension or discontinuance of the work, and all other unknowns or risks of any description connected with the work.

3. Employment by City. City hereby promises and agrees to employ, and does hereby employ, Contractor to provide the materials, do the work, and fulfill the obligations according to the terms and conditions herein contained and referred to, for the prices aforesaid, and hereby contracts to pay the same at the time, in the manner, and upon the conditions set forth in the contract documents.

4. Worker's Compensation. Contractor acknowledges the provisions of the State Labor Code requiring 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 certifies compliance with such provisions. Limits shall be not less than those specified in the insurance requirements contained in the General Provisions of the Standard Specifications, and as modified in these Special Provisions.

5. Insurance. With respect to performance of work under this contract, Contractor shall maintain and shall require all of its subcontractors to maintain insurance as required in the General Provisions of the Standard Specifications, and as modified in these Special Provisions.

6. Indemnity. Contractor shall comply with the indemnification requirements contained in the General Provisions of the Standard Specifications and the Special Provisions.

7. Assignment. This contract is not assignable nor the performance of either party's duties delegable without the prior written consent of the other party. Any attempted or purported assignment or delegation of any of the rights or obligations of either party without the prior written consent of the other shall be void and of no force and effect.

8. Non-discrimination. Contractor shall not discriminate in the hiring of employees or the employment of subcontractors on any basis prohibited by law.

9. Independent Contractor. Contractor is and shall at all times remain as to City, a wholly independent contractor. Neither City nor any of its agents shall have control of the conduct of Contractor or any of the Contractor's employees, except as herein set forth. Contractor shall not at any time or in any manner represent that it or any of its agents or employees are in any manner agents or employees of City.

10. Contractor and Subcontractor Registration. Pursuant to Labor Code sections 1725.5 and 1771.1, all contractors and subcontractors that wish to bid on, be listed in a bid proposal, or enter into a contract to perform public works must be registered with the Department of Industrial Relations. No bid will be accepted nor any contract entered into without proof of the contractor's and subcontractors' current registration with the Department of Industrial Relations to perform public work. Contractor is directed to review, fill out and execute the Public Works Contractor Registration Certification contained in the Bid Proposal prior to contract execution.

11. Labor Compliance. This Project is subject to compliance monitoring and enforcement by the Department of Industrial Relations. It shall be the Contractor's sole responsibility to evaluate and pay the cost of complying with all labor compliance requirements under this Contract and applicable law.

12. Notices. All notices and communications shall be sent to the parties at the following addresses:

CITY: City Engineer
City of Lafayette
3675 Mount Diablo Boulevard, Suite 210
Lafayette, California 94549

CONTRACTOR: _____

_____

_____

_____

13. Authorized Signature. Contractor affirms that the signatures, titles, and seals set forth hereinafter in execution of this contract agreement represent all individuals, firm members, partners, joint ventures, and/or corporate officers having a principal interest herein.

14. Entire Agreement; Modification. This contract supersedes any and all other agreements either oral or written, between the parties and contains all of the covenants and agreements between the parties pertaining to the work of improvements described in Paragraph A of the Recitals herein above. Each party to this contract acknowledges that no representations, inducements, promises, or agreements, orally or otherwise, have been made by any party, or anyone acting on behalf of any party, which are not embodied herein, and that any other agreement, statements or promise not contained in this contract shall not be valid or binding. Any modification of this contract will be effective only if signed by the party to be charged.

15. Claims Procedure. In the event of a dispute between the parties regarding a) a time extension demand, b) payment arising for work performed by or on behalf of the contractor which is not otherwise expressly provided for, or c) an amount the payment of which is disputed by the City, the procedure in Section 10 of the City of Lafayette Standard Specifications shall be used.

IN WITNESS WHEREOF the parties hereto for themselves, their heirs, executors, administrators, successors, and assigns do hereby agree to the full performance of the covenants herein contained and have caused this Contract Agreement to be executed in duplicate by setting hereunto their names, titles, hands, and seals this ____ day of _____ 2022.

Contractor: _____

<***Type Business Name Here***>

Name:_____

Title: _____

Contractor's License No. _____

Federal Tax Identification No. _____

Subscribed and sworn to this ___ day of _____ 2022.

Notary Public _____

Agency: _____

City Manager of the City of Lafayette

Attested: _____
City Clerk of the City of Lafayette

Date: _____

PAYMENT BOND

(TO BE EXECUTED WITHIN TEN [10] CALENDAR DAYS OF CONTRACT AWARD)

WHEREAS, the City of Lafayette (Owner) has awarded to _____, as Contractor, a contract for the work described as follows: Construction of **First Street Rain Garden, Project No. 014-9722**, including, but not limited to: mobilization; traffic control and construction signage; clearing and grubbing including tree and vegetation trimming; removal and disposal of asphalt concrete pavement and subgrade, concrete curb, gutter, sidewalk, curb ramps, and chain link fencing; construction of minor concrete structures, concrete curb, gutter, sidewalk, curb ramps; storm drain facilities, stabilized decomposed granite pathways, landscaping, irrigation; lighting and electrical improvements, traffic stripes, markers, markings and signage; and all other miscellaneous work as shown on the Plans and as described in the Specifications to provide a complete project.

AND WHEREAS, said Contractor is required to furnish a bond in connection with said contract, to secure the payment of claims of laborers, mechanics, materials persons, and other persons as provided by law;

NOW, THEREFORE, we, the undersigned Contractor and surety, are held firmly bound unto the Owner in the sum of _____Dollars ($_____), for which payment well and truly to be made we bind ourselves, our heirs, executors and administrators, successors and assigns, jointly and severally, firmly by these presents.

THE CONDITION OF THIS OBLIGATION IS SUCH:

That if said Contractor, its heirs, executors, administrators, successors, or assigns, or subcontractors, shall fail to pay any of the persons named in Civil Code Section 3282, or amounts due under the Unemployment Insurance Code with respect to work or labor performed by any such claimant, or any amounts required to be deducted, withheld, and paid over to the Employment Development Department from the wages of employees of the Contractor and its subcontractors pursuant to Section 13020 of the Unemployment Insurance Code, with respect to such work and labor, that the surety or sureties herein will pay for the same in any amount not exceeding the sum specified in this bond, otherwise the above obligation shall be void. In case suit is brought upon this bond, the said surety will pay a reasonable attorney's fee to the Owner in an amount to be fixed by the court.

This bond shall insure to the benefit of any of the persons named in Civil Code Section 3181 as to give a right of action to such persons or their assigns in any suit brought upon this bond.

IN WITNESS WHEREOF, we have hereunto set our hands and seals on this ____ day of _____, 2022.

CONTRACTOR:_____	SURETY_____
Print Name:_____	NAME_____
Title:_____	ADDRESS_____
	TELEPHONE_____

PERFORMANCE BOND

(TO BE EXECUTED WITHIN TEN [10] CALENDAR DAYS OF CONTRACT AWARD)

KNOW ALL PERSONS BY THESE PRESENTS:

THAT WHEREAS, the City of Lafayette (Owner) has awarded to _____, as Contractor, a contract for the work described as follows: Construction of **First Street Rain Garden, Project No. 014-9722**, including, but not limited to: mobilization; traffic control and construction signage; clearing and grubbing including tree and vegetation trimming; removal and disposal of asphalt concrete pavement and subgrade, concrete curb, gutter, sidewalk, curb ramps, and chain link fencing; construction of minor concrete structures, concrete curb, gutter, sidewalk, curb ramps; storm drain facilities, stabilized decomposed granite pathways, landscaping, irrigation; lighting and electrical improvements, traffic stripes, markers, markings and signage; and all other miscellaneous work as shown on the Plans and as described in the Specifications to provide a complete project.

AS WHEREAS, the Contractor is required to furnish a bond in connection with said contract guaranteeing the faithful performance thereof;

NOW, THEREFORE, we, the undersigned Contractor and surety, are held firmly bound unto the Owner in the sum of _____Dollars ($_____), to be paid to the Owner, its successors and assigns, for which payment well and truly to be made we bind ourselves, our heirs, executors and administrators, successors and assigns, jointly and severally, firmly by these presents.

THE CONDITION OF THIS OBLIGATION IS SUCH:

That if said Contractor, its heirs, executors, administrators, successors, or assigns, shall in all things stand to and abide by and well and truly keep and perform the covenants, conditions, and agreements in the foregoing contract and any alteration thereof made as therein provided on its or their part to be kept and performed at the time and in the manner therein specified and in all respects according to their true intent and meaning, and shall indemnify and save harmless the Owner, its officers, and agents, as therein stipulated, then this obligation shall become and be null and void; otherwise it shall be and remain in full force and effect. In case suit is brought upon this bond, the said surety will pay a reasonable attorney's fee to the Owner in an amount to be fixed by the court. Surety, for value received, hereby stipulates and agrees that no amendment, change, extension of time, alteration, or addition to said contract, and of any feature or item or items of performance required therein or thereunder, shall in any manner affect its obligations on or under this bond; and said surety does hereby waive notice of any such amendment, change, extension of time, alteration, or addition to said contract, and of any feature or item or items of performance required therein or thereunder, shall in any manner affect its obligations on or under this bond; and said surety does hereby waive notice of any such amendment, change extension of time, alteration, or addition to said contract, and of any feature or item or items of performance required therein or thereunder.

IN WITNESS WHEREOF, we have hereunto set our hands and seals on this ____ day of _____, 2022.

CONTRACTOR:_____ SURETY_____

Print Name:_____ NAME_____

Title:_____ ADDRESS_____

TELEPHONE_____

SPECIAL PROVISIONS SECTION SP-1

GENERAL

(NO BID ITEM)

SP1-01 REFERENCES

The work to be done under this contract, except as modified or supplemented herein, shall conform to the following:

- The City of Lafayette General Provisions of the Standard Specifications dated March 2013, herein referred to as the "General Provisions of the Standard Specifications".
- The City of Lafayette Technical Provisions of the Standard Specifications dated March 2013, herein referred to as the "Technical Provisions of the Standard Specifications".

Where specifically referred to, the work shall also conform to the following:

- The State of California Department of Transportation (Caltrans) Standard Specifications, For Construction of Local Streets and Roads, 2018 Edition, herein referred to as the "State Specifications" or "State Standard Specifications" or "Standard Specifications".
- The State of California Department of Transportation (Caltrans) Standard Plans, 2018 Edition, herein referred to as the "State Standard Plans".
- The Contra Costa County Public Works Department Standard Plans, most current edition, herein referred to as the "County Standard Plans".

These Special Provisions are additions, modifications, or clarifications to the referenced Standard Specifications and generally supersede the referenced or applicable sections of said Standard Specifications. Refer to Section 5-4, "Precedence of Contract Documents", of the General Provisions of the Standard Specifications for the order of precedence of Contract Documents. Where ambiguity or conflict exist in the interpretation of precedence, the provision resulting in the highest quality or most expensive grade of construction or product shall govern.

SPECIAL PROVISIONS SECTION SP-2, 3 (NOT USED)

SPECIAL PROVISIONS SECTION SP-4

PLANS AND SPECIFICATIONS (GENERAL)

(NO BID ITEM)

The provisions of Section 4, "Plans and Specifications (General)," of the General Provisions of the Standard Specifications shall apply in their entirety and as supplemented herein.

SP4-01 SCOPE OF WORK

The work to be performed under this contract including, but not limited to: mobilization; traffic control and construction signage; clearing and grubbing including tree and vegetation trimming; removal and disposal of asphalt concrete pavement and subgrade, concrete curb, gutter, sidewalk, curb ramps, and chain link fencing; construction of minor concrete structures, concrete curb, gutter, sidewalk, curb ramps; storm drain facilities, stabilized decomposed granite pathways, landscaping, irrigation; lighting and electrical improvements, traffic stripes, markers, markings and signage; and all other miscellaneous work as shown on the Plans and as described in the Specifications to provide a complete project.

SP4-02 PAYMENT

No separate payment will be made for preparing and submitting "As-Built Drawings." Full compensation for preparing and submitting "As-Built Drawings" shall be considered as included in the prices paid for various contract items of work, and no additional compensation shall be allowed therefor.

SPECIAL PROVISIONS SECTION SP-5

CONTROL OF WORK AND MATERIALS

(NO BID ITEM)

The provisions of Section 5, "Control of Work and Materials," of the General Provisions of the Standard Specifications shall apply in their entirety and as supplemented herein.

SP5-01 CONSTRUCTION SURVEY STAKING

The Engineer will provide paint markings for pavement restoration, removal and replacement of curb, gutter and sidewalks.

The City shall provide all construction survey staking for:

1. Alignment and grades for storm drain
2. Alignment and extents of path
3. Location and extents of timber box steps
4. Location of concrete seat walls and benches
5. Corner posts for fences and gates
6. Location of Creek Icon

and other items which, in the opinion of the Engineer, require survey staking. The Contractor shall submit staking requests in writing at least five (5) working days in advance of beginning work that requires construction survey staking. The Contractor shall be responsible for paying the cost of resetting survey stakes which are damaged or obliterated by the Contractor's operations.

The Contractor will be responsible for providing traffic control for the City's survey crew as necessary for any required offset stakes which will need to be set in the roadway, including providing a lane closure and/or flaggers when required. The Engineer will notify the Contractor a minimum of 48 hours prior to the required survey staking in order to coordinate traffic control.

SP5-02 MATERIAL SAMPLING AND TESTING

Compaction tests and/or material sampling and testing may be performed by the City's representatives on aggregate base, native soil backfill, decomposed granite, portland cement concrete, asphalt concrete, and other work and materials, which in the opinion of the Engineer, require sampling or testing. Test locations shall be determined by the Engineer. The Contractor shall coordinate and cooperate with the Engineer and testing personnel, and no claims of delays or inconvenience due to testing and/or sampling shall be allowed.

If a test shows that materials or work in question fails to meet the Specifications, retests shall be taken after the Contractor takes corrective measures. Retests shall be repeated until a passing test is obtained. All costs incurred by the City in retesting shall be deducted from the money due to the Contractor.

SP5-03 SUBMITTALS

At minimum, the Contractor shall provide submittals to the Engineer for the following materials. Additional submittals may be found in the various sections of these Special Provisions for the Work.

- Class 2 Aggregate Base

- Class 2 Permeable
- Bio-Retention Soil Mix
- Decomposed Granite sample and manufacturer's product sheet
- Decomposed Granite Solidifying Emulsion manufactures product sheet and instructions
- Steel Header (2-foot-long sample)
- Asphalt Concrete Mix Design
- Portland Cement Concrete Mix Designs of All Types
- Storm Drain Inlet Grates and Covers
- Storm Drain Structures
- Pipes
- Handrails (material sample and shop drawings)
- Seat Wall (finish sample and shop drawings)
- Site Boulders
- Fence Wire
- Fence Lumber and Stairway Timber
- Planting Materials
- Irrigation Materials and Equipment
- Lighting Materials and Equipment
- Thermoplastic Striping Material
- Sign and Post Materials
- Water Pollution Control Plan
- Waste Management Plan
- Traffic Control Plan and Certification of Qualified Personnel
- CAL/OSHA Excavation Permit

SP5-04 ORDER OF WORK

Unless otherwise directed by the Engineer, the following major items of work shall be performed in the following general order. Not every item of Contract Work is shown. Contractor shall accordingly coordinate miscellaneous and coincidental work related to or associated with major work items in order to avoid out-of-sequence construction and conflicts. Not all stages of work apply to every location within the Project.

1. Notify Underground Service Alert (USA) to have utilities marked.

2. Install project identification signs one week in advance of the start of work.
3. Install water pollution control measures.
4. Install tree protection.
5. Submit waste management plan prior to commencing any demolition work.
6. Perform utility potholing work to confirm depths of existing utility lines. No additional excavation work will be permitted until Contractor's Utility Pothole Log (Appendix to Standard Specifications) is submitted to the Engineer for review.
7. Clearing, grubbing, and tree and vegetation trimming
8. Demolition of hardscape including, but not limited to, asphalt pavement, curb, gutters, and sidewalk
9. Remove, repair, modify, and/or construct storm drain facilities.
10. Perform site grading.
11. Restore/construct concrete curb, gutter, curb ramp, sidewalk, and other flatwork.
12. Construct Site Improvements.
13. Install Irrigation.
14. Install Lighting.
15. Install Plantings.
16. Install Interpretive Signs and Creek Icon.
17. Place permanent striping, markers and legends.
18. Complete all other construction work and punch list items.
19. Remove tree protection, construction area signs and project identification signs.
20. Submit completed waste assessment summary report form.
21. Submit as-built plans.

The Contractor's attention is directed to Section SP8-02, "Progress Schedule", of these Special Provisions.

Any deviation from these requirements and provisions shall be sufficient cause for the Engineer to suspend the work in accordance with the provisions of Section 8-3, "Temporary Suspension of the Work", of the General Provisions. The contractor will not be permitted to resume the work until Contractor has remedied said deviation in accordance with the provisions of the Contract.

SP5-05 PAYMENT

No separate payment will be made for conforming to the provisions of this section. Full compensation for conforming to all the provisions of this section shall be considered as included in the prices paid for various contract items of work and no additional compensation will be allowed therefor.

SPECIAL PROVISIONS SECTION SP-6

LEGAL RELATIONS AND RESPONSIBILITIES

(NO BID ITEM)

The provisions of Section 6, "Legal Relations and Responsibilities," of the General Provisions of the Standard Specifications shall apply in their entirety and as supplemented herein, and in other related sections of these Special Provisions.

SP6-01 PERMITS

The City of Lafayette has applied for a Fish and Wildlife permit, and we anticipate receiving this permit by July 15th. No work may begin on the project until a permit has been issued. If any mitigation requirement or conditions indicated on the permit are not contained in these specifications compliance with these mitigations or additional conditions shall be paid for on a time and materials basis.

Mitigations measures to be implemented shall include the following:

1. Silt fencing shall be installed to prevent silt or construction debris from entering the creek.
2. No waste water shall be discharged to the creek.

The City of Lafayette has received an encroachment permit from the County Flood Control District (FCD) for work within the FCD easement on the property. The contractor shall comply with all permit conditions on the permit. A copy of the permit is provided in the Appendix.

SP6-02 PAYMENT

No separate payment will be made for conforming to the provisions of this section. Full compensation for conforming to all the provisions of this section shall be considered as included in the prices paid for various contract items of work and no additional compensation will be allowed therefor.

SPECIAL PROVISIONS SECTION SP-7

EXISTING UTILITIES

(NO BID ITEM)

The provisions of Section 7, “Existing Utilities," of the General Provisions of the Standard Specifications shall apply in their entirety and as supplemented herein.

Contractor shall pothole all existing utilities that may be in conflict with the proposed work and shall document the location and depth of these utilities on the Utility Pothole Log, included in the Appendix of these Special Provisions.

If the Contractor determines that utilities are in conflict with the proposed storm drain line the Contractor shall notify the Engineer immediately.

The City reserves the right to make adjustments in the grades and/or alignment of the proposed improvements to avoid obstructions. Where it becomes necessary to rearrange the obstructions for the construction of the proposed improvements, the Contractor shall assume responsibility for notifying the City and for coordination of this work. In either case, no additional compensation shall be allowed to the Contractor for delays or inconveniences. The Contractor may request the City to adjust the contract working days by an equal number of days that it takes to resolve the obstructions, if the controlling item of work is delayed.

SP7-01 UTILITY CONTACTS

At the time of writing of these Specifications, at least the following agencies are known to have facilities within the limits of the Project. Their phone numbers are provided for the Contractor’s convenience. It is the Contractor’s responsibility to verify the contact information and perform the coordination as required by Contract.

A. Central Contra Costa Sanitary District	925.228.9500
B. East Bay Municipal Utility District	510.287.0834
	866.403.2683
C. AT&T	415.542.9000
D. Pacific Gas and Electric	
Emergency	800.743.5000
Gas	510.784.3211
Electric	510.784.3236
E. Consolidated Fire Protection District	925.930.5531
F. Comcast Cable	925.349.3300
G. Sprint	650.513.2545

SP7-02 GAS TRANSMISSION MAIN

Attention is directed to the 12-in high pressure gas transmission line shown on the plans that the proposed storm drainpipe crosses underneath. The contractor must contact PG&E prior to any excavation to confirm requirements for working near the transmission line and to coordinate required monitoring and/or inspection. The portion of the trench within 10 feet of the line shall be considered a Special Construction Zone and the following additional conditions shall apply within this zone:

1. A PG&E gas transmission standby inspector must be present during any activities within 10 feet of the gas pipeline. This includes all potholing, excavation, backfill and paving operations. This inspection can be coordinated through the Underground Service Alert (USA) service at 811. A minimum notice of 48 hours is required.
2. To prevent damage to the buried gas pipeline, the following allowable wheel loading limits must be adhered to:

Allowable Wheel Loading	
Cover	Pounds per Wheel (Half Axle)
2 ft	15,000
3 ft	30,000
4 ft	50,000

3. The horizontal and vertical location of the gas transmission pipeline must be positively confirmed by potholing every 5 feet along the length of the gas transmission line within the paved surface of the road.
4. Excavation around existing gas pipeline shall be made with sand for a distance of 12” around the pipe in all directions prior to the placement of cement slurry.
5. Subgrade shall be compacted using a jumping-jack-style compactor not exceeding 200 pounds and the asphalt concrete base lifts shall be compacted with a small roller not exceeding 6200 pounds, unless otherwise authorized in writing in advance by the Engineer or the PG&E representative.

SP7-03 PAYMENT

No separate payment will be made for conforming to the provisions of this section. Full compensation for conforming to all the provisions of this section shall be considered as included in the prices paid for various contract items of work and no additional compensation will be allowed therefor.

SPECIAL PROVISIONS SECTION SP-8

PROGRESS OF WORK
(NO BID ITEM)

The provisions of Section 8, "Progress of Work," of the General Provisions of the Standard Specifications shall apply in their entirety and as supplemented herein.

SP8-01 PRE-CONSTRUCTION MEETING

A pre-construction meeting for this project will be held at the office of the City of Lafayette, 3675 Mount Diablo Boulevard, Suite 210**.** The Contractor shall submit all required bonds, insurance, and signed contracts prior to this meeting. The Notice to Proceed will be issued to the Contractor after the pre-construction meeting. Note: The prime contractor's full-time on-site superintendent or foreman for the project is required to attend the preconstruction meeting.

At the pre-construction meeting, representatives of the Owner, the Contractor, Subcontractors, and the Engineer will discuss in detail certain procedural aspects of the Work, including, but not limited to:

- Administrative procedures for transmittals, approvals, change orders, and similar items
- Review of the method of application for payment, progress payments, retention; and final payment
- Review of the Contractor's construction progress schedule
- Clarifications of any questions regarding the contract Plans and Special Provisions
- Review of traffic control procedures
- Prior to the preconstruction meeting the Contractor shall provide a Cal/OSHA trenching permit.
- Review of the required procedures for working near a high-pressure gas transmission line
- Review of Contractor's safety measures for the removal and replacement of the Flood Control Channel fencing

SP8-02 PROGRESS SCHEDULE

The Contractor shall submit the construction progress schedule to the Engineer at the pre-construction meeting. Contractor shall also submit an updated schedule by no later than Friday morning of each work week, and as requested by the Engineer per Section 8-2, "Progress Schedule," of the General Provisions of the Standard Specifications.

Attention is directed to Section SP5-04, "Order of Work," of these Special Provisions. Each schedule shall specifically note the timeframe and work to be performed by all subcontractors. Subcontractors shall receive all updated schedules so they can plan an appropriate work force to meet the prime Contractor's timeframe.

SP8-03 WORKING HOURS

Without prior written approval by the Engineer, and except for emergency work, work or activity of any kind shall be limited to the hours from 8:00 a.m. to 5:00 p.m. Monday through Friday. Contractor's attention is directed to hours for lane closures in Section SP-14 of these Special Provisions.

SP8-04 TIME OF COMPLETION AND LIQUIDATED DAMAGES

The Contractor shall complete the entire Work in this Contract within **sixty five(65)** working days from the start date, including completion of all "Punch List" work. Liquidated damages shall be assessed per Section 8-10, "Liquidated Damages," the General Provisions of the Standard Specifications.

SP8-05 PAYMENT

No separate payment will be made for conforming to the provisions of this section. Full compensation for conforming to all the provisions of this section shall be considered as included in the prices paid for various contract items of work and no additional compensation will be allowed therefor.

SPECIAL PROVISIONS SECTION SP-9, 10, 11 (NOT USED)

SPECIAL PROVISIONS SECTION SP-12

MOBILIZATION
(BID ITEM NO. 1 AND 2)

The provisions of Section 1, "Mobilization," of the Technical Provisions of the Standard Specifications shall apply in their entirety except as modified or supplemented herein.

SP12-01 MEASUREMENT AND PAYMENT

The lump sum Contract Price paid for **"Mobilization"** shall include full compensation for furnishing all labor, supervision, materials, tools, equipment and incidentals, and for all the work involved in mobilization of forces, equipment, materials, and meeting all general conditions and provisions of

Contract Documents and as directed by the Engineer, and no additional compensation will be allowed therefor.

The Contract Price paid for each **"Project Identification Sign (City Furnished)"** shall include full compensation for furnishing all labor, supervision, materials, tools, equipment and incidentals, and for doing all the work involved in coordinating with the City to obtain the sign, transporting, installing signs on barricades, maintaining signs, removing signs and barricades, and returning signs to the City as specified in the Standard Specifications and these Special Provisions and as directed by the Engineer and no additional compensation will be allowed therefor.

SPECIAL PROVISIONS SECTION SP-13 (NOT USED)

SPECIAL PROVISIONS SECTION SP-14

TRAFFIC CONTROL

(BID ITEM NO. 3)

SP14-01 GENERAL

Work shall conform to the requirements of Section 6-12, "Traffic Control," of the General Provisions. Nothing in these Special Provisions shall be construed as relieving the Contractor from his/her responsibilities as specified in said sections.

SP14-02 SIDEWALK ACCESS

During construction activities that require the closure of sidewalks pedestrians shall be detoured to the opposite side of the street or to an alternate ADA compliant path of travel. At the end of each day's operations the sidewalks shall be brought to an ADA compliant and serviceable condition for pedestrian use.

SP14-03 LANE CLOSURES AND LANE CLOSURE HOURS

"Traffic Lane" shall be defined as that portion of the roadway for the movement of a single line of vehicles.

"Lane Closure" shall be defined as the temporary closure of a portion or the full width of an existing traffic lane. The temporary shifting of an existing traffic lane to shoulders, parking areas, medians or other areas of the roadway shall be considered a lane closure.

At least one ten (10) foot wide vehicular traffic lane must be open to the public traffic at all times, when work is in progress, for all contract work. A minimum of two (2) flagmen are required when lane closures result in only one (1) open lane for two-directional traffic. The Contractor shall provide communication equipment, approved by the Engineer for flagmen.

Lane closures will be allowed between the hours of **8:30 am and 4:30 PM**, Monday through Friday. Emergency vehicles shall be provided with immediate access through the construction area at all times. If work is not in progress during allowed lane closure hours and a traffic lane is closed, the Engineer may order the lane opened to public traffic.

SP14-04 FAILURE TO COMPLY

Contractor's attention is directed to Standard Specifications General Provision Section 6-12.9 "Failure to Comply", which shall be augmented as follows.

If the Contractor fails to provide traffic control measures in conformance with the submitted traffic control plan, the Engineer may at his sole discretion issue a written warning to the Contractor. The warning shall indicate the location, date, and time of the failure to provide adequate traffic control. After the Second written warning, any violation of the traffic control provisions of the contract documents shall constitute grounds for the City to levy a penalty against the Contractor in the amount of $500 per incident. Each hour of contract work activity occurring without traffic control as required by contract shall constitute a separate incident for the purpose of assessing the penalty. Contractor shall note that the above provisions are in addition to remedies and enforcement actions specified in Section 6-12.9 referenced above. This penalty shall be deducted from any money due to the Contractor under the Contract.

SP14-05 MEASUREMENT AND PAYMENT

The contract lump sum price paid for **"Traffic Control"** shall be considered as full compensation for furnishing all labor, supervision, materials, tools, equipment and incidentals needed to perform all traffic control work, for all phases of the work performed by the Contractor or the Contractor's "subcontractors" including, but not limited to, all signs, changeable message signs, barricades, steel plates, traffic control plan, maintaining traffic, lane and road closures, detours, flagmen and all other traffic control devices; and all other work as shown on Contract Plans, as specified in the Standard Specifications, the State Specifications, these Special Provisions, and as directed by the Engineer and no additional compensation shall be allowed therefor. There shall be no additional compensation for traffic control due to an increase in the quantities shown on the bid proposal for pay items within the project limits.

Traffic Control required by work which is classified as extra work, as provided in Section 9.3, "Extra Work", of the General Provisions of the Standard Specifications, will be paid for as part of said extra work.

SPECIAL PROVISIONS SECTION SP-15

DUST CONTROL
(NO BID ITEM)

The provisions of Section 4, "Dust Control and Watering", of the Technical Provisions of the Standard Specifications shall apply in their entirety and as supplemented herein.

SP15-01 GENERAL

Whenever the presence of dust becomes a problem, the Contractor shall furnish and apply dust control measures including street sweeping to alleviate the problem. If, in the opinion of the Engineer, the presence of dust has become a problem, the Engineer will specify a dust palliative in accordance with the provisions of the Standard Specifications, which the Contractor shall furnish and apply.

The contract work occurs adjacent to existing residences and businesses. Contractor shall undertake all reasonable measures to minimize the presence and impacts of dust in the work area and on the adjacent residences and businesses.

SP15-02 PAYMENT

No separate payment shall be made for conforming to the provisions of this section. Full compensation for conforming to all the provisions of this section shall be considered as included in the prices paid for various contract items of work and no additional compensation shall be allowed therefor.

SPECIAL PROVISIONS SECTION SP-16

CLEARING AND GRUBBING, TREE TRIMMING AND PROTECTION
(BID ITEM NO. 4)

The provisions of Section 2, "Clearing and Grubbing," Section 21, "Tree Trimming and Removal," and Section 22-3, "Tree and Plant Protection," of the Technical Provisions of the Standard Specifications shall apply in their entirety except as modified or supplemented herein.

SP16-01 GENERAL

In addition to requirements of the Standard Specifications, clearing and grubbing work shall also include removing and/or relocating landscape borders, decorative rocks, and similar decorative features that conflict with planned construction. Where they occur, Contractor shall salvage these features by placing removed items in a neat stack at an adjacent location on the property frontage to be designated by the Engineer.

All cleared and grubbed areas shall be approved by the Engineer before further grading commences.

Do not cut main lateral roots or tap roots; cut only smaller roots per Section 22.3.3 “Root Protection”.

Use only hand methods for grubbing within the dripline of CA native Oaks.

If injury should occur to any tree during construction, it shall be evaluated within 24 hours by the Contractor's Arborist so that appropriate treatments can be applied. Treat damaged trunks, limbs, and roots according to City Arborist or City's written instructions.

Trees to be removed with a diameter less than 6-inches measured 3 foot off the ground shall be paid as Clearing and Grubbing.

SP16-02 MEASUREMENT AND PAYMENT

The contract lump sum price paid for **“Clearing and Grubbing, Tree Trimming and Tree Protection”** shall include full compensation for furnishing all labor, supervision, materials, tools, equipment and incidentals, and for doing all the work involved in implementing tree protection measures, clearing and grubbing, tree trimming, removal and all other work as shown on the Plans, as specified in the Standard Specifications, these Special Provisions, and as directed by the Engineer, and no additional compensation shall be allowed therefor.

SPECIAL PROVISIONS SECTION SP-17

EXISTING HIGHWAY FACILITIES

(BID ITEM NO. 8-12)

SP17-01 GENERAL

Work shall consist of removing, abandoning, relocating, or protecting existing facilities which interfere with construction. Work performed in connection with various existing highway facilities shall conform to applicable provisions of Section 7, “Existing Utilities,” of the General Provisions, Section 2, “Clearing and Grubbing,” and Section 22, “Protection and Restoration of Existing Improvements,” of the

Technical Provisions of the Standard Specifications, these Special Provisions, and as directed by the Engineer.

If Contractor damages or destroys materials or facilities designated on the Plans, in these Special Provisions, or by the Engineer to be protected, salvaged, reused, or not called out for removal, he shall repair or replace them in kind at his sole expense.

All excavation resulting from removals shall be backfilled with Class II aggregate base and compacted to 95% relative compaction.

SP17-02 REMOVALS

Contractor's attention is directed to Section 6-11, "General Safety," of the Standard Specifications General Provisions, and Section SP-27, "Temporary Pavement Delineation," of these Special Provisions.

Removals of existing road facilities not considered to be included in other Contract Work include—Concrete sidewalk, curb and gutter; storm drain structures; abandon storm drains. All other removals as shown on the drawings and as directed by the Engineer to accommodate new construction as intended by Contract, for which no specific Bid Item is shown, shall be considered as incidental work.

Where existing curb and gutter is to be removed and replaced, and the adjacent pavement is intended to remain, removal work shall include the removal of said curb and gutter and 18-inches of adjacent pavement to a proper depth to allow the forming and construction of the replacement new curb and gutter.

For removals that involve sawcutting, all sawcut lines shall be approved by the Engineer prior to sawcutting. Sawcutting of gutter lips shall be to a neat, straight line in alignment with the projected gutter lip line of adjacent sections.

Removals and modification of black metal railing to accommodate new improvements shall be done neatly, and shall match existing finishes with no sharp edges or unpainted surfaces. Aesthetics of this work is important and shall be subject to field approval by the Engineer. Extents of repainting required to be pre-approved and confirmed by Engineer prior to commencing work.

Removals in preparation for new construction shall extend to a depth and width that is sufficient to accommodate the new improvements to be constructed, including any necessary subgrade.

Storm drain facilities adjoining those designated to be removed shall be protected. Except where Contract Work requires a replacement facility, or otherwise directed by the Engineer, openings leading to/from the facility to be removed shall be plugged per Section 2-5 of the Technical Provisions of the Standard Specifications.

SP17-03 ABANDON STORM DRAIN PIPE

Storm drains shown to be abandoned on the project plans shall be abandoned using Method A described in Section 2-5 "Abandoning Pipes and Structures" of the Technical Provisions of the Standard Specifications.

SP17-04 MEASUREMENT AND PAYMENT

No separate payment shall be made for conforming to the provisions of this section, with the exception of the items specified below. Full compensation for conforming to all the provisions of this section, including minor removal work and the resetting of temporary removals, for which no specific payment is allowed in Contract, shall be considered to be incidental work included in prices paid for various other contract items of work, and no additional compensation will be allowed therefor.

The Contract Prices paid per linear foot for **"Remove Concrete Curb and Gutter"** and per square foot for **"Remove Concrete Sidewalk and Curb Ramp"** and per each for **"Remove Type F Inlet"** shall include full compensation for furnishing all labor, materials, tools, equipment and incidentals necessary to remove and dispose of existing concrete curb and gutter, asphalt pavement, sidewalk, curb ramp and drainage inlet, and all excavation and backfill as required to accommodate new improvements as shown on the contract plans, as specified in these Special Provisions, and as directed by the Engineer, and no additional compensation shall be allowed therefor. No adjustment in the bid item price shall be allowed due to any change in contract quantities.

The Contract Prices paid per each for **"Abandon Existing 18-in Storm Drain Pipe"** shall include full compensation for furnishing all labor, materials, tools, equipment, and incidentals necessary to expose and clear pipes sufficiently to abandon using method A, and all other work as noted on the plans, as specified by these Special Provisions, and as directed by the Engineer, and no additional compensation shall be allowed therefor.

The Contract Prices paid per linear foot for **"Remove Fencing and Gates"** shall include full compensation for furnishing all labor, materials, tools, equipment, and incidentals necessary to removing split rail fence, chain link fencing and gates, cutting, capping, and painting existing black metal rail, fand all other work as noted on the plans, as specified by these Special Provisions, and as directed by the Engineer, and no additional compensation shall be allowed therefor.

SPECIAL PROVISIONS SECTION SP-18 (NOT USED)

SPECIAL PROVISIONS SECTION SP-19

AGGREGATE BASE
(NO BID ITEM)

The provisions of Section 8, "Aggregate Base", of the Technical Provisions of the Standard Specifications shall apply in their entirety except as modified or supplemented herein.

SP19-01 GENERAL

Aggregate Base (AB) must meet the requirements for Class 2 Aggregate Base as specified in Section 26 of the State Standard Specifications and meeting the gradation requirements in Section 26-1.02B for ¾ inch maximum.

SP19-02 MEASUREMENT AND PAYMENT

There shall be no separate measurement or payment for furnishing and placing the aggregate base used in the construction of the various items of work shown on the Plans, bid proposal, and specified herein, and full compensation shall be considered as included in the contract unit prices paid for those bid items requiring aggregate base, and no additional compensation shall be allowed therefor.

SPECIAL PROVISIONS SECTION SP-20 (NOT USED)

SPECIAL PROVISIONS SECTION SP-21 (NOT USED)

SPECIAL PROVISIONS SECTION SP-22

ASPHALT CONCRETE
(BID ITEM NO. 23)

The provisions of Section 5, "Street Failed Area Repair," of the Technical Provisions of the Standard Specifications shall apply in their entirety except as modified or supplemented herein.

The provisions of Section 9, "Asphalt Concrete", of the Technical Provisions of the Standard Specifications shall apply in its entirety except as modified or supplemented herein. Pavement repair areas shall conform to Section 5, "Street Failed Area Repair," of said Technical Provisions.

Asphalt Concrete shall be placed in accordance with section 9-5 "Placement" of Technical Provisions of the Standard Specification. Type A, 1/2" maximum sized aggregate (MSA) asphalt mix shall be used for

all pavement repairs.

Section 9.3.2 RAP Considered a Value-Engineering Change Proposal of the Standard Specification shall not apply.

SP22-01 PAVEMENT REPAIR

Asphalt pavement shall be removed and replaced a minimum of 24-inches beyond new concrete improvements and 4-feet beyond the edge of trench excavations in the roadway. Removal of the pavement shall be included in various other items. Paint markings delineating the limits of pavement repair areas will be marked in the field by the engineer upon completion of storm drain and concrete work requiring the removal of asphalt pavement. Actual quantities may be greater or less than the quantities shown on the Bid Schedule.

SP22-02 MEASUREMENT AND PAYMENT

The contract unit price paid per square foot for **"Asphalt Pavement Repair"** shall include full compensation for furnishing all labor, supervision, materials, tools, equipment and incidentals and for doing all the work involved including, but not limited to subgrade preparation and compaction, tack coat, and furnishing, placing, spreading, and compacting the asphalt concrete to the specified depth and all other work as shown on the Plans, as specified in the Standard Specifications, the State Specifications and these Special Provisions, and as directed by the Engineer, and no additional compensation shall be allowed therefor.

SPECIAL PROVISIONS SECTION SP-23

CONCRETE CONSTRUCTION

(BID ITEM NO. 17-22)

The provisions of Section 17, "Concrete Construction," of the Technical Provisions of the Standard Specifications shall apply in their entirety except as modified or supplemented herein. Section 17-7 of said Technical Provisions shall also apply to construction of storm drain inlets.

SP23-01 GENERAL

All new curb, gutter, and storm drain structures shall conform to the latest applicable Contra Costa County (CCC) Public Works Department "Standard Plans" unless otherwise specified or modified by Contract Documents. All new concrete construction shall include installation of a subbase consisting of a minimum six (6)-inch-thick layer of Class 2 aggregate base, conforming to SP-19, compacted to 95%

relative compaction. Work also includes constructing dowelled connections between new and existing facilities.

All new inlet tops shall have a City-furnished emblem, stating "No Dumping – Drains to Creek." affixed to the curb or other logical nearby location. Emblems shall be attached to inlet tops using outdoor rated adhesive as approved by the engineer.

All new storm drain connections to new or existing storm drain inlets or manholes shall include a weep hole to drain the pipe backfill. Weep holes shall only be required where new storm drains enter the structure.

SP23-02 CONCRETE REQUIREMENTS

Concrete used for all items on this project shall be Class 564-C-3250 with minimum 28-day compressive strength of 3,250 pounds per square inch. The maximum slump shall be four (4) inches.

Slurry backfill for trenches shall conform to Section 19-3.02G, "Controlled Low-Strength Material," of the State Specifications except material shall have a minimum compressive strength of 100 pounds per square inch.

SP23-03 MINOR CONCRETE CONSTRUCTION

Curb and gutter shall match existing curb and gutter configuration except that 6 inches of Class 2 AB shall be placed under new curb and gutter. Curb, gutter, and sidewalk shall match existing grades to ensure a smooth transition from new improvements to existing.

Dowels used in connections between new and existing facilities shall be #4 rebars, 12" long. The dowels shall be in drilled holes, secured with epoxy, and spaced in conformance with the details shown on CCC Standard Plan CA74 and these Special Provisions. All dowels shall have a minimum 2" concrete cover.

SP23-04 REINFORCEMENT REQUIREMENTS

Reinforcing steel must be deformed billet steel that complies with ASTM A615, Grade 60. Grade markings and size must be identifiable on each bar.

SP23-05 SEATWALLS

Custom curved benches to be furnished and installed by Contractor. Any Fabrication sub-contractor to be pre-approved by City prior to commencing work. Fabricator shall be bound by all requirements of plans and specifications for this Project. Contractor and/or Fabricator shall submit shop drawings for seatwalls to the Engineer for review and approval as well as photos or samples demonstrating

ability to execute finish and sealing prior to commencing work. The aesthetics of this work is important and as such extra care will need to be taken in the alignment and finishing of the materials.

COORDINATION

Contractor shall coordinate all aspects of this work with adjacent materials, prefabricated bench seat installation requirements, site conditions and provide detailed sequencing information per Section SP-08 and SP-05 of these Special Provisions.

WORKMANSHIP

1. Formed Surfaces: Remove all fins and other projections, fill and patch depressions and plug form tie holes in permanently exposed areas, leave "As-cast" unless otherwise shown or specified.
2. Grouting of Form Tie Holes: After installation of plugs, fill depression with grout, strike flush with adjacent surfaces. Grout Color to match adjacent concrete color.
3. Radius corners: Provide ½" troweled radius corners on all exposed edges of concrete benches as shown on plans. Verify and coordinate exposed radius corner with Architectural documents.

FINISHING

1. Surface of As-Cast Exposed to View Concrete: Concrete shall have uniform as-cast surface with minimal additional finishing being anticipated or required.
    a. Patch voids larger than 3/4 in. wide or 1/2 in. deep, surface blemishes will not be filled.
    b. Remove projections larger than 1/8 in. by grinding without marring surface.
    c. Fill tie holes and strike flush with adjacent surfaces, except as otherwise noted.
    d. Surface tolerance Class A as specified in ACI 117
    e. Contractor or fabricator shall provide a sample of concrete surface for review and approval by Engineer showing ability to meet surface appearance and texture required.
    f. All sections of seatwall shall be sealed with Increte Concrete Stain Sealer WB Water-based acrylic concrete sealer in clear or approved equal.
2. Match adjacent seatwall surfaces and levels across full length of bench.

PATCHING:

1. Within three days after form removal, when approved by Engineer, fill and patch all rock pockets, "honeycomb" voids and other surface defects to achieve specified finish quality.
    a. Filling and Patching: Remove any loose material, thoroughly wet area to be patched, fill with fine sand-cement grout and patching mortar, compact and screed to achieve proper levels.
    b. Form Tie Holes: Unless otherwise shown, fill and patch all form tie holes which would be exposed to view.

2. Final Approval: Areas that have been patched will be re-inspected by the Engineer. If the patching has not, in the opinion of the Engineer, restored the specified quality and appearance of the surface, the concrete shall be removed to nearest control joints, re-placed and refinished.

SP23-06 MEASUREMENT AND PAYMENT

The Contract Price paid per linear foot for **"Concrete Curb and Gutter"** and per square foot for **"Concrete Sidewalk"** shall include full compensation for furnishing all labor, supervision, materials, tools, equipment and incidentals necessary to complete the work, including but not limited to, sawcutting; excavation and preparing subbase; dewatering; loading, hauling, and disposal of spoils; forming, furnishing, placing, and finishing concrete; backfill; doweled connections; setting tactile surfaces in accordance with manufacturer's instructions, providing color, finish and workmanship samples to Engineer, and all other work necessary to construct the facility complete and in place as shown on the plans, as specified in these Special Provisions, and as directed by the Engineer, and no additional compensation shall be allowed therefor.

The Contract Price paid per linear foot for **"Concrete Seatwall"** shall include full compensation for furnishing all labor, materials, supplies, tools, and transportation and perform all operations in connection with and reasonably incidental to complete the installation or construction of the "Concrete Seatwall" work, including but not limited to, sawcutting; excavation and preparing subbase; dewatering; loading, hauling, and disposal of spoils; forming, furnishing, placing, and finishing concrete; backfill; doweled connections; applications of sealant, sanding or finish work as required.

The Contract Price paid per each for **"Type 'F' Inlet"," "Type G Inlet," and "Type I Manhole"** shall include full compensation for furnishing all labor, supervision, materials, tools, equipment and incidentals for doing all work involved, including but not limited to, sawcutting; removals where needed; excavation and preparing subbase; dewatering; loading, hauling, and disposal of spoils; forming, placing, and finishing concrete; installing frames and grates; backfill; and all other work necessary to construct the facility complete and in place as shown on the plans, as specified in these Special Provisions, and as directed by the Engineer, and no additional compensation shall be allowed therefor.

Concrete inlet aprons, regardless of size, are measured and paid per linear foot as "Concrete Curb and Gutter."

SPECIAL PROVISIONS SECTION SP-24

STORM DRAINS
(BID ITEM NO. 24-26)

The provisions of Section 18, "Storm Drains", of the Technical Provisions of the Standard Specifications shall apply in their entirety except as modified or supplemented herein.

SP24-01 BIORETENTION UNDERDRAIN

Slotted underdrain pipe must be ADS© HDPE smooth walled 6 inch drain pipe with 3 holes, 120º (all holes facing down) or approved equal.

SP24-02 HDPE STORM DRAIN PIPE

All storm drain pipes, unless otherwise noted, must be ADS© N-12® Dual Wall Pipe with Water Tight joints or approved equal and installed per manufacturers recommendations.

SP24-03 HDPE DRAINAGE STRUCTURE

HDPE drainage structures must be either 24-in 2824AG as shown on the plans or approved equal. Nyoplast structure shown in bioretention basin must have atrium grate. All Nyloplast structures must be installed per manufacturers recommendations.

SP24-04 MEASUREMENT AND PAYMENT

The Contract Prices paid per linear foot for **"10-in HDPE Storm Drain Pipe", "6-in Bioretention Underdrain and Cleanout";** and per each for **"24-in Nyloplast Overflow with Atrium Grate"** shall be considered as full compensation for furnishing all labor, supervision, materials, tools, equipment, sheeting and shoring and incidentals necessary to perform all work, including but not limited to-potholing; sawcutting; excavation; dewatering, installing various pipes with fittings; bedding and various backfill material; compaction; filter fabric; weep holes; temporary asphalt concrete paving; coordination with, protecting, and supporting existing utilities; and all other work as shown on the Plans, as specified in the Standard Specifications, these Special Provisions, and as directed by the Engineer; and no additional compensation shall be allowed therefor.

SPECIAL PROVISIONS SECTION SP-25

PAVEMENT STRIPING, MARKERS AND DELINEATION

(BID ITEM NO. 38)

The provisions of Section 15, "Pavement Striping, Markers, and Delineation", of the Technical Specifications of the Standard Specifications shall apply in their entirety except as modified or supplemented herein.

SP25-01 GENERAL

Contractor's attention is directed to notification requirements in Section 15-2 of the Standard Specifications Technical Provisions. No payment shall be made for any striping work performed without notification to the City conforming to the above.

During pavement striping and marking operations, the Contractor shall implement traffic control as specified in SP-14 of these Special Provisions.

SP25-02 MEASUREMENT AND PAYMENT

The Contract Prices paid lump sum price paid for "**Restore Pavement Markings and Markers"** shall include full compensation for furnishing all labor, materials, tools, equipment, and incidentals, including any necessary cat tracks, dribble lines and layout work; and all other work as shown on the Plans, the State Standard Plans, and as specified in these Special Provisions, and as directed by the Engineer, and no additional compensation shall be allowed therefor.

SPECIAL PROVISIONS SECTION SP-26

EARTHWORK
(BID ITEM NO. 5-7)

The provisions of Section 3, "Earthwork", of the Technical Provisions of the Standard Specifications are modified as follows:

SP26-01 DEFINITION

Excavation and backfill for all pipes and structures are defined as structure excavation and structure backfill. Structure backfill shall be as shown on the Plans. All other excavation, of any type, is defined as "unclassified".

Suitable Native Material: Native material meeting the specifications in Section SP26-03.

SP26-02 GENERAL

The quantity of excavation calculated includes all materials to be removed, of all kinds, except for the items specifically listed in the bid proposal to be removed and paid as separate items, such as storm drain structures and surface features.

There is no separate measurement or payment for earthwork involved with curb, gutter, sidewalks, pipes, or structures. All excavation and backfill necessary to construct these items, except as specifically provided for in other sections of these Special Provisions, shall be considered as included in the contract prices paid for the various items of work.

Any excess material removed from the site shall be disposed of outside the street right-of-way in accordance with the provisions of Section 6-16, "Disposal Outside Project Limits", of the General Provisions of the Standard Specifications.

Earthwork shall include, but not be limited to, the loosening, removing, loading, transporting, stockpiling, depositing, and compacting in its final location of all materials wet and dry, as required for the purposes of completing the work, which shall include, but not be limited to, the furnishing, placing, and removing of sheeting and bracing necessary to safely support the sides of all excavations; all pumping, ditching, draining, and other required measures for the removal or exclusion of water from the excavations; the supporting of structures and all backfilling of trenches and pits; the disposal of excess excavated materials; supplying borrow of materials to make up deficiencies for fills, grading, and all other incidental earthwork.

SP26-03 MATERIALS

Suitable native material must comply with the following specification as determined by an independent testing agency qualified according to ASTM E 329 to conduct soil materials and rock-definition testing:

- Plasticity Index (PI) of no more than 15
- Liquid Limit (LL) no greater than 40
- Imported borrow material required to meet the lines and grades shown must comply with Section 19-7 of the State Specifications.
- Contractor shall provide testing results showing material being used meets or exceeds these specifications.

SP26-04 SITE STRIPPING

Prior to general site grading, the Contractor shall remove all organic surface soil, wood chip, and vegetation. The Contractor shall strip a minimum of 2-inches of the organic surface soils, bark and wood chips and dispose of this material outside of the construction limits. Deep stripping may be required where disturbed soils and concentrations of tree roots are encountered, as directed by the Engineer. Roots larger than 1" minimum shall be removed to firm, undisturbed native soils and the resulting excavations shall be backfilled with Class 2 AB unless in a planting area and then use native material or topsoil.

All excavations resulting from clearing, grubbing, and stripping activities shall be cleaned of loose or disturbed material (including all previously placed backfill) and dish-shaped (with sides sloped 3(h):1(v) or flatter) to allow access for compaction equipment.

SP26-05 SUBGRADE PREPARATION

Surfaces exposed by stripping and/or excavation in areas to be filled or to support new decomposed granite or concrete improvements shall be scarified to a depth of at least 12 inches or the full depth of shrinkage cracks, whichever is deeper. The scarified soil should be uniformly moisture conditioned to between 3 and 5 percentage points above optimum moisture content and compacted to at least 90 percent relative compaction. ASTM test D-1557 should be used to establish the reference values for computing optimum moisture content and relative compaction.

Soil moisture contents may be established either during site earthwork grading (maintained up to the time of aggregate base placement) or by ponding or sprinkling (presoaking) with water. The depth of the wetting should extend at least 12 inches below finished subgrade and shall be verified by the Engineer immediately prior to placing base rock.

Although not anticipated, if shrinkage cracks extend below 12 inches, some excavation in addition to scarifying will be required to adequately moisture condition and compact soils. If soft or yielding soils are present during subgrade preparation or fill compaction, they should be removed by excavating to expose firm soil.

Surface subgrade shall be cleaned of all foreign substances. Surface of subgrade shall meet specified compaction and surface tolerances. Ruts or soft, yielding spots that may appear in subgrade, areas having inadequate compaction, and deviations of the surface from requirements set forth herein shall be corrected by loosening, removing, and by adding approved material, reshaping to line and grade, and recompacting to specified density.

SP26-06 EXCESS MATERIAL AND CONFORMS TO EXISTING TERRAIN

Conforming new improvements to surrounding unimproved terrain shall be made using select material from the excavation. Only select fill generated by project excavation may be reused for fill. Select fill shall conform to Section 3-9 of the Technical Provisions of the Standard Specifications and shall be free of all organic materials, rocks, concrete, asphalt, foreign objects, and other deleterious materials. It is the Contractor's responsibility to store clean native soils for reuse as fill. Excess material shall be disposed of in accordance with Section 6-16 "Disposal Outside Project Limits" of the General Provisions and Section 3-8 "Surplus Materials" of the Technical Provisions.

Fill depressions caused by clearing and grubbing operations with satisfactory soil material unless further excavation or earthwork is indicated. Where resulting grade from clearing and grubbing is 6-inches or less below elevation of finish grade, fill with topsoil. Place topsoil in a single, un-compacted layer and hand grade to required finish elevations.

SP26-07 MEASUREMENT AND PAYMENT

The quantity shown on the bid proposal for "Site Stripping" is estimated and shall be considered a Final Pay Quantity in accordance with Section 9-1.015 "Final Pay Items" of the State Standard Specifications. No adjustment will be made to the quantity unless a contract change order includes an earthwork item.

The quantity shown on the bid proposal for "Rough Grading" is the estimated amount of material required to be moved, placed, and compacted as necessary to meet subgrade requirements, including the amount of excess material to be removed in cubic yards. The quantity for "Fine Grading" is the estimated square footage required to be brought to finish subgrade for the new surface improvements. Both items shall be considered a Final Pay Quantities in accordance with Section 9-1.015 "Final Pay Items" of the State Standard Specifications. No adjustment will be made to the quantities unless a contract change order includes an earthwork item.

The contract price per cubic yard for **"Site Stripping"** shall include full compensation for all labor, materials, tools, equipment and incidentals, and all work involved in removing the organic topsoil, wood chips, and organic material from the surface, including excavating, loading, hauling, depositing, disposing, and watering.

The contract unit price paid per cubic yard for **"Rough Grading"** shall include full compensation for furnishing all labor, materials, tools, equipment, and incidentals and for all work involved in excavating, sloping, rounding tops and ends of excavations, loading, disposing of surplus material, stockpiling, transporting local borrow material, removing unsuitable material, fill or conform placement, moisture conditioning, shaping, and compacting in place as shown on the contract plans, as directed by the Engineer, and as specified in these Special Provisions.

The contract unit price paid per square foot for **"Fine Grading**" shall include full compensation for furnishing all labor, materials, tools, equipment, and incidentals and for all work involved in scarifying, preparing the subgrade, fill placement, moisture conditioning, final shaping and compacting in place, as required to prepare the site to receive the improvements as shown on the contract plans, as directed by the Engineer, and as specified in these Special Provisions.

SPECIAL PROVISIONS SECTION SP-27

DECOMPOSED GRANITE PATHWAY

(BID ITEM NO. 15 and 16)

SP27-01 GENERAL

The provisions of Section 20, "Landscaping", of the Technical Provisions of the Standard Specifications shall apply in their entirety except as modified or supplemented herein.

This work shall include installing and stabilizing decomposed granite paving, including steel header, and class II permeable base as shown on the Plans and as specified herein. Installer to provide evidence to City Engineer that indicates successful experience in providing Stabilized Aggregate surfaces.

SP27-02 MATERIALS

AGGREGATE BASE
Aggregate base must comply with the specification in Section SP19-01 of these Special Provisions.

STEEL HEADER
Steel header (edging): Col-Met Item Number 1007-6, 3/16”x6” steel edging, black powder coat finish or approved equal. All stake tabs must be used, and stake spacing shall follow the prefabricated tab spacing where cut lengths are joined and must be consistent with the manufacturer's minimum recommendations for use and site conditions. Steel header shall be black.

DECOMPOSED GRANITE
Crushed granite shall be per Section 20-2.15 of the Technical Provisions. Aggregate sample shall be submitted to the City for approval for use. Combine aggregate with Solidifying Emulsion per SP27-03.

SOLIDIFYING EMULSION
Solidifying emulsion and (binding material) must be:

1. A non-toxic, organic binder that is a colorless and odorless concentrated powder that binds decomposed granite or crushed 3/8” or 1/4” minus aggregate.
2. Product must have 64% pre-consumer recycled content.
3. Product shall have 15 years’ experience at same formulation.
4. The solidifying emulsion must not alter the decomposed granite color.

Material shall be Stabilizer Solutions Inc, (or approved equal) and installed per the manufacturer’s recommendations. Stabilizer Solutions Inc. tel. 800.336.2468. Northern California Representative Peter Herrera 480-590-0015. Solidifying Emulsion noted in sections below as ‘Stabilizer®’.

TEST PLOTS
Construct a test plot at least 10' by specified width at a location proposed for the permanent work (location as approved by the Engineer).

Remove and dispose of rejected test plots. Construct additional test plots until a plot is produced which the decomposed granite has been hydrated with the manufacture's rates of solidifying emulsion and water and compacted to 95 percent compaction. In the event more than two test plots are required by the Engineer, each additional test plot will be paid for as extra work under Section 4-1.03D, "Extra Work," of the Standard Specifications.

Do not place decomposed granite on the project before approval of a test plot prepared by the installer.

SP27-03 CONSTRUCTION

CLEARING

Prior to beginning decomposed granite work, areas to receive the decomposed granite shall be cleared and stripped in conformance with provisions elsewhere in these special provisions.

EARTHWORK

Earthwork must comply with Section 19, "Earthwork," of the Standard Specifications and these special provisions.

After clearing, excavate areas to receive decomposed granite. Where decomposed granite is to be placed adjacent to an existing curb, dike, pavement or sidewalk excavate so that the finished decomposed granite elevation adjacent to curb, dike, pavement or sidewalk will maintain planned flow lines, slope gradient and contours of the project site. After excavation, grade areas to receive decomposed granite to a smooth, uniform surface, pre-soak and compact to not less than 95 percent relative compaction determined by Test Method ASTM D 1557 prior to installing Stabilized Decomposed Granite.

AGGREGATE BASE INSTALLATION

Spreading and compacting aggregate base must conform to Section 26-l.04, "Spreading," and Section 26-l.05, "Compacting," of the Standard Specifications and these Special Provisions.

STEEL HEADER INSTALLATION

Install steel header to delineate the limits of the decomposed granite areas. Edging is not required between decomposed granite areas and the adjacent pavement edges, curbs, sidewalks, or areas specifically identified on the Plans. Install per manufacturer's specifications and recommendations. Install using engineered, controlled radii curves with no straight sections unless noted. Weld all sections together in the field to achieve a smooth radius curve. Where sections are welded, provide an overlap of 6 to 12-inches, and paint any exposed metal to match (black) powder coating. Steel headers shall have a continuous bearing on undisturbed earth or compacted earth or base rock.

DECOMPOSED GRANITE INSTALLATION

1. **Preparation**: Do not install decomposed granite work during rainy conditions or immediately after inclement weather, or in temperatures below 40 degrees F and falling. Before proceeding with installation, notify Owner's Representative in writing of unsuitable site/base conditions.
2. **Blending Solidifying Emulsion**: Stabilizer® shall be thoroughly pre-mixed with aggregate at the rate of 15-lbs of Stabilizer Solutions per 1-ton of aggregate. Verify with manufacturer correct Stabilizer® rate for your project and climate. Drop spreading of Stabilizer® over pre-placed aggregate or mixing by rototilling is not acceptable. Stabilizer shall be mechanically pre-mixed

per manufacturer's recommendations using an approved mechanical blending unit to adequately blend Stabilizer® with aggregate (Bucket blending is not an approved blending apparatus). Always blend Stabilizer® and aggregate DRY.

3. **Placement**: Place decomposed granite uniformly in layers no more than 2-inches thick. Wet and roll each lift to form a uniform, smooth surface with a cross slope of maximum 1.5%. Compact each lift of decomposed granite to a relative compaction of not less than 95 percent. Compaction must not begin less than 6 hours after placement, nor more than 48 hours. Upon completion of the final lift, fill any depressions, holes or divots and re-roll using the above process.
4. **Watering:** Water heavily for full-depth moisture penetration of profile. Water activates Stabilizer®. Apply 25 to 45-gallons of water per 1-ton to achieve saturation. Randomly test for depth using a probing device, which reaches full depth. Contractor shall wait a minimum of 6 – 72 hours or until such time that the Stabilized Aggregate is able to accept compaction from a 1- to 5-ton roller without separation, plowing or any other physical compromise of the aggregate. If surface aggregate dries significantly quicker than subsurface material, lightly mist surface before compaction.
5. **Compaction**: Compact Stabilized Aggregate to 85% relative compaction by equipment such as; a 2 to 5-ton double drum roller making 3 to 4 passes. Do not begin compaction for 6 hours after placement and up to 72 hours. DO NOT use a vibratory plate compactor or vibration feature on roller, as vibration separates large aggregate particles. If pumping or pancaking of surface occurs, surface is still too wet to roll. Take care in compacting surface when adjacent to planting and irrigation systems, use 8" or 10" hand tamp. Lightly spray surface area following compaction. Do not disturb aggregate surface with spray action.
6. **Inspection**: When work is complete, the surface must be smooth, compacted to 95 percent, and uniform; maintaining original flow lines, slope gradient and contours of the project site. Finished surface shall be smooth, uniform and solid with no evidence of chipping or cracking. Cured and compacted pathway shall be firm throughout profile with no spongy areas. Loose material shall not be present on surface after installation but may appear after use and according to environmental conditions. Pathway shall remain stable underneath loose granite on top with a "natural" look. Any significant irregularities in path surface shall be repaired to the uniformity of entire installation.
7. **Protection:** Contractor shall furnish and install construction fence around new surface to prevent public access. Fencing shall be maintained in place for a minimum of 12 - 72 hours after completion of installation, or as directed by the Owner' Representative. Drying period may take longer due to weather conditions. Immediately repair or replace all damaged areas due to tire ruts, erosion, compaction failure, etc.
8. **Maintenance**: During first year, minor amounts of loose aggregate may appear on surface (1/16 to 1/4"). If material exceeds a ¼", redistribute over entire surface. Water to 1" depth and compact with power roller of no less than 1000-lbs. Repeat as needed. If cracking occurs, sweep fines into cracks, water thoroughly and hand tamp with an 8" – 10" hand tamp.

SP27-04 MEASUREMENT AND PAYMENT

The contract unit price paid per square foot for **"Decomposed Granite Surfacing with Stabilizer"** includes full compensation for furnishing all labor, materials, tools, equipment, and incidentals, and for doing all the work involved in construction of the decomposed granite surfacing, complete in place, including site preparation, earthwork, aggregate base, solidifying emulsion, and test plots as shown on the plans, as specified in the Standard Specifications and these special provisions, and no additional compensation will be allowed therefore.

The contract unit price paid per linear foot for **"Steel Header"** includes full compensation for furnishing all labor, materials, tools, equipment, and incidentals, and for doing all the work involved in installing headers complete in place, including providing and installing all headers, stakes, fasteners and spot welding, tools and equipment, as shown on the plans, as specified in the Standard Specifications and these special provisions and no additional compensation will be allowed therefore.

SPECIAL PROVISIONS SECTION SP-28

PLANTING

(BID ITEM NO. 29-33)

SP28-01 GENERAL

The provisions of Section 20, "Landscaping", of the Technical Provisions of the Standard Specifications shall apply in their entirety except as modified or supplemented herein. The provisions of Section 20-2.9 "Herbicide" and Section 20-3.4 "Chemical Weed Killer" shall be excluded from this project work.

SP28-02 SUBMITTALS

SUBMITTAL PACKAGE

All submittals in this specification section (excluding re-submittals) shall be compiled together and submitted to the Engineer as one package.

PRODUCT DATA AND SAMPLES

For each type of product indicated, including ArborTie Green tree tie material and seed mixes.

PRODUCT CERTIFICATES

For each type of manufactured product, signed by product manufacturer, and complying with the following:

1. Manufacturer's certified analysis for standard products
2. Analysis of other materials by a recognized laboratory made according to methods established by the Association of Official Analytical Chemists, where applicable

QUALIFICATION DATA

For planting Contractor and irrigation Contractor.

PLANT LIST AND PLANTING SCHEDULE

Indicating locations, sources of all plant materials. Planting Schedule shall be a detailed schedule of anticipated plant delivery and planting dates.

RECORD (AS-BUILT) IRRIGATION DRAWINGS

Provide clear, legible, drawing, drafted in AutoCAD 2020 format. Include dimensions and actual installed locations of all irrigation system components. Provide within 2 weeks of the approval of the completed irrigation installation.

OPERATIONS AND MAINTENANCE INSTRUCTIONS

For Plants and Irrigation System, prepare recommended operating procedures to be established by City including, zone schedules, and maintenance of irrigation system, and plant care for one calendar year. Submittal is required to complete conditions of Final Completion. For Maintenance Period see Specifications.

SP28-03 QUALITY ASSURANCE

PLANTING AND IRRIGATION CONTRACTOR QUALIFICATIONS

A qualified landscape and irrigation Contractor(s) whose work has resulted in successful establishment of plants and irrigation system installations that are compliant with California Code of Regulations § 492.7 or successor document. Minimum of five (5) years of experience in each discipline.

1. Field Supervision: Require Contractor to maintain an experienced full-time supervisor on Project site when planting and irrigation work is in progress.

SOIL-TESTING LABORATORY QUALIFICATIONS

An independent laboratory, recognized by the State Department of Agriculture, with the experience and capability to conduct the testing indicated and that specializes in types of tests to be performed.

Provide quality, size, genus, species, and variety of plants indicated, complying with applicable requirements in ANSI Z60.1, "American Standard for Nursery Stock."

1. Contractor to indicate source of plant material. If designated supplier does not have sufficient quality of quantity of acceptable stock, additional supplier(s) to be designated by contractor.
2. For substitutions, see SP28-07 in this specification section.

TREE AND SHRUB MEASUREMENTS

Measure according to ANSI Z60.1 with branches and trunks or canes in their normal position. Do not prune to obtain required sizes. Take caliper measurements 6-inches above ground for trees up to 4-inch caliper size, and 12-inches above ground for larger sizes. Measure main body of tree or shrub for height and spread; do not measure branches or roots tip-to-tip.

OBSERVATION

The City may observe trees and shrubs either at place of growth or at site before planting for compliance with requirements for genus, species, variety, size, and quality. The City retains right to observe trees and shrubs further for size and condition of balls and root systems, insects, injuries, and latent defects and to reject unsatisfactory or defective material at any time during progress of work. Remove rejected trees or shrubs immediately from Project site.

Notify the City of plant sources two weeks in advance of site delivery.

SP28-04 DELIVERY, STORAGE, AND HANDLING

Do not prune trees and shrubs before delivery, except as approved by the City. Protect bark, branches, and root systems from sun scald, drying, sweating, whipping, and other handling and tying damage. Do not bend or bind-tie trees or shrubs in such a manner as to destroy their natural shape. Provide protective covering of plants during delivery. Do not drop plants during delivery.

Handle containerized plants by container or root ball.

Deliver plants after preparations for planting have been completed and install immediately. If planting is delayed more than six hours after delivery, set plants and trees in shade, protect from weather and mechanical damage, and keep roots moist.

1. Set balled stock on ground and cover ball with soil, peat moss, sawdust, or other acceptable material.
2. Do not remove container-grown stock from containers before time of planting.
3. Water root systems of plants stored on-site with a fine-mist spray. Water as often as necessary to maintain root systems in a moist condition.

SP28-05 COORDINATION

1. No Planting shall be installed prior to the installation of the irrigation system and its approval by the City
2. Planting Restrictions: Coordinate planting periods with maintenance periods to provide required maintenance from date of Substantial Completion.
3. Ensure new plants are watered during Warranty Period. Provide schedule and methods to Owner for review.
4. Weather Limitations: Proceed with planting only when existing and forecasted weather conditions permit.
5. Coordinate irrigation connections for water and electrical service with City.
6. Coordinate irrigation controller connections with City.

SP28-06 WARRANTY

PLANT WARRANTY

Warrant project plants, for the warranty period indicated in the Specifications, against defects including death and unsatisfactory growth, except for defects resulting from lack of adequate maintenance, neglect, or abuse by Owner, or incidents that are beyond Contractor's control.

1. Plant Warranty: 1 Year after Final acceptance of the entire project by the City Council.
2. Remove dead plants immediately. Replace immediately unless required to plant in the succeeding planting season.
3. Replace plants that are more than 25 percent dead or in an unhealthy condition at end of warranty period.
4. Plant replacements shall be limited to one replacement per specified plant, except for losses or replacements due to failure to comply with Specifications and Plans.

IRRIGATION WARRANTY

1 Year after Final acceptance of the entire project by the City Council. Warrant against breakage and defects, except for defects resulting from lack of adequate maintenance, neglect, or abuse by the Owner, or incidents that are beyond Contractor's control.

SP28-07 MAINTENANCE PERIOD

PLANTS

Maintain for the following maintenance period by pruning, cultivating, watering, weeding, restoring planting saucers, tightening and repairing stakes and guy supports, and resetting to proper grades or vertical position, as required to establish healthy, viable plantings. Restore or replace damaged tree wrappings.

MAINTENANCE PERIOD

90 Days after Final Acceptance of the Entire Project by The City Council.

IRRIGATION

Maintain Irrigation System until Final Completion. Coordinate complete turn-over including preparation of Operations and Maintenance Instructions of Manual of the irrigation system to City staff prior to Final Completion.

SP28-08 PRODUCTS

PLANT MATERIAL

General: Furnish nursery-grown trees and shrubs complying with ANSI Z60.1, with healthy root systems developed by transplanting or root pruning. Provide well-shaped, fully branched, healthy, vigorous stock free of disease, insects, eggs, larvae, and defects such as knots, sun scald, injuries, abrasions, and disfigurement.

GRADE

Provide trees and shrubs of sizes and grades complying with ANSI Z60.1 for type of trees and shrubs required. Trees and shrubs of a larger size may be used if acceptable to the City, with a proportionate increase in size of roots or balls.

Label at least one tree and one plant of each variety and caliper with a securely attached, waterproof tag bearing legible designation of botanical and common name.

If formal arrangements or consecutive order of trees or plants is shown, select stock for uniform height and spread, and number label to assure symmetry in planting.

PLANTS

Form and Size: Normal-quality, well-balanced, plants, of type, height, spread, and shape required, complying with ANSI Z60.1. Provide and container-grown plants Container Sizes: All plants shall be healthy, vigorous, fully leafed and well-branched specimens. Strongly rooted plants shall be provided. All plants from a Certified, California licensed nursery vendor specializing in native plants. Plants deemed unhealthy or lacking in vigor shall be rejected by the Engineer and replaced with same species (from a different nursery if necessary). Plant types and sizes and planting methods are noted on the Plans and Specifications.

Specified Sizes: (not all sizes may be utilized on the site)

- Supercell (SC) (1.5” dia. X 8.25” deep) similar to Plug
- D16 (2” dia. X 7” deep)
- D40 (2.5” dia. X 10” deep)

- TB4 (4" sq. in. X 10" deep)
- TP4 (4" sq. in. X 14" deep)
- 1-Gallon (standard nursery size)
- 5-Gallon (standard nursery size)

Substitute Sizes for Plants: Should plants specified not be available in the specified containers, substitutes or changes in species shall be considered by the City. If larger more expensive plants are required to complete the work, the dollar value of the specified plants will be used as the budget for purchasing fewer of the more expensive plants. The inverse will be true if the substitution involves smaller than specified containers.

PLANTING SOIL MIX, ORGANIC COMPOST, MULCH

Planting Soil Mix: Mix of 50% Native Soil from planting pit excavation and 50% Organic Compost. Field mix on site, see Plans and Specifications.

Organic Compost: Organic compost product as supplied by local area supplier. Product shall be reviewed and approved by the City.

1. Well-composted, stable, and weed-free organic matter, pH range of 5.5 to 8; moisture content 35 to 55 percent by weight; 100 percent passing through 3/4-inch sieve; soluble salt content of 5 to 10 deciSiemens/m; not exceeding 0.5 percent inert contaminants and free of substances toxic to plants
2. Organic matter Content 25% dry weight
3. Compost product shall be used to amend native subgrade soils in planting areas and planting pits.

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Mulch: For planting areas and mulch path. Shall be black mini bark from Contra Costa Topsoil or approved equal. Prior to ordering, contractor shall submit a sample of sufficient size to represent the materials to be furnished for review by the Engineer.

Seed Mix: Stover Seeds California Native Biofilter Grass Seed Mix, at 1.5lbs/1000 SF, or approved equal.

SP28-09 EXECUTION

EXAMINATION

Examine areas to receive plants and irrigation for compliance with requirements and conditions affecting installation and performance. Proceed with installation only after unsatisfactory conditions have been corrected.

Schedule a pre-irrigation/pre-planting meeting with the City on-site to coordinate any changes to planting locations with irrigation layout, prior to initiating irrigation work.

PLANTING AREA PREPARATION

1. Coordinate work with other trades and these Specifications.
2. Protect structures, utilities, sidewalks, pavements, and other facilities, and existing plants from damage caused by planting operations.
3. Provide erosion-control measures to prevent erosion or displacement of soils and discharge of soil-bearing water runoff or airborne dust to adjacent properties and walkways.
4. Lay out individual plant locations for review by the City. Stake locations and adjust locations when requested. Contractor shall obtain City acceptance of layout before planting. Use 2-foot ht. stakes for each shrub. Make minor adjustments as required.

CONTAINER PLANTING PIT PREPARATION

1. Coordinate work with other trades and these Specifications.
2. Loosen subgrade of planting pits. Remove stones larger than 3-inches in any dimension and sticks, roots, rubbish, and other extraneous matter and carefully dispose of off-site.
3. Finish Grading: Grade planting beds to a smooth, uniform surface plane with loose, uniformly fine texture. Rake and remove ridges and fill depressions to meet finish grades.
4. Restore planting pits if eroded or otherwise disturbed after finish grading and before planting.

PLANT EXCAVATION

Pits and Trenches: Excavate circular pits with sides sloped inward. Trim base of pit or trench leaving center area raised slightly to support root ball and assist in drainage. Do not further disturb base. Scarify sides of plant pit smeared or smoothed during excavation. See Plans for additional detail.

Obstructions: Notify the City. if unexpected rock or obstructions detrimental to trees or shrubs are encountered in excavations.

Hardpan Layer (if encountered): Drill 6-inch diameter holes into free-draining strata and backfill with a 50/50 mix of free-draining Planting Soil Mix and Native Soil.

Drainage: Notify the City if subsoil conditions evidence unexpected water seepage or retention in tree or shrub pits.

Fill excavations with water and allow them to percolate away before planting and positioning trees and shrubs.

PLANTING AND MULCHING PROCEDURES

Follow procedures on Plans and Specifications, as well as means and methods approved by the City in Mock-ups. Planting Areas will typically be laid out in open groupings as noted on the Plans.

Set plants plumb and in center of pit or trench as noted on details.

1. Remove containers, burlap, and wire baskets from tops of root balls and partially from sides, but do not remove from under root balls. Remove pallets, if any, before setting. Do not plant trees or shrubs if root ball is cracked or broken before or during planting operation.
2. Use Planting Soil Mix for backfill for all plantings. Spread out and grade into site contours all excess Native Soil from planting pit excavation and Planting Soil Mix blending on-site.
3. Place Planting Soil Mix around root ball in layers, tamping to settle mix and eliminate voids and air pockets. When planting pit is approximately one-half backfilled, water thoroughly before placing the remainder of backfill. Repeat watering until no more water is absorbed. Water again after placing and tamping final layer of planting soil.

Tree, Planting Areas, and Mulch Layout: Coordinate any planting location changes prior to irrigation layout.

Mulch:

1. Provide mulch for all plants. In planting zones where no seeding is specified, provide a contiguous area of mulch. No bare areas (areas without either mulch or seeding) shall be left on site at the completion of the planting work. Mulch all project areas which are not paved or seeded.
2. Provide 3 -inch-thick layer of mulch at all plants and other mulched areas.

PLANTING AREA FENCING

Secure planting areas from pedestrians and vehicular access for a minimum of 90 days after planting, 4-foot-tall orange plastic snow fencing with 7’-0” long #5 rebar stakes, drive to refusal, min. 3-foot depth. Connect with 100 lb. 6" orange zip-ties. Provide orange plastic protective caps at each rebar.

TREE AND PLANT PLANTING AND PRUNING

Only prune new trees and shrubs if directed by the City.

CLEANUP AND PROTECTION AND DISPOSAL

During planting and irrigation installations keep adjacent pavements and improvements clean and the work area in an orderly condition.

Protect plants and irrigation installations from damage due to landscape operations, operations by other contractors and trades, and others. Maintain protection during installation and maintenance periods. Treat, repair, or replace damaged planting and irrigation components.

Disposal: Remove surplus soil, and waste materials, including excess subsoil, unsuitable soil, irrigation debris, and general debris, and legally dispose off City property.

SP28-10 MEASUREMENT AND PAYMENT

The final pay contract price paid per cubic yard for **"Topsoil"** shall include full compensation for furnishing all supervision, labor, materials, tools, equipment and incidentals required for furnishing and installing import topsoil and planting mix soil as shown on the plans, as specified in the Standard Specifications and these Special Provisions and as directed by the Engineer, and no additional compensation will be allowed therefor.

The contract price paid per each for **"4-Inch Pot Plant"**, **"1-Gallon Plant"**, **"5-Gallon Shrub"**shall include full compensation for furnishing all supervision, labor, materials, tools, equipment and incidentals required including but not limited to excavation, backfill, plant tablets, plant material and plant staking as shown on the plans, as specified in the Standard Specifications and these Special Provisions and as directed by the Engineer, and no additional compensation will be allowed therefor.

The final pay contract price paid per square foot for **"Mulch (3-Inch Depth)"** shall include full compensation for furnishing all supervision, labor, materials, tools, equipment and incidentals required to provide and install mulch and seeding, as shown on the plans for planting areas and for cleared areas, as specified in the Standard Specifications and these Special Provisions and as directed by the Engineer, and no additional compensation will be allowed therefor. The quantity shown for "Mulch" on the Bid Schedule shall be a "Final Pay Quantity" in accordance with the provisions of Section 9-1.015 of the State Standard Specifications.

SPECIAL PROVISIONS SECTION SP-29

IRRIGATION

(BID ITEM NO. 35-37)

SP29-01 GENERAL

DESCRIPTION:

Work Included: order and furnish all labor, materials, supplies, tools and transportation and perform

all operations in connection with and reasonably incidental to complete installation of the automatic sprinkler irrigation systems as shown on the plans and specification. Items hereinafter are included as an aid and are not necessarily a complete list of work items.

1. Trenching, stockpiling, excavation, backfill materials and refilling trenches
2. Furnishing materials and installation for complete system including piping, street crossing, sleeving, valves, fittings, bubblers, automatic controls, controllers and final adjustment of heads to insure complete and uniform coverage
3. Line voltage connections to the irrigation controllers and low voltage control wiring from controllers to remote control valves
4. Replacement of unsatisfactory materials
5. Clean-up, inspection, and approval
6. All work of every description mentioned in the specification and/or addenda thereto, and all other labor, and materials reasonably incidental to the satisfactory completion of the work, including clean-up of the site, as directed by the Engineer
7. Tests
8. Record drawings

GENERAL REQUIREMENTS:

1. OSHA Compliance: All articles and services covered by this specification shall meet or exceed the safety standards established under the Federal Occupational Safety and Health Act of 1970, together with all amendments in effect as of the date of this specification. The Contractor shall erect and maintain barricades, guards, warning signs and lights as necessary or required by OSHA regulations for the protection of the public or workers.
2. Codes and Standards: Comply with all applicable codes and standards. All work and materials shall be in full accordance with the latest rules and regulations of the:
    a. ICC – International Code Council
    b. NEC - National Electric Code
    c. State of California, Division of Industrial Safety Electrical Safety Orders
    d. UPC - Uniform Plumbing Code, published by Western Plumbing Officials Association
    e. Other State or local laws or regulations
    f. Nothing in these drawings or specifications is to be construed to permit work not conforming to these codes.
3. In addition to complying with all pertinent codes and regulations, comply with the latest rules of NEC and the Electrical Safety Orders of the State of California, Division of Industrial Safety, for all electrical work and materials. The materials and methods to be used in constructing the irrigation system shall conform to the applicable provisions of the UPC.

4. When the specifications call for materials or construction of a better quality or larger size than required by the above-mentioned rules and regulations, the provision of the specifications shall take precedence over the requirements of the said rules and regulations.
5. The Contractor shall furnish, without any extra charge, any additional material and labor when required by the compliance with these rules and regulations, though the work be not mentioned in these particular specifications or shown on the drawings.
6. Qualifications: Provide sufficient experienced workmen and supervisors who shall be present at all times during execution of this portion of work and who are thoroughly familiar with materials and methods involved. In the acceptance or rejection of the work, no allowance will be made by City for lack of skill on the part of workmen.
7. Site Conditions:
8. Contractor shall familiarize himself with existing site conditions as they may affect his work.
9. Water will be provided at site at no cost to the Contractor. Make and remove temporary lines and connections as necessary for proper execution of the work.
10. Any existing buildings, equipment, piping, pipe covering sewers, sidewalks, landscaping, etc., damaged by the Contractor during the course of this work shall be replaced or repaired by the Contractor in a manner satisfactory to the Engineer and at Contractor's expense, and before final payment is made. The Contractor shall be responsible for damage caused by leaks in the piping systems being installed or having been installed by them. He shall repair, at his own expense, all damage so caused, in a manner satisfactory to City Engineer.
11. Delivery, Storage and Handling: Use all means necessary to protect the materials in this section before, during, and after installation and to protect installed work of other trades. In the event of damage, immediately make all repairs and replacements necessary to the approval of City's representative and at no additional cost to the City.
12. Extra Stock: Provide to the City, at completion of the Maintenance Period, three each of all operating and servicing keys and wrenches required for complete maintenance and operation of all heads and valves. Include all wrenches necessary for complete disassembly of all heads and valves and operating and maintenance manuals on all major equipment.

SUPERVISION AND WORKMANSHIP:

The Contractor, personally or through an authorized and competent representative, shall supervise the work constantly, and shall as far as possible keep the same foreperson and workers on the job from commencement to completion. The workmanship of the entire job must in every way be first class, and only experienced and competent workers will be allowed on the job.

LAYOUT OF WORK:

Pre-construction conference: Contractor shall schedule and conduct a conference to review in detail quality control and construction requirements for equipment, materials, and systems used to perform

the work. The conference shall be scheduled not less than 10 days prior to commencement of work. All parties required to be in attendance shall be notified no later than 7 days prior to date of conference

The Contractor shall stake out the irrigation system as shown on the drawings. These areas shall be checked by the Contractor and Engineer before construction is started. Any changes, deletions or additions shall be determined at this check.

INSTRUCTION:

After the system has been installed and approved, the Contractor shall instruct the Engineer in complete operation and maintenance of the irrigation system.

SUBMITTALS:

1. Material List: Within fifteen (15) days after award of contract, submit to City's representative one electronic copy of a complete list of all materials to be used on the project, specifying manufacturer, catalog number, size, etc. Include sealants, cements, lubricants and other proprietary items. Catalog data and full descriptive literature must be submitted whenever the substitution of items different than those specified is proposed. This shall in no way be construed as allowing substitution of any specified item.
2. Substitutions: Submit one electronic copy of catalogue information on materials which are to be submitted for substitution. Submit catalog literature for each item and a statement indicating reason for substitution. Provide the amount of cost savings if substitution is approved. A complete material list shall be submitted prior to performing any work. No substitution will be permitted without prior written approval by the Engineer.
3. Record Drawings:
    a. The subcontractor shall maintain in good order, in the field office, one complete set of bond prints of all irrigation drawings which form a part of the Contract, showing all water lines, sprinklers, valves, controllers and stub-outs. Any work not installed as indicated on the plans, shall be recorded and dimensioned accurately from the points at sidewalk corners, fence posts, City Utilities or furnishings on these prints.
    b. All underground stub-outs for future connections and valves shall be located and dimensioned accurately on all record drawings.
    c. Upon completion of the work, obtain reproducible prints from Engineer and neatly correct the prints to show the as-built conditions All as-built markups shall be indicated in red.
4. Controller Charts: Record Drawings shall be accepted by City Engineer before controller charts are prepared.
    a. Provide one controller chart for each controller supplied.

b. Charts shall be the maximum size that the controller door will allow, showing areas covered by each controller. Chart shall be an electrostatic copy and a different color shall be used to indicate area of coverage for each station. Enlarge valve sequence to be readable when drawing is reduced.
c. After being completed and accepted, seal by plastic laminating. Laminating sheets shall be a minimum of 10 mil thick.

5. Operations and maintenance manuals:
    a. Deliver to the City at least 10 days prior to completion of construction, 2 complete sets and one digital set of the following data. Data shall be on 8 1/2 inch by 11 inch sheets, in a 3-ring binder.
    b. Index sheet stating Contractor's address and telephone number and list of equipment with name and addresses of local manufacturer's representatives.
    c. Catalog and parts sheets on all material and equipment installed under this Section.
    d. Complete operating and maintenance instructions for all equipment.
    e. Complete and dated manufacturer's warranties for all materials used.
6. Irrigation Maintenance Schedule to include, but not be limited to, routine inspection, adjustment, and repair of the irrigation system and its components.
7. Irrigation audit report by an Irrigation Association certified irrigation auditor. Irrigation audit shall be performed by auditor for final inspection and report shall be provided by auditor. Contractor to submit qualifications of selected auditor to City for approval prior to hire.

SP29-02 MATERIALS

PIPE AND FITTINGS:

Main lines (constant pressure) shall be 1120 Schedule 40 polyvinyl chloride (PVC) solvent weld pipe, Type 1, and shall conform to ASTM D1785. Use Schedule 40 and Schedule 80 PVC solvent weld fittings. Use Schedule 40 PVC solvent weld couplings on Schedule 40 pipe.

At changes in direction or branch mains, use appropriate Schedule 40 PVC solvent weld fittings as approved by the Uniform Plumbing Code. Connections between main line and remote-control valve: Schedule 80 (threaded both ends) nipples & fittings.

Lateral lines (non-pressure) shall be Schedule 40 polyvinyl chloride (PVC) plastic pipe Type 1, and shall conform to ASTM D1785. Use Schedule 40 PVC solvent weld fittings.

1. Connections:
    a. All other plastic to metal joints: Schedule 80, Type 1, Grade 1 PVC threaded male adapters

b. Solvent cement and primer for solvent weld joints shall be of make and type approved by manufacturer(s) of pipe and fittings. Cement shall conform to ASTM D2564 requirements and be maintained at proper consistency throughout use.
c. Pipe joint compound shall be non-hardening, non-toxic materials designed specifically for use on threaded connections in water carrying pipe. Performance shall be same as Permatex No. 51.

CONTROLLERS:

Controllers shall be as listed on the Drawings and shall have the following features:

1. Be compatible with the city central control system.
2. Utilize either evapotranspiration or soil moisture data for irrigation scheduling.
3. UL listed, solid state, capable of automatic or manual operation
4. Non-volatile memory
5. Scheduling with 365-day calendar, odd/even watering, and rain delay of 1-14 days
6. Cycle and soak feature
7. Compatible with master valve and flow sensor
8. Handheld remote ready
9. Controller enclosure shall be stainless steel and as listed on the Drawings.
10. Handheld remote shall be compatible with controller.
11. Controllers shall be grounded per manufacturer's instructions and ASIC grounding guidelines.

REMOTE CONTROL VALVES:

Valves: Size, make and model as designated on the Drawings.

Valves shall have a slow closing feature, with manual control stem and shall be able to operate manually without electrical connection to controller.

Install all remote-control valves in plastic valve boxes with green bolt down cover marked "Irrigation Control Valve" as detailed; Carson or equal. Set box flush with finish grade. Label each controller and station number at valve with a 2-1/4" x 2-3/4" yellow polyurethane I.D. tag attached to control wire.

Filters and pressure regulation shall be compact all-in-one. Filter shall be 150 mesh stainless steel screen.

CONTROL WIRE:

Control wire shall be copper with U.L. approval for direct burial in ground, size #14-Common ground wire shall have white insulating jacket; control wire shall have insulating jacket of color other than white. Splices shall be made with 3M-DBY seal packs. Provide a separate ground wire for each

controller.

GATE VALVES:

Size, make and model as designated on the Drawings. Install in 10" dia. plastic valve box with green bolt down cover as detailed; Carson or equal.

QUICK COUPLING VALVES:

Quick Coupling valves shall be brass construction, 1-inch connection, two-piece body, locking purple vinyl top, single slot and lug. Provide one 1-inch single lug key and 3/4-inch hose swivel for every 5-6 quick couplers.

Quick Coupling valves shall be restrained with ductile iron restrainers that attach securely to the base of the valve. Restrainers shall make contact with the hex flats of the valve and be secured by a single bolt.

RAIN SWITCH:

As designated on the Drawings.

BUBBLERS:

All bubblers shall be as listed on the Drawings.

DRIPLINE:

All dripline, flush valves, and operation indicators shall be as listed on the Drawings. Fittings shall be by the same manufacturer as the dripline tubing.

Dripline tubing and pressure compensating emitters shall be extruded from linear low-density polyethylene. Each dripper to have check valve. Tubing shall have a minimum nominal diameter of ½ inch with a minimum wall thickness of 0.05.

BACKFLOW PREVENTION DEVICE:

Backflow prevention device shall be the reduced pressure type with gate valves, check valves, test cocks, reduced pressure chamber, and air vent.

Backflow preventer enclosure shall be cold rolled steel with black powder coating, 1/8-inch wall thickness, with stainless steel hardware. Enclosure shall be removable from base without use of tools. Enclosure shall be sized to fit backflow prevention device.

MISCELLANEOUS INSTALLATION MATERIALS:

Solvent cement and primer for solvent weld joints shall be of make and type approved by manufacturer(s) of pipe and fittings. Cement shall be maintained at proper consistency throughout use.

Pipe joint compound shall be non-hardening, non-toxic materials designed specifically for use on threaded connections in water carrying pipe. Performance shall be same as RectorSeal #5.

MISCELLANEOUS EQUIPMENT:

Provide all equipment called for by the drawings.

Provide to the City, at completion of the maintenance period, three (3) each of all operating and servicing keys and wrenches required for complete maintenance and operation of all heads and valve. Include all wrenches necessary for complete disassembly of all heads and valves.

SP29-03 INSTALLATION

PREPARATION:

Schedule and coordinate placement of materials and equipment in a manner to effect the earliest completion of work in conformance with construction and progress schedule. Check for existing utility locations before proceeding with irrigation installation.

HANDLING AND STORAGE:

Protect work and materials from damage during construction and storage as directed by Engineer.

Handle plastic pipe carefully; especially protect it from prolonged exposure to sunlight.

LAYOUT:

Lay out work as accurately as possible in accordance with diagrammatic drawings.

Where site conditions do not permit location of piping, valves and heads where shown, notify Engineer immediately and determine relocation in joint conference.

Run pipelines and automatic control wiring in common trenches wherever practical.

EXCAVATION AND TRENCHING:

Excavation shall be in all cases ample in size to permit the pipes to be laid at the elevations intended and to permit ample space for joining.

Cut trenches for pipe to required grade lines and compact to provide an accurate grade and uniform bearing for the full length of line.

Make trenches for pipelines deep enough to provide minimum cover from finish grade as follows:

1. 8-inch minimum cover over main lines to control valves and quick coupling valves
2. 18" minimum cover over control wires from controller to valves
3. 12" minimum cover over RCV controlled lateral lines to sprinkler heads
4. Cap or plug openings as pipeline is assembled to prevent entrance of soil or obstruction Remove caps or plugs only when necessary to continue assembly.
5. Where pipes or control wires pass through sleeves, provide removable non-decaying plug at ends of sleeve to prevent entrance of soil.

Where excavation adjacent to existing trees is necessary use all possible care to avoid injury to tree and tree roots. Excavate by hand in areas where roots two (2) inches and larger occur. Tunnel under all roots two (2) inches and larger in diameter, except directly in path of pipe or conduit, and heavily wrap with burlap, to prevent scarring or excessive drying. Hand trim trench wall when a ditching machine is run close to roots smaller than two (2) inches in diameter. Make clean cuts through roots. No tree seal, paints, tars or other sealants shall be used. Close trenches adjacent to trees within twenty-four (24) hours and where this is not possible shade the side of trench adjacent to tree with burlap or canvas.

Restore surfaces, existing underground installations, etc., damaged or cut as a result of excavations, to original conditions in a manner approved by Engineer.

Where other utilities interfere with irrigation trenching and pipe work, adjust the trench depth as instructed by Engineer.

ASSEMBLING PIPELINES:

All pipe shall be assembled free from dirt and pipe scale. Field cut ends shall be reamed only to full pipe diameter with rough edges and burrs removed.

Contractor is responsible to be familiar with any and all methods of assembling, joining, and installation of the various types of pipe to be used. Adhere in strict accordance with manufacturer's recommended guide. If during any phase of the work the Engineer finds that the Contractor or any of his workmen

are not familiar with recommended procedures, Contractor shall arrange for the services of a qualified manufacturer's representative to instruct workmen in proper recommended procedures for the particular product.

Install fittings at all changes in direction of pipe. Install reducer tees at all sprinkler risers where a pipe size changes. Bushings are not allowed where reducer tees may be used. PVC saddles are not allowed.

SOLVENT WELD JOINT:

Prepare joint by first making sure the pipe end is square, then deburring the pipe end and cleaning pipe and fitting of dirt, dust and moisture.

1. Dry-insert pipe into fitting to check for mis-sizing. Pipe should enter fitting 1/3 to 2/3 depth of socket.
2. Coat the inside socket surface of the fitting and the male end of the pipe with P-70 primer (manufactured by Weld-On). Then without delay, apply Weld-On 711 cement liberally to the male end of the pipe and also apply 711 cement lightly to the inside of the socket. At this time, apply a second coat of cement to the pipe end.
3. Insert pipe immediately into fitting and turn 1/4 turn to distribute cement and remove air bubbles. The pipe must seat to the bottom of the socket and fitting. Check alignment of the fitting. Pipe and fitting shall be aligned properly without strain to either.
4. Hold joint still for approximately thirty (30) seconds and then wipe the excess cement from the pipe and fitting.
5. Cure joint a minimum of thirty (30) minutes before handling and at least six (6) hours before allowing water in the pipe.

THREADED JOINT:

Field threading of plastic pipe or fittings is not permitted. Factory-formed threads only will be permitted.

1. Factory made nipples shall be used wherever possible. Field cut threads in metallic pipe will be permitted only where absolutely necessary. When field threading, cut threads accurately on axis with sharp dies.
2. All threaded joints shall be made up with joint compound. Apply compound to male threads only.
3. Where assembling metallic pipe to metallic fitting or valve, not more than three (3) full threads shall show when joint is made up.
4. Where assembling to threaded plastic fitting, take up joint no more than one full turn beyond hand tight.
5. Where assembling soft metal (brass or copper) or plastic pipe, use strap type friction wrench only; do not use metal-jawed wrench.

6. Cap or plug openings as pipeline is assembled to prevent entrance of dirt or obstructions. Remove caps or plugs only when necessary to continue assembly.

Where pipes or control wires pass through sleeves, provide removable non-decaying plug at ends of sleeve to prevent entrance of earth.

Piping in common trenches shall be placed adjacent to but not directly over other pipe. Provide minimum of 2" clearance between pipe.

AUTOMATIC CONTROLLER AND RAIN SWITCH:

1. Install controller in location shown and as detailed on the Drawings. Exact placement shall be examined and accepted by Engineer. Provide conduit and wire and connect to 120-volt switch accessible to controller for ease of maintenance.
2. Connect control lines to controller in sequential arrangement according to assigned identification number of valve. Label each control line at controller with a permanent non-fading label indicating valve number.
3. Enclosures at controller shall be as indicated on the Drawings. Concrete pad shall conform to Section 10-17.
4. Rain Switch: Install as designated on the Drawings.

REMOTE CONTROL VALVES:

1. Install where shown on drawings and group together where practical. Install valves no farther than 12 inches from main line unless absolutely necessary. Locate valve 12" from and perpendicular to walk edges and walls. Provide 12" between valve boxes where valves are grouped together. (Only one RCV per box).
2. Thoroughly flush main line before installing valves.
3. Label control line wire at each valve with a 2-1/4" x 2-3/4" polyurethane I.D. tag, indicating identification number of valve (controller and station number). Attach label to control wire. Label valve box lid.
4. No soil will be allowed in valve boxes.

AUTOMATIC CONTROL WIRE:

1. Run lines along mains wherever practical. Tie wires in bundles with pipe wrapping tape at 10' intervals and allow slack for contraction between strappings.
2. Loop a minimum of three (3) feet of extra wire in each valve box; both control wire and ground wire.
3. Connections shall be made by crimping bare wires with brass connectors and sealing with watertight resin sealer packs.

4. Splicing will be permitted only on runs exceeding 2500'. Locate all splices at valve locations within valve boxes.
5. Where control lines pass under paving, they shall pass through Schedule 40 electrical PVC conduit. Do not tape wire in bundles inside conduit.
6. Provide each controller with its own independent common ground wire.

BUBBLERS, DRIPLINE, AND QUICK COUPLING VALVES:

1. Thoroughly flush lines before installing heads bubblers, dripline, and valves.
2. Locate heads bubblers and QCVs as shown in the drawings and details.
3. Adjust emitters for proper flow rate.

TESTING:

Perform test as specified below (prior to backfilling pipe trenches). Remake any faulty joints with all new materials. Use of cement or caulking to seal leaks is absolutely prohibited.

The Contractor shall:

1. Notify Engineer at least three (3) days in advance of testing.
2. Perform testing at his own expense.
3. Center load piping with small amount of backfill to prevent arching or slipping under pressure. No fitting shall be covered.
4. Apply the following tests after welded plastic pipe joints have cured at least 24 hours.
   a. Test live (constant pressure) and QCV lines hydrostatically at 125 PSI minimum. Lines will be approved if test pressure is maintained for six (6) hours. The lines shall be restored to the original test pressure and the amount of water required to do so shall be measured. Approved tables of allowable loss will be consulted, and the line will be approved or not approved as such results may indicate. The Contractor shall make tests and repairs as necessary until test conditions are met.
   b. Test RCV controlled lateral lines with water at line pressure and visually inspect for leaks. Retest after correcting defects.

BACKFILLING:

1. Backfill only after piping has been tested, inspected and approved.
2. Excavating or "jacking" under asphalt pavement, sidewalks, roads, etc.: Take care in backfilling with sand, tamping and inundating with water.
3. Backfill material shall be topsoil in planting areas and earth excavated from the trenches, free from rocks, concrete chunks, and other foreign or coarse materials in other areas. Carefully

select backfill that is to be placed next to plastic pipe to avoid any sharp objects which may damage the pipe.

4. All pipe under asphalt paving shall be backfilled with 4" of clean sand on all sides of pipe. Install sand bed 2" below pipe and 4" above if soil conditions are rocky.
5. Place backfill materials in 6" layers and compact by tamping to a minimum compaction of 95 percent of original soil density under paving; 85% compaction in planting areas is adequate.
6. Dress off areas to finish grades and remove excess soil, rocks or debris remaining after backfill is completed.

If settlement occurs along trenches, and adjustments in pipes, valves and emitters, soil, or paving are necessary to bring the system, soil, or paving to the proper level or the permanent grade, the Contractor, as part of the work under this contract, shall make all adjustments without extra cost to the City.

SP29-04 GUARANTEE:

Provide 1 year guarantee for Work of this Section

It shall be the responsibility of the Contractor to fill and repair all depressions and replace all necessary planting due to the settlement of irrigation trenches for one year following completion and acceptance of the job.

Provide supplemental guarantee, on Contractor's letterhead:

1. Warrant that irrigation system has been installed according to Drawings and Specifications, and that system will be free of defects in products and installation for 1 year from Substantial Completion. Manufacturer's warranties shall only supplement special warranty.
2. Agree to repair or replace defective Work, or adjacent work which is damaged by such defects, with the exception of ordinary wear and tear, abuse or neglect. This includes damage to site improvements caused by settlement of improperly compacted trench backfill.
3. The City reserves the right to make temporary repairs as required
4. The Contractor shall also guarantee all materials, equipment and workmanship furnished by him to be free of all defects of workmanship and materials, and shall agree to replace at his expense, at any time within one year after installation is accepted, any and all defective parts that may be found.

CLEAN-UP:

When work of this section has been completed and at such other times as may be directed, remove all

trash, debris, surplus materials and equipment from site. Be prepared to wash all paved areas clean with either a water truck or fire hose or other large suitable equipment capable of accomplishing the work quickly.

SP29-05 MAINTENANCE:

1. Maintain the irrigation system during the progress of the work and for a period of 90 calendar days after completion or until final acceptance.
2. Proper irrigation system maintenance includes the overall supervision of the system, controller scheduling, routine adjustments and necessary repairs.
3. Water: Do not apply water at a rate higher than the infiltration rate of the soil. Regularly utilize a soil probe to evaluate actual soil moisture levels and irrigation schedule.
4. Regularly observe irrigation system operation and make any repairs or adjustments necessary to maintain effective watering of the plant material.
   a. Visual Review: Inspect irrigated areas for unusually wet or dry areas.
   b. System Operation: Operate each controller station and visually inspect each bubbler for proper operation.
   c. Bubblers: Clean and adjust as required for proper coverage. All replacement heads shall be of same manufacturer, type and application rate.
   d. Controller Program: Comprehensively review controller program with consideration for water conservation, overall site conditions, seasonal changes and plant requirements. In windy areas, set controller to operate during periods of low wind velocity. Adjust watering schedule so as not to interfere with the use of the facility. Maintain a record of current irrigation programs, including day, time and length of watering for each station and program for each controller. Flag all areas that appear to be abnormal and make required repairs or adjustments.
   e. Valve Operation: Visually inspect valves and components for leaks. Make required repairs or adjustments.

Repair and Replacement: Any faulty equipment or damage to the system not caused by the Contractor's negligence or operations shall be promptly reported to the Engineer, together with an estimate of costs for repairs. Emergency repairs necessary for the continued viability of the plant material shall be completed without prior authorization.

SP29-06 MEASUREMENT AND PAYMENT

The contract lump sum price paid for **"Irrigation System"**, shall include full compensation for furnishing all supervision, labor, materials, tools, equipment, testing and audits and incidentals required for the irrigation system installation, including but not limited to furnishing and installing all irrigation facilities, trenching and restoring surfacing at trenches and sleeves, as specified in the Standard Specifications

and these Special Provisions and as directed by the Engineer, complete in place, and operational as specified and no additional compensation will be allowed therefor.

The contract lump sum price paid for **"Irrigation Controller"**, shall include full compensation for furnishing the controller assembly and all supervision, labor, materials, tools, and equipment required for the installation of assembly.

The contract lump sum price paid for **"Backflow Preventer"**, shall include the backflow prevention device, pressure regulator, and enclosure and shall include full compensation for furnishing all supervision, labor, materials, tools, and equipment required for the installation of assembly.

SPECIAL PROVISIONS SECTION SP-30

BIORETENTION BASIN
(BID ITEM NO. 28)

The provisions of Section 30, "Bioretention Basin," of the General Provisions of the Standard Specifications shall apply in their entirety and as supplemented herein.

SP30-01 MATERIALS

Bioretention soil mix (BSM) for the Bio-retention basin shall be obtained from Contra Costa Topsoil or approved equal and shall meet the latest requirements of the Bioretention Sil Media Specification as found on the Contra Costa Clean Water website (https://www.cccleanwater.org/development-infrastructure/development/stormwater-c-3-guidebook).

Class 2 Perm shown on the plans must comply with Class 2 Permeable Material as specified in Section 68-2.02F(2) of the State Specifications.

SP30-02 EXECUTION

Contractor must comply with the following specifications when constructing the bioretention basin:

1. Prevent runoff from adjacent pervious and impervious surfaces from entering the bioretention facility (e.g., sandbag inlet curb cuts, stabilize adjacent areas, flow diversion) until authorization is given by the Engineer.
2. Exclude equipment from bioretention facilities after excavation to subgrade is completed. No equipment shall operate within the facility once bioretention facility excavation is finished, including during backfilling, mulching, or planting.

3. Prevent foreign materials and substances, such as silt laden run-off, construction debris, paint, paint washout, concrete slurry, concrete layers or chunks, cement, plaster, oils, gasoline, diesel fuel, paint thinner, turpentine, tar, roofing compound, or acid from entering or being stored in the facility at any point during construction.
4. The Contractor shall not start bioretention facility grading until all areas draining to the facility are stabilized and authorization has been given by the Engineer/Landscape Architect.
5. Construct bioretention facility subgrade to +/- 3/4 inch of the grades and slopes specified on the Plans.
6. Excavation within 6 inches of final native soil grade shall not be permitted if facility soils have standing water or have been subjected to more than 1/2 inch of precipitation within the previous 48 hours.
7. Construct the fill slopes/berms of the bioretention basin in 6-in max lifts to the grades shown on the plans and compact to 90% relative compaction. See the Planting Section for subgrade preparation to receive plantings.

Contractor must comply with the following specifications when preparing subgrade for under the flat portion of the bioretention basin as shown on the plans:

1. Remove all trash, debris, construction waste, cement dust and/or slurry, or any other materials that may impede infiltration into prepared subgrade.
2. The subgrade shall be inspected and accepted by the Engineer prior to placement of any materials or final subgrade scarification.
3. Scarify the surface of the subgrade to a minimum depth of 3 inches immediately prior to placement of Bio-retention Soil Mix (BSM) or Class 2 Perm. Acceptable methods of scarification include use of excavator bucket teeth or a rototiller to loosen the surface of the subgrade.
4. Place Class 2 Perm, where shown on drawings with conveyor belt or with an excavator or loader from a height no higher than 6 feet unless otherwise approved by the Engineer/Landscape Architect (i.e., do not dump material directly from truck into cell).
5. Class 2 Perm areas contaminated by sediment-laden runoff prior to placement of BSM shall be remediated at the Contractor's expense by removing the contaminated aggregate (top 3 inches minimum or as directed by the Engineer) and replacing with clean Class 2 Perm, to the lines and grades on the Plans.
6. The Class 2 Perm shall be inspected and accepted for placement and finish grade by the Engineer prior to the installation of BSM. Any material that does not conform to this Specification shall be removed and replaced with acceptable material or remediated to the satisfaction of the Engineer, at the Contractor's expense.

The contractor must comply with the following specifications for placing bioretention soil (BSM):

1. The Contractor shall not place BSM until the Engineer has reviewed and confirmed the following:
    a. BSM delivery ticket(s): Delivery tickets shall show that the full delivered amount of BSM matches the product type and manufacturer named in the submittals. Each delivered batch of BSM shall be accompanied by a certification letter from the supplier verifying that the material meets specifications and is supplied from the approved BSM stockpile.
    b. Visual match with submitted samples: Delivered product will be compared to the submitted 1-gallon sample, to verify that it matches the submitted sample. The Engineer may inspect any loads of BSM on delivery and stop placement if the soil does not appear to match the submittals; and require sampling and testing of the delivered soil to determine if the soil meets the requirements before authorizing soil placement.
    c. Inspection of the Class 2 Perm, underdrain, cleanout, and overflow structure installation, where included on the plans.
2. BSM placement, grading and consolidation shall not occur when the BSM is excessively wet, or has been subjected to more than 1/2 inch of precipitation within 48 hours prior to placement. There should be no visible free water in the material.
3. The Contractor shall place BSM loosely with a conveyor belt or with an excavator or loader from a height no higher than 6 feet, unless otherwise approved by the Engineer (i.e., do not dump material directly from truck into cell). Soil shall be placed upon a prepared subgrade in accordance with these Specifications and in conformity with the lines, grades, depth, and typical cross-section shown in the Drawings or as established by the Engineer.
4. Excessively dry BSM may be lightly and uniformly moistened, as necessary, to facilitate placement and workability.
5. Compact BSM using non-mechanical compaction methods (e.g., boot packing, hand tamping, or water consolidation) to 83 percent (+/- 2 percent) of the maximum dry density per modified Proctor test (ASTM D1557), or as directed by the Engineer. Determination of in-place density shall be made using a nuclear gauge per ASTM D6938. Moisture content determination shall be conducted on a soil sample taken at the location of the nuclear gage reading per ASTM D2216.
6. Grade BSM to a smooth, uniform surface plane with loose, uniformly fine texture. Rake, remove ridges, and fill depressions to meet finish grades.
7. Final soil depth shall be measured and verified only after the soil has been compacted. If after consolidation, the soil is not within +/- 3/4 inch of the grades and slopes specified on the Plans, add material to bring it up to final grade and raked.
8. The BSM shall be inspected and accepted for placement and finish grade by the Engineer/Landscape Architect prior to the installation of planting and mulch. Any BSM that does not conform to this Specification shall be remediated to the satisfaction of the Engineer, or removed and replaced with acceptable BSM, at the Contractor’s expense.

Contractor must comply with the following specifications for planting and mulching bioretention basin:

1. Bioretention facilities shall be planted and mulched as shown on the Plans.
2. Bioretention facilities shall not be planted or mulched when soils are excessively wet.
3. Bioretention facility areas contaminated by sediment laden runoff prior to planting or placement of mulch shall be remediated at the Contractor's expense by removing the contaminated BSM (top 3 inches minimum) and replacing with BSM, to the lines and grades on the Plans.
4. All mulch shall be inspected and accepted by the Engineer to ensure appropriate depth and material prior to facility commissioning (e.g., unblocking of inlets).

SP30-03 MEASUREMENT AND PAYMENT

The contract square foot price paid for **"Bioretention Basin"**, shall include full compensation for furnishing all supervision, labor, materials, tools, equipment and incidentals required for constructing the bioretention basin as specified in the Standard Specifications and these Special Provisions and as directed by the Engineer, complete in place, and operational as specified and no additional compensation will be allowed therefor.

SPECIAL PROVISIONS SECTION SP-31

STREAMBED COBBLE OUTFALL AND SITE BOULDERS

(BID ITEM NO. 27 and 34)

SP31-01 GENERAL

SUBMITTALS

Note that no boulder placements will be authorized without direct observation by the City in the field.

INSPECTION

The Contractor shall obtain approval from the City for the following prior to commencing with installation:

- Preparation of the sub-grade and prior to placement of all boulders
- Scheduling of the City for supervision for all boulder placements

QUALITY ASSURANCE

Pre-construction Meeting: Conduct with the City meeting at Project Site to comply with specified requirements.

Ensure all boulder placement equipment and personnel meet the requirements of the specifications for type and experience level.

SP 31-02 BOULDERS (SITE BOULDERS)

Boulders shall be hand selected Sonoma Moss Rock as sold by American Soil & Stone Products (510.292.3000) or approved equal. Stone shall be selected by Contractor under direct observation by the City.

Boulders shall be select, high-quality stone. Broken boulders, boulders with sharp edges, friable boulders, or scarred boulders shall not be accepted.

Color shall be variable, from light brown to tan and grey, as determined by the City from quarry inventory.

Site Boulder quantities shall be controlled by total tonnage. Contractor shall determine the breakdown of the boulder sizes and weights during the boulder selection process. Contractor is responsible for procuring and transporting all stone to the site and completing the work as specified. Boulder setting locations at project site to be approved and supervised by City prior to commencing work.

BOULDER TONNAGE TABLE

TONNAGE	**+/- SIZE (LxWxD)**	**PLAN COUNT**
0.5 ton	2’x2’x1.5” or 3’x1.5’x1/5’	5
1 ton	2’x2’x3’	9
1.5 ton	4’x2’x2.5’	3
2 ton	3’x3’x3’	4

SP 31-03 EXECUTION

SUBGRADE PREPARATION

Areas where Site Boulders are to be placed shall be graded to achieve the design intent under direction from the City. General grade elevations are shown on the Plans. Boulder elevations shall be determined in the field by the City. The soil surface shall be smooth and free from any obstructions to provide adequate contact area between the soil and boulders.

SITE BOULDER PLACEMENT

Contractor shall provide personnel both experienced and skilled in boulder placement (high-end level craftsmanship) to complete the specified Boulder placement.

Site Boulder setting shall be completed under direct City observation. Approved mock-up setting will be used to control all boulder installation detailing and quality.

Site Boulders shall be located within the site per the Plans and per the City direction.

1. Prepare site to accept Site Boulders as described on the Plans and as directed by the City. Verify placement with the City prior to installation.
2. Site Boulders shall be placed after rough site grading has been completed, and prior to site paving and or finished surface operations. See Plans for additional information.
3. Contractor shall use equipment capable of picking up, rotating, handling, and setting 2-ton boulders.
4. Site Boulders shall be expertly set to ensure a high quality, and level of boulder setting workmanship. Ensure tight, permanent fit between adjacent boulders and native soil.
5. Transport Site Boulders to general locations shown on Plans. Install Site Boulders in final locations directed by the City in the field.
6. Protect all site improvements during the Site Boulders placement.

CLEAN UP

Keep project site and adjacent streets reasonably free from accumulation of debris resulting from work specified in this section.

Immediately remove dirt, debris, and over seeding from seeding operations from structures, walls, pavements, and curbs.

PROTECTION

Provide adequate barriers marked with white flags, throughout the duration of the installation to protect site improvements, existing features, and stockpiles.

PROGRESS OBSERVATIONS

A written notice requesting the initial site observation shall be given to the O.R. at least (1) one week prior to any anticipated observation date.

The following progress observations are required:

SP31-04 ROCK OUTFALL

The rock outfall into the bioretention basin and the constructed overflow through the bioretention basin berm must be constructed with a well graded mix of river rocks not to exceed 10 inches in

diameter and not less than 3 inches in diameter. The river rocks must be placed over a 4-inch layer of Class 2 Permeable. At least two courses of rocks shall be installed, with the bottom course being larger-dimensioned rocks firmly seated into the Class 2 Perm layer. Contractor shall spread and shape rock layers to relatively uniform thickness and grades conforming to the grades shown on the plans. Contractor shall perform minor grading as necessary to install rock channel to achieve the design intent of facilitating flow of water without causing erosion.

1. Observation and approval of subgrade for all installations noted in this Specification, prior to installation.
2. Observation and approval of the Work in this Section.

SP31-05 MEASUREMENT AND PAYMENT

The Contract square foot price paid for **"Streambed Cobble Outfall/Riprap"** shall include full compensation for furnishing all labor, tools, equipment, and incidentals to perform all work to excavate, and install rock outfall, including any minor grading required, as shown on the Plans, as specified in these Special Provisions, and as directed by the Engineer, and no additional compensation shall be allowed therefor.

The Contract price paid per each **"Site Boulders"** shall include full compensation for furnishing all labor, tools, equipment, and incidentals to perform all work to excavate, and install site boulders, including any minor grading required, as shown on the Plans, as specified in these Special Provisions, and as directed by the Engineer, and no additional compensation shall be allowed therefor.

SPECIAL PROVISIONS SECTION SP-32

SITE FURNISHINGS

(BID ITEM NO. 13-14 and 39-44)

SP32-01 GENERAL

RELATED DOCUMENTS

Drawings and general provisions of the Contract, including General Conditions and Special Provisions, and other Technical Specification Sections from the City of Lafayette Standard specifications apply to this Section.

SUMMARY

This Section includes the following site work and site furnishings for work in the First Street Rain Garden project.

1. Installing prefabricated wood and metal benches
   a. (1) free standing and
   b. (2) wall mount
2. Timber Box Steps
3. Fabrication and installation of steel tube railings for new handrails at Timber Box Steps
4. FCD Channel Wood and Wire Fence
5. Installing Creek Icon provided by City
6. Installing Interpretive Sign provided by City

DEFINITIONS

Bench: metal and wood bench mounted to concrete seat wall along main path and/or footings in pull-out near First Street entry.

Creek Icon: Vertical signage for Lafayette Creek that is owned by the City, to be installed at raingarden park entrance onto concrete footing. See appendix for reference.

HDG: Hot dip galvanized

FCD: Flood Control District

APPLICABLE STANDARDS AND SPECIFICATIONS

- California Building Code, (CBC)
- American Society for Testing Materials, (ASTM)
- American Wood Association, (APA-EWS)
- American Wood Protection Association (AWPA)
- American Institute of Steel construction, (AISC)
- Structural Welding Code, (AWS)
- Contra costa County Public Works Standard Details

SUBMITTALS

Submittal Package: All submittals in this specification section (excluding re-submittals) shall be compiled together and submitted to the City as one package.

Product Data: Provide for each type of product indicated. Include construction and fabrication details, material descriptions, dimensions of individual components and profiles, finishes, field-assembly requirements, and installation details.

Shop Drawings: Include plans, elevations, sections, details and attachments to other work for:

1. Bench mounting coordination with concrete seat wall shop drawings
2. Handrails: new fabrication for installation adjacent Timber Box Steps

On-site Field Verification: Location, layout, and orientation of Timber Box Steps, handrails, Creek Icon and all seatwalls and Benches to be reviewed and approved prior to commencing fabrication or installation.

On-Site Mock-ups: Provide mock-ups for all site work and site furnishing installations including but not limited to: Timber Box Steps and Wood and Wire Fence for City approval prior to installing.

Samples for Verification: For each material (provided in Ziploc bags), and for every type of exposed finish required, prepared on samples not less than 6-inch long for linear components and 6-inch square for flat components, non-shrink grout and anchoring cement.

Material Certificates: For site furnishings and fasteners, signed by manufacturer

QUALITY ASSURANCE

1. Coordinate inspections with City.
2. Certify that all lumber supplied to site is FSC certified.
3. Source Limitations: Obtain each type of site furnishing through one source from a single manufacturer.
4. Contractor installing the site furnishings shall have a minimum of 5 years of experience in the installing of site furnishings with the personnel, facilities, and equipment adequate for the products specified, and shall produce written proof of such with bid.

COORDINATION, SCHEDULING, DELIVERY, STORAGE, AND HANDLING

1. Delivery: Deliver materials to site in manufacturer's original, unopened containers and packaging, with labels clearly identifying product name and manufacturer.
2. Storage: Store materials in clean, dry area in accordance with manufacturer's instructions. Keep materials in manufacturer's original, unopened containers and packaging until installation.
3. Handling: Protect materials and finish during handling and installation to prevent damage.
4. Coordinate installation of anchorages for railings. Furnish setting drawings, templates, and directions for installing anchorages, including sleeves, concrete inserts, anchor bolts, and items with integral anchors, that are to be embedded in concrete or masonry. Deliver such items to Project Site in time for installation.
5. Do not support railings temporarily by any means that do not satisfy structural performance requirements.

SP32-02 PRODUCTS

GENERAL

Wood :

Ensure that all members do not exhibit cupping, warping, or crowning such that these conditions are visible to the eye when the lumber is installed on the project.

Timber Stairs – all wood members shall be pressure treated Douglas Fir No. 1 and free of heart center.

Wood and Wire Fence – components below shall be redwood, construction heart or better:

1. 2x6 Cap
2. 2x4 horizontal stringers
3. 2x6 horizontal stringers
4. 2x2 vertical closure piece
5. 2x4 vertical closure piece

Wood and Wire Fence – Posts: 6x6 pressure treated Douglas Fir No.1 free of heart center, brown

Wood Posts and supports for Interpretive sign—components shall be redwood, construction heart or better.

Metal, General:

1. Provide materials with smooth surfaces, without seam marks, roller marks, rolled trade names, stains, discolorations, or blemishes.
2. Brackets, Flanges, Anchors, and Sleeves: Cast or formed metal of same type of material and finish as supported rails, unless otherwise indicated.

Steel and Iron:

1. Pipe: ASTM A 53/A 53M, Type F or Type S, Grade A, Standard Steel Pipe, sizes per Plans. Ensure conformance with current ADA requirements and CalDAG.
2. Structural Tubing (Tube Steel): ASTM A500, size per drawings.
3. Plates, Shapes, and Bars: ASTM A 36/A 36M
4. Anchors, Fasteners, Fittings, and Hardware: Manufacturer's standard, corrosion-resistant-coated or non-corrodible materials; commercial quality; tamperproof, vandal and theft resistant; concealed, recessed, and capped or plugged. Provide as required (whether specified or not) for site furnishing assembly, mounting, secure attachment, and vandal resistance.
5. Handrails: per plans, see SP-34 for powdercoating and painting

6. Fasteners for Anchoring Railings to other Construction: Select fasteners of type, grade, and class required to produce connections suitable for anchoring railings to other types of construction indicated and as approved by the City.
7. Where required, provide cast-in-place anchors, fabricated from corrosion-resistant materials with capability to sustain, without failure, a load equal to six times the load imposed when installed in unit masonry and equal to four times the load imposed when installed in concrete, as determined by testing per ASTM E 488 conducted by a qualified independent testing agency.

MISCELLANEOUS MATERIALS

1. Welding Rods and Bare Electrodes: Select according to AWS specifications for metal alloy welded.
2. Shop Primers: Provide primers that work with specified finishes.
3. Non-shrink, Nonmetallic Grout: Factory-packaged, non-staining, non-corrosive, nongaseous grout complying with ASTM C 1107. Acceptable material is Embecco 885 Grout. Provide grout specifically recommended by manufacturer for exterior applications.

SITE FURNISHINGS

Available Products: Subject to compliance with requirements, products that may be incorporated into the Work include elements noted below:

Freestanding Bench at First Street Entrance:

1. Link bench from Landscape Forms, 140” Radius piano key with outside radius back and metal legs
2. Bench to be surface mounted onto concrete footing; Fasteners to be approved by City Engineer for ease of removal by staff in the event of FCD access requirements
3. Leg supports to be powder coated standard LandscapeForms Black

Wall Mount Bench:

1. Link bench from LandscapeForms, 96” Radius piano key top of wall mount, back-less. Any powder coating of exposed metal attachment pieces shall match black color for Leg supports of Freestanding Bench

Timber Box Stairs:

1. Material, size, and length as noted on Plans

2. Fasteners as noted on Plans
3. Pins shall be rebar, size, and length per Plans.
4. Install Aggregate Paving treads per Specification.

Handrails:

1. New handrail - Material, size and length as noted on Plans

Wood and Wire Fence and Gates at FCD Channel:

1. Material, size and length as noted on Plans. Wood grade shall meet California Redwood Association standards.
2. Posts and Rails as specified on Plans. Ensure that posts and rails do not exhibit cupping, warping, or crowning such that these conditions are visible to the eye when the boards are installed on the project.
3. Footings for Fence and Guardrail: concrete footings, sized per Plans
4. Fasteners as noted on Plans

Creek Icon:

1. Will be supplied by City and delivered to Contractor for installation on reinforced concrete footing at entry per fabricator details (see Appendix).
2. Work shall conform with all City of Lafayette standards.
3. Work shall be coordinated with concrete flatwork, electrical components of projects and site boulder placement.
4. Contractor shall provide a sequencing memo to City outlining steps and timeline for installation of Creek Icon at entry and all required measures to protect Icon from damage during course of construction and installation.

Interpretive Sign:

1. Sign will be supplied by City and delivered to Contractor for installation on posts (see Appendix) at overlook at bottom of timber stairs.
2. Work shall conform with all City of Lafayette standards and Contra Costa County Standard Detail CRS1 for foundation installation.
3. Work shall be coordinated with decomposed granite surfacing scope of project, site boulder placement, and other adjacencies.
4. Final location to be approved by City prior to commencing work.
5. Contractor shall provide a sequencing memo to the City outlining steps and timeline for installation of Interpretive sign at overlook and all required measures to protect sign from damage during course of construction and installation.

Anchors, Fasteners, Fittings, and Hardware:

1. Manufacturer's standard, corrosion-resistant-coated or non-corrodible materials; commercial quality; tamperproof, vandal and theft resistant; concealed, recessed, and capped or plugged. Provide as required for site and street furnishings' assembly, mounting, and secure attachment.
2. Anti-theft Hold-Down Brackets: For securing site furnishings to substrate; two per unit.
3. Steel Sleeves for furnishings and guardrail: Provide galvanized steel sleeves as re-quired to complete the Work.
4. Non-shrink, Nonmetallic Grout: Premixed, factory-packaged, non-staining, non-corrosive, nongaseous grout complying with ASTM C 1107. Provide grout, recommended in writing by manufacturer, for exterior applications.

FINISHES, GENERAL

1. Comply with NAAMM's "Metal Finishes Manual for O.R. and Metal Products" for recommendations for applying and designating finishes.
2. Wood will be secured with screws and bolts, stainless steel, hot-dip galvanized meeting ASTM A 153/A specification, or approved equal – not nails. The aesthetics of all this work is important and as such extra care shall be taken in the careful alignment of the materials and fasteners. Careful alignment and tight joints are required.
3. Appearance of Finished Work: Variations in appearance of abutting or adjacent pieces are acceptable if they are within one-half of the range of approved Samples. Noticeable variations in the same piece are not acceptable. Variations in appearance of other components are acceptable if they are within the range of approved Samples and are assembled or in-stalled to minimize contrast.
4. Protect mechanical finishes on exposed surfaces from damage by applying a strippable, temporary protective covering before shipping.
5. See SP-34 for powder coating and painting.

SP32-03 EXECUTION

GENERAL

1. The aesthetics of all this work is important and as such extra care will need to be taken in the alignment of the materials, bolts and screw heads, and in the general tightness of the joints.

EXAMINATION

1. Examine areas and conditions, with Installer present, for compliance with requirements for correct and level finished grade, mounting surfaces, installation tolerances, and other conditions affecting performance.
2. Proceed with installation only after unsatisfactory conditions have been corrected.

NEW HANDRAIL FABRICATION

1. General: Fabricate railings to comply with requirements indicated for design, dimensions, member sizes and spacing, details, finish, anchorage, and ADA Code compliance. Railing sections shall be one-piece units.
2. Assemble railings in the shop, no field splicing or assembly shall occur unless approved by City.
3. Cut, drill, and punch metals cleanly and accurately. Remove burrs and ease edges to a radius of approximately 1/32-inch, unless otherwise indicated. Remove sharp or rough areas on exposed surfaces.
4. Form work true to line and level with accurate angles and surfaces.
5. Fabricate connections in a manner to exclude water. Provide weep holes where water may accumulate.
6. Cut, reinforce, drill, and tap as indicated to receive finish hardware, screws, and similar items.
7. Connections: Fabricate railings with welded connections, unless otherwise indicated.
8. Welded Connections: Cope components at connections to provide close fit, or use fittings designed for this purpose. Weld all around at connections, including at fittings.
    a. Use materials and methods that minimize distortion and develop strength and corrosion resistance of base metals.
    b. Obtain fusion without undercut or overlap.
    c. Remove flux immediately.
    d. At exposed connections, finish exposed surfaces smooth and blended so no roughness shows after finishing and welded surface matches contours of adjoining surfaces.
9. Form changes in direction as detailed.
10. Form simple and compound curves by bending members in jigs to produce uniform curvature for each repetitive configuration required; maintain cross section of member throughout entire bend without buckling, twisting, cracking, or otherwise deforming exposed surfaces of components.
11. Close exposed ends of railing members with prefabricated end fittings.
12. Brackets, Flanges, Fittings, and Anchors: Provide all necessary brackets, flanges, miscellaneous fittings, and anchors to connect railing members to other work as required to complete the Work.
13. Steel sleeves for railing posts shall be per Plans. Inside sleeve clear dimensions not less than ½-inch greater than outside dimensions of specified handrail post. Weld flush, round steel cap to bottom of sleeve.

WOOD

1. Acclimate wood to the site for a minimum of 7 days prior to installation. Neatly stack and sticker wood to allow air flow around the boards, including the bottom boards, then cover with plywood (not a waterproof tarp).
2. Wood stored on site shall be supported to protect the member from dirt, from weather and from induced stresses.
3. Wood framing shall be installed as shown in the Plans taking care to make tight joints and to align the fasteners as called for.
4. Posts: Install plumb and aligned to site features and per the City direction. Heights may vary slightly per site conditions, the City shall approve prior to final set and trimming. Posts in concrete footings.
5. Post Footings: Power auger excavation required for all post footings.
6. Fasteners: Install level and straight.
7. Where screws are used to secure wood set heads flush – especially where another wood member is to be placed against the first. Exposed screws shall be aligned evenly, uniformly, and on center unless otherwise noted on plans.

SP32-04 INSTALLATION

Comply with City of Lafayette and furnishing manufacturers' installation standards, direction, and product manufacturer's written installation instructions, unless more stringent requirements are indicated. Complete field assembly of site furnishings, as required to complete the Work as shown on Plans.

Install site furnishings level, plumb, true, and securely anchored at locations indicated on the Plans.

Post Setting: When specified, set cast-in support posts in concrete footing with smooth top, shaped to shed water. Protect portion of posts above footing from concrete splat-ter. Verify that posts are set plumb or at correct angle and are aligned and at correct height and spacing. Hold posts in position during placement and finishing operations until concrete is sufficiently cured.

FREESTANDING BENCH:

1. Install per plans, contractor to obtain approval for final location prior to commencing work on footings.
2. Install to achieve level seating surface.

WALL MOUNT BENCH:

1. Install per plans, and shop drawing submittals approved by Engineer.
2. Install to achieve level seating surface across both sections.

TIMBER BOX STEPS:

1. Final layout shall be approved by the City in the field. Layout adjustments to specified design at no cost to the City.
2. Set timber treads level, select smooth even faces for exposed faces.
3. Adjust Site Boulder layout as needed to accommodate railings and posts.

NEW HANDRAILS, AT TIMBER BOX STEPS:

1. Fit exposed connections together to form tight, hairline joints.
2. Perform cutting, drilling, and fitting required for installing railings. Set railings accurately in location, alignment, and elevation; measured from established lines and levels and free of rack.
3. Do not weld, cut, or abrade surfaces of railing components that have been coated or finished after fabrication and that are intended for field connection by mechanical or other means without further cutting or fitting.
4. Set posts plumb within a tolerance of 1/16-inch in 3-feet.
5. Align rails so variations from level for horizontal members and variations from parallel with rake of steps and ramps for sloping members do not exceed ¼-inch in 12-feet.
6. Corrosion Protection: Coat concealed surfaces that will be in contact with grout, concrete, masonry, wood, or dissimilar metals, with a heavy coat of bituminous paint.
7. Adjust railings before anchoring to ensure matching alignment at abutting joints.
8. Posts shall be set in concrete footings per Plans

WOOD AND WIRE FENCE &GATES:

Install per plans and specifications.

1. Posts: Install plumb and aligned to site features and per O.R. direction. Heights may vary slightly per site conditions, City to approve prior to final set and trimming. Ease all edges – only if directed by the City.
2. Post Footings: Power auger excavation required for all post footings.
3. Rails installed per Plans. Rails to be set level or sloped per plans.
4. Rail Fasteners: Install level and straight.
5. At all FCD Gates, ensure finish grade is suitable for gate operation. Grade as re-quired prior to fence installation to ensure gate can swing from open to closed, both sides (where feasible).

CREEK ICON

1. Creek Icon will be delivered to contractor by City for installation at location indicated on plans and per fabricator's detail (see Appendix).
2. Contractor shall coordinate with all other adjacent scopes of work and comply will all sections of the Plan specifications.

INTERPRETIVE SIGN

1. Interpretive sign panel will be delivered to contractor by the City for installation at location indicated on plans and per detail (see Appendix).
2. Contractor shall coordinate with all other adjacent scopes of work and comply will all sections of the Plan specifications.

SP32-05 MEASUREMENT AND PAYMENT

The Contract price paid per each for **"Free Standing Metal Bench", "Timber Stairs", "Wall Mount Bench", "Creek Icon and Foundation",** and **"Interpretive Sign and Posts"** shall include full compensation for furnishing all labor, materials, tools, equipment and incidentals and for doing all the work involved, including all labor, materials, supplies, tools, and transportation and perform all operations in connection with and reasonably incidental to complete the installations, as described in these Specifications, as shown on the plans, and as directed by the Engineer

The Contract price paid per linear foot for **"Handrails"** shall include full compensation for furnishing all labor, materials, tools, equipment, and incidentals necessary fabricate, transport, install, finish, and complete all other work for the new handrails at the Timber Box Stairs as noted on the plans, as specified by these Special provisions, and as directed by the Engineer, and no additional compensation shall be allowed therefor.

The contract price per linear foot for **"Wood and Wire Fence"** and the contract price per each **"Wood and Wire Gates"** shall include full compensation for furnishing all labor, materials, tools, equipment and incidentals, and for doing all work, complete and in place, specified by these Special provisions, as shown on the Plans and as directed by the Engineer and no additional compensation will be allowed therefor.

SPECIAL PROVISIONS SECTION SP-33

LIGHTING

(BID ITEM NO. 45-50)

SP33-01 GENERAL ELECTRICAL REQUIREMENTS

RELATED DOCUMENTS

The requirements of SP1-01, apply to the work specified in this section.

DESCRIPTION OF WORK

1. Motors, motor controls and low voltage control wiring that are an integral part of equipment assemblies' irrigation controls
2. Painting of exposed electrical work

3. Work Included in Contract
    a. Provide and install new 120V circuiting to existing distribution system for a complete system as detailed on drawings.
    b. Grounding and bonding per NEC
    c. Provide and install new exterior lighting as shown on drawings.
    d. Provide and install new electrical devices, conduit and wiring for all power requirements for lighting and irrigation power systems.

CODES AND STANDARDS

In addition to Codes and Standards - Division 1, the following shall apply to this Division:

1. National Electrical Code with California amendments
2. California Admin. Code, Titles 17, 19, 24, Part 1.
3. U.L. Electrical Construction Materials List
4. Codes, rules and regulations as specified hereinafter
5. Local city and county agencies

SUBMITTALS

Submittals shall be made in conformance with the General Conditions. The list shall include, for each item, the manufacturer, manufacturer's catalog number, type of class, the rating, capacity, size, etc. Submittals shall include:

1. Conduit & Fittings
2. Boxes & Covers
3. Wire & Cable
4. Wiring Devices
5. Disconnect Switches
6. Lighting Fixtures
7. Photocell

SHOP DRAWINGS

Submit for approval, detailed construction drawings for each item of fabricated equipment required for the electrical installation. All drawings shall be to scale, fully dimensioned, and provide sufficient detail to clearly indicate the arrangement of the equipment and its component parts. Construction of the equipment shown shall be revised to comply with the drawings and specifications as required by the Architect after review of the shop drawings, and the drawings submitted when requested by the Architect. Shop drawings shall be submitted for the following:

1. Lighting Systems

SUPERVISION OF ELECTRICAL WORK

Contractor shall personally, or through an authorized and competent representative, constantly supervise the work from beginning to completion and final acceptance. So far as possible, keep same

foreman and workmen throughout the project duration. Work shall be subject to inspection and approval by the City. Promptly furnish related information when so requested.

EQUIPMENT AND SYSTEMS IDENTIFICATION

General: All panels, terminal cabinets, etc., shall be labeled as to identification and use. In general, equipment shall be identified in accordance with drawings. Identification tags, signs, labels and markers shall comply with OSHA and ANSI requirements.

Directories: Update existing pedestal directory with names of items serviced. Provide service description etched on cover of all underground pull boxes.

OPERATING INSTRUCTIONS ON-SITE

Upon completion of the project, arrange for manufacturer's representatives to instruct City maintenance personnel in the use of any equipment requiring operating and maintenance. Arrange for all personnel to be instructed at one time. Arrange for all personnel to be instructed at one time.

ADJACENT WORK

1. Coordinate work and complete with others in furnishing and placing this work.
2. Work to approved shop drawings for work by others and to field measurements as necessary to properly fit the work.
3. Project adjacent work as necessary; adjacent construction or exposed surfaces or surfaces damaged by use of materials or operations under this Section shall be repaired or replaced as directed by the City.

DRAWINGS

The electrical drawings, which constitute an integral part of this contract, shall serve as the working drawings. They indicate diagrammatically the general layout of the complete electrical system, including the arrangement of new and existing feeders, pull boxes, light fixtures, service pedestal, and other work. Field verifications of scale dimensions taken from the drawings are directed since actual field locations, distances and elevations will be governed by actual field conditions. Review landscape, civil, and irrigation drawings and adjust work to conform to all conditions indicated thereon. Discrepancies shown on different plans or between plans and actual field conditions, or between plans and specifications, shall promptly be brought to the attention of the Engineer for a decision.

COORDINATION AND COOPERATION

1. Drawings and specifications are both supplementary and complementary. Taken together, they are intended to define complete working installations of the systems represented, in accordance with approved practice in the trade, and in conformity with all applicable. requirements of local jurisdictional offices and officers and codes and enforcing bodies.

2. It shall be presumed that any bid offered under this Division of the Specifications is based on a careful examination of the job site, and of the plans and specifications; that the person(s) or firm(s) awarded a contract hereunder is/are experienced and qualified in the type of work represented; that every effort has been made to prepare complete, accurate and correct plans and specifications; and that reasonable diligence will be exercised in planning and scheduling the work to anticipate conflicts and/or detect errors or omissions. All such shall be immediately reported, and proper resolution agreed on between concerned parties before the work affected is performed. If due to lack of diligence, or to incompetence, failure to anticipate such problems shall not create a valid claim for extra costs or charges.
3. Requirements of other trades, of utility companies, and of fire departments, protective services, communication systems, or other facilities of a utility nature, shall be determined prior to installation of systems, equipment, devices or materials affected by or dependent on such requirements.
4. Unapproved deviations or changes based on a presumption of error or code violation, or work not suitable for its intended function, may not be accepted.
5. Nothing herein shall act to prevent or discourage the contractor from suggesting or discussing possible changes in the work where such might be beneficial to the contractor or the City, or might facilitate the work of this or other trades.
6. Any work resulting in a claim for a change in the contract price must be approved and fully documented.

VISIT TO SITE

Visit the project site, take requisite measurements, and verify exact location of buildings, utilities, and other facilities, and obtain such other information as is necessary for an intelligent bid. No allowance will subsequently be made by the City for any error or omission on the part of the bidder in this connection.

RECORD DRAWINGS

1. Record of Job Progress: Keep an accurate dimensional record of the "as-built" locations and of all work; all as required. This record shall be kept up-to-date on blueline prints as the job progresses and shall be available for inspection at all times. It shall be reviewed by inspector prior to each monthly application for payment.
2. Record of Installation: Refer to Supplementary General Conditions.
3. Include on "as-built" drawings: Routing of all buried or concealed electrical feeders and conduits.
4. Upon completion of the work, a completed set of as-built drawings and electronic file (ACAD 2014 or later) on Cd/DVD disk(s) shall be delivered to the City.

GUARANTEE

1. All work shall be guaranteed for a minimum period of one year from either the official date of completion or from the date of acceptance by the Owner, whichever is the later date. The guarantee period for certain items shall be longer, as indicated in the specification for those items.
2. Should any trouble develop during the guaranteed time due to defective material, faulty workmanship, or non-compliance with plans, specifications, codes or directions of the City, Architect, Engineer or Inspector, the Contractor shall furnish all necessary labor and materials to correct the trouble without additional charges.

SP33-02 BASIC ELECTRICAL MATERIALS AND METHODS

GENERAL

Summary

This Section includes the following:

1. Electrical identification
2. Concrete equipment bases
3. Electrical demolition
4. Cutting and patching for electrical construction

Quality assurance

1. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, Article 100, by a testing agency acceptable to authorities having jurisdiction, and marked for intended use.
2. Comply with NFPA 70.

Coordination

1. Coordinate chases, slots, inserts, sleeves, and openings for electrical supports, raceways, and cable with general construction work.
2. Sequence, coordinate, and integrate installing electrical materials and equipment for efficient flow of the Work.
3. Where electrical identification devices are applied to field-finished surfaces coordinate installation of identification devices with completion of finished surface.

PRODUCTS

Supporting devices

1. Material: Cold-formed steel, with corrosion-resistant coating
2. Metal Items for Use Outdoors or in Damp Locations: Hot-dip galvanized steel
3. Slotted-Steel Channel: Flange edges turned toward web, and 9/16-inch- diameter slotted holes at a maximum of 2 inches o.c., in webs - Strength rating to suit structural loading

4. Materials: Same as channels and angles, except metal items may be stainless steel
5. Pipe Sleeves: ASTM A 53, Type E, Grade A, Schedule 40, galvanized steel, plain ends
6. Cable Supports for Vertical Conduit: Factory-fabricated assembly consisting of threaded body and insulating wedging plug for nonarmored electrical cables in riser conduits. Plugs have number and size of conductor gripping holes as required to suit individual risers. Body constructed of malleable-iron casting with hot-dip galvanized finish.
7. Expansion Anchors: Carbon-steel wedge or sleeve type
8. Toggle Bolts: All-steel springhead type
9. Powder-Driven Threaded Studs: Heat-treated steel

ELECTRICAL IDENTIFICATION

1. Identification Device Colors: Use those prescribed by ANSI A13.1, NFPA 70, and these Specifications.
2. Colored Adhesive Marking Tape for Raceways, Wires, and Cables: Self-adhesive vinyl tape, not less than 1 inch wide by 3 mils thick.
3. Tape Markers for Conductors: Vinyl or vinyl-cloth, self-adhesive, wraparound type with preprinted numbers and letters.
4. Color-Coding Cable Ties: Type 6/6 nylon, self-locking type. Colors to suit coding scheme.
5. Underground Warning Tape: Permanent, bright-colored, continuous-printed, vinyl tape compounded for permanent direct-burial service, and with the following features:
    a. Not less than 6 inches wide by 4 mils thick.
    b. Embedded continuous metallic strip or core.
    c. Printed legend that indicates type of underground line.

CONCRETE BASES

1. Concrete Forms and Reinforcement Materials: As specified in Section "Cast-in-Place Concrete."
2. Concrete: 3000-psi, 28-day compressive strength.

CONCRETE BOXES

Concrete Boxes: Pre-cast reinforced, size and type as shown; Christy, Brooks or approved equal. All underground boxes shall be provided with traffic grade, spring loaded, bolt-down, steel cover.

EXECUTION

Electrical equipment installation

1. Materials and Components: Install level, plumb, and parallel and perpendicular to other site components, unless otherwise indicated.
2. Equipment: Install to facilitate service, maintenance, and repair or replacement of components. Connect for ease of disconnecting, with minimum interference with other installations.

3. Right of Way: Give to raceways and piping systems installed at a required slope.

Electrical supporting device application

1. Locations and Outdoors: Hot-dip galvanized materials or nonmetallic, slotted channel system components
2. Strength of Supports: Adequate to carry present and future loads, times a safety factor of at least four with, 200-lb minimum design load for each support element

Support installation

Secure electrical items and their supports to site structures, using the following methods unless other fastening methods are indicated:

1. Wood: Wood screws or screw-type nails
2. Masonry: Toggle bolts on hollow block and expansion bolts on solid block. Seal around sleeves with mortar, both sides of wall.
3. New Concrete: Concrete inserts with machine screws and bolts
4. Existing Concrete: Expansion bolts
5. Structural Steel: Spring-tension clamps
6. Comply with AWS D1.1 for field welding
7. Fasteners for Damp, Wet, or Weather-Exposed Locations: Stainless steel
8. Fasteners: Select so load applied to each fastener does not exceed 25 percent of its proof-test load.

IDENTIFICATION MATERIALS AND DEVICES

1. Tag and label circuits. Identify source and circuit numbers in each cabinet, pull and junction box, and outlet box. Color-coding may be used for voltage and phase identification.
2. Install continuous underground plastic markers during trench backfilling, for exterior underground power, control, signal, and communication lines located directly above power and communication lines. Locate 6 to 8 inches below finished grade. If width of multiple lines installed in a common trench or concrete envelope does not exceed 16 inches, overall, use a single line marker.
3. Provide service description etched on cover of all underground pull boxes.

CONCRETE BASES

1. Construct concrete bases of dimensions indicated, but not less than 4 inches larger, in both directions, than supported unit. Follow supported equipment manufacturer's anchorage recommendations and setting templates for anchor-bolt and tie locations, unless otherwise indicated.

DEMOLITION

1. Protect existing electrical equipment and installations indicated to remain. If damaged or disturbed in the course of the Work, remove damaged portions and install new products of equal capacity, quality, and functionality.
2. Accessible Work: Remove exposed electrical equipment and installations, indicated to be demolished, in their entirety.
3. Abandoned Work: Cut and remove buried raceway and wiring, indicated to be abandoned in place, 2 inches below the surface of adjacent construction. Cap raceways and patch surface to match existing finish.
4. Remove, store, clean, reinstall, reconnect, and make operational components indicated for relocation.

SP33-03 CONDUCTORS AND CABLES

GENERAL

Summary

This Section includes building wires and cables and associated connectors, splices, and terminations for wiring systems rated 600 V and less.

Submittals

Field quality-control test reports.

Quality assurance

Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, Article 100, by a testing agency acceptable to authorities having jurisdiction, and marked for intended use.

Comply with NFPA 70.

PRODUCTS

The following requirements apply for product selection:

1. Manufacturers: Subject to compliance with requirements, provide products by the manufacturers specified.

CONDUCTORS AND CABLES

Manufacturers:

1. Alcan Aluminum Corporation; Alcan Cable Div.
2. American Insulated Wire Corp.; a Leviton Company
3. General Cable Corporation
4. Senator Wire & Cable Company
5. Southwire Company

6. Berktek
7. General Cable

Refer to EXECUTION "Conductor and Insulation Applications" Article for insulation type, cable construction, and ratings.

Conductor Material: Copper complying with NEMA WC 5 or 7; solid conductor for No. 10 AWG and smaller, stranded for No. 8 AWG and larger

Conductor Insulation Types: Type THW, THHN-THWN or XHHW complying with NEMA WC 5 or 7

CONNECTORS AND SPLICES

Manufacturers:

1. AMP Incorporated/Tyco International.
2. Hubbell/Anderson.
3. O-Z/Gedney; EGS Electrical Group LLC.
4. 3M Company; Electrical Products Division

Description: Factory-fabricated connectors and splices of size, ampacity rating, material, type, and class for application and service indicated.

EXECUTION

Conductor and insulation applications

Branch Circuits Concealed in Concrete and below Slabs-on-Grade: Type THHN-THWN, single conductors in raceway.

INSTALLATION

1. Conceal cables underground unless otherwise indicated.
2. Use manufacturer-approved pulling compound or lubricant where necessary; compound used must not deteriorate conductor or insulation. Do not exceed manufacturer's recommended maximum pulling tensions and sidewall pressure values.
3. Use pulling means, including fish tape, cable, rope, and basket-weave wire/cable grips, that will not damage cables or raceway.
4. Identify and color-code conductors and cables according to "Basic Electrical Materials and Methods."
5. Make splices and taps that are compatible with conductor material and that possess equivalent or better mechanical strength and insulation ratings than unspliced conductors.

FIELD QUALITY CONTROL

1. Testing: Perform each electrical test and visual and mechanical inspection stated in NETA ATS, Section 7.3.1. Certify compliance with test parameters.
2. Test Reports: Prepare a written report to record the following:
3. Test procedures used.
4. Test results that comply with requirements.
5. Test results that do not comply with requirements and corrective action taken to achieve compliance with requirements.

SP33-04 GROUNDING AND BONDING

GENERAL

Summary

This Section includes grounding of electrical systems and equipment. Requirements specified in this Section may be supplemented by requirements of other Sections.

SUBMITTALS

1. Product Data: For ground rods.
2. Field quality-control test reports.

QUALITY ASSURANCE

Electrical Components, Devices, and Accessories: Listed and labeled under UL 467 as defined in NFPA 70, Article 100, by a testing agency acceptable to authorities having jurisdiction, and marked for intended use.

PRODUCTS

Manufacturers

Manufacturers: Subject to compliance with requirements, provide products by one of the following:

1. Boggs, Inc.
2. Copperweld Corp.
3. Dossert Corp.
4. Erico Inc.; Electrical Products Group
5. Galvan Industries, Inc.
6. Harger Lightning Protection, Inc.
7. Hastings Fiber Glass Products, Inc.
8. Heary Brothers Lightning Protection Co.
9. ILSCO
10. Kearney/Cooper Power Systems
11. Korns, C. C. Co.; Division of Robroy Industries
12. Lightning Master Corp.

13. Lyncole XIT Grounding
14. O-Z/Gedney Co.; a business of the EGS Electrical Group
15. Robbins Lightning, Inc.
16. Salisbury, W. H. & Co.
17. Superior Grounding Systems, Inc.
18. Thomas & Betts, Electrical

Grounding conductors

1. For insulated conductors, comply with "Conductors and Cables."
2. Equipment Grounding Conductors: Insulated with green-colored insulation
3. Grounding Electrode Conductors: Stranded cable
4. Underground Conductors: Bare, tinned, stranded, unless otherwise indicated
5. Bare, Solid-Copper Conductors: ASTM B 3
6. Assembly of Bare, Stranded-Copper Conductors: ASTM B 8
7. Bare, Tinned-Copper Conductors: ASTM B 33
8. Copper Bonding Conductor: No. 4 or No. 6 AWG, stranded copper conductor
9. Copper Bonding Jumper: Bare copper tape, braided bare copper conductors, terminated with copper ferrules; 1-5/8 inches wide and 1/16 inch thick
10. Tinned-Copper Bonding Jumper: Tinned-copper tape, braided copper conductors, terminated with copper ferrules; 1-5/8 inches wide and 1/16 inch thick
11. Connectors: Comply with IEEE 837 and UL 467; listed for use for specific types, sizes, and combinations of conductors and connected items. Exothermic-welded type, in kit form, selected per manufacturer's written instructions.

GROUNDING ELECTRODES

Ground Rods: Copper-clad steel.

1. Size: 3/4 inches in diameter by 120 inches long

EXECUTION

Installation

1. Use only copper conductors for both insulated and bare grounding conductors in direct contact with earth, concrete, masonry, crushed stone, and similar materials.
2. In raceways, use insulated equipment grounding conductors.
3. Exothermic-Welded Connections: Use for connections to structural steel and for underground connections.
4. Underground Grounding Conductors: Use copper conductor, No. 2/0 AWG minimum. Bury at least 24 inches below grade or bury 12 inches above duct bank when installed as part of the duct bank.

5. Equipment Grounding Conductors: Comply with NFPA 70, Article 250, for types, sizes, and quantities of equipment grounding conductors, unless specific types, larger sizes, or more conductors than required by NFPA 70 are indicated.
    - Install insulated equipment grounding conductors in feeders.
    - Nonmetallic Raceways: Install an equipment grounding conductor in nonmetallic raceways unless they are designated for telephone or data cables.
    - Metal Poles Supporting Outdoor Lighting Fixtures: Provide a grounding electrode in addition to installing an insulated equipment grounding conductor with supply branch-circuit conductors.
6. Ground Rods: Install at least three rods spaced at least one-rod length from each other and located at least the same distance from other grounding electrodes.
    - Drive ground rods until tops are 2 inches below finished floor or final grade, unless otherwise indicated.
    - Interconnect ground rods with grounding electrode conductors. Use exothermic welds, except as otherwise indicated. Make connections without exposing steel or damaging copper coating.
7. Grounding Conductors: Route along shortest and straightest paths possible, unless otherwise indicated. Avoid obstructing access or placing conductors where they may be subjected to strain, impact, or damage.
8. Bonding Straps and Jumpers: Install so vibration by equipment mounted on vibration isolation hangers or supports is not transmitted to rigidly mounted equipment. Use exothermic-welded connectors for outdoor locations, unless a disconnect-type connection is required; then, use a bolted clamp. Bond straps directly to the basic structure taking care not to penetrate any adjacent parts. Install straps only in locations accessible for maintenance.
9. Connections: Make connections so galvanic action or electrolysis possibility is minimized. Select connectors, connection hardware, conductors, and connection methods so metals in direct contact will be galvanically compatible.
    - Use electroplated or hot-tin-coated materials to ensure high conductivity and to make contact points closer to order of galvanic series.
    - Make connections with clean, bare metal at points of contact.
    - Make aluminum-to-steel connections with stainless-steel separators and mechanical clamps.
    - Make aluminum-to-galvanized steel connections with tin-plated copper jumpers and mechanical clamps.
    - Coat and seal connections having dissimilar metals with inert material to prevent future penetration of moisture to contact surfaces.

- Exothermic-Welded Connections: Comply with manufacturer's written instructions. Welds that are puffed up or that show convex surfaces indicating improper cleaning are not acceptable.
- Equipment Grounding Conductor Terminations: For No. 8 AWG and larger, use pressure-type grounding lugs. No. 10 AWG and smaller grounding conductors may be terminated with winged pressure-type connectors.
- Noncontact Metal Raceway Terminations: If metallic raceways terminate at metal housings without mechanical and electrical connection to housing, terminate each conduit with a grounding bushing. Connect grounding bushings with a bare grounding conductor to grounding bus or terminal in housing. Bond electrically noncontinuous conduits at entrances and exits with grounding bushings and bare grounding conductors, unless otherwise indicated.
- Tighten screws and bolts for grounding and bonding connectors and terminals according to manufacturer's published torque-tightening values. If manufacturer's torque values are not indicated, use those specified in UL 486A.
- Compression-Type Connections: Use hydraulic compression tools to provide correct circumferential pressure for compression connectors. Use tools and dies recommended by connector manufacturer. Provide embossing die code or other standard method to make a visible indication that a connector has been adequately compressed on grounding conductor.
- Moisture Protection: If insulated grounding conductors are connected to ground rods or grounding buses, insulate entire area of connection and seal against moisture penetration of insulation and cable.

10. Manholes and Handholes: Install a driven ground rod close to wall and set rod depth so 4 inches will extend above finished floor. If necessary, install ground rod before manhole is placed and provide a No. 1/0 AWG bare, tinned-copper conductor from ground rod into manhole through a waterproof sleeve in manhole wall. Protect ground rods passing through concrete floor with a double wrapping of pressure-sensitive tape or heat-shrunk insulating sleeve from 2 inches above to 6 inches below concrete. Seal floor opening with waterproof, nonshrink grout.
11. Connections to Manhole Components: Connect exposed-metal parts, such as inserts, cable racks, pulling irons, ladders, and cable shields within each manhole or handhole, to ground rod or grounding conductor. Make connections with No. 4 AWG minimum, stranded, hard-drawn copper conductor. Train conductors level or plumb around corners and fasten to manhole walls. Connect to cable armor and cable shields as recommended by manufacturer of splicing and termination kits.

Field quality control

Testing: Perform the following field quality-control testing:

1. After installing grounding system but before permanent electrical circuitry has been energized, test for compliance with requirements.
2. Test completed grounding system at each location where a maximum ground-resistance level is indicated and at service disconnect enclosure grounding terminal. Measure ground resistance not less than two full days after the last trace of precipitation, and without the soil being moistened by any means other than natural drainage or seepage and without chemical treatment or other artificial means of reducing natural ground resistance. Perform tests, by the fall-of-potential method according to IEEE 81.
3. Provide drawings locating each ground rod, ground rod assembly, and other grounding electrodes. Identify each by letter in alphabetical order, and key to the record of tests and observations. Include the number of rods driven and their depth at each location and include observations of weather and other phenomena that may affect test results. Describe measures taken to improve test results. Nominal maximum values are as follows:
   a. Equipment Rated 500 kVA and Less: 10 ohms.

SP33-05 RACEWAYS AND BOXES

GENERAL

Summary

This Section includes raceways, fittings, boxes, enclosures, and cabinets for electrical wiring.

Submittals

Product Data: For surface raceways, wireways and fittings, floor boxes, hinged-cover enclosures, and cabinets indicated.

Quality assurance

Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, Article 100, by a testing agency acceptable to authorities having jurisdiction, and marked for intended use.
Comply with NFPA 70.

PRODUCTS

MANUFACTURERS

Manufacturers: Subject to compliance with requirements, provide products by the manufacturers specified.

METAL CONDUIT AND TUBING

Manufacturers:

1. AFC Cable Systems, Inc.
2. Alflex Inc.
3. Anamet Electrical, Inc.; Anaconda Metal Hose
4. Electri-Flex Co.
5. Grinnell Co./Tyco International; Allied Tube and Conduit Div.
6. LTV Steel Tubular Products Company
7. Manhattan/CDT/Cole-Flex
8. O-Z Gedney; Unit of General Signal
9. Wheatland Tube Co.

Rigid Steel Conduit: ANSI C80.1
IMC: ANSI C80.6
Fittings: Compression type
LFMC: Flexible steel conduit with PVC jacket
Fittings: NEMA FB 1; compatible with conduit and tubing materials

NONMETALLIC CONDUIT AND TUBING
Manufacturers:

1. American International
2. Anamet Electrical, Inc.; Anaconda Metal Hose
3. Arnco Corp.
4. Cantex Inc.
5. Certainteed Corp.; Pipe & Plastics Group
6. Condux International
7. ElecSYS, Inc.
8. Electri-Flex Co.
9. Lamson & Sessions; Carlon Electrical Products
10. Manhattan/CDT/Cole-Flex
11. RACO; Division of Hubbell, Inc.
12. Spiralduct, Inc./AFC Cable Systems, Inc.
13. Thomas & Betts Corporation

RNC: NEMA TC 2, Schedule 40 and Schedule 80 PVC.
RNC Fittings: NEMA TC 3; match to conduit or tubing type and material.

BOXES, ENCLOSURES, AND CABINETS
Manufacturers:

1. Cooper Crouse-Hinds; Div. of Cooper Industries, Inc.
2. Emerson/General Signal; Appleton Electric Company

3. Erickson Electrical Equipment Co.
4. Hoffman
5. Hubbell, Inc.; Killark Electric Manufacturing Co.
6. O-Z/Gedney; Unit of General Signal
7. RACO; Division of Hubbell, Inc.
8. Robroy Industries, Inc.; Enclosure Division

Cast-Metal Pull and Junction Boxes: NEMA FB 1, cast aluminum with gasketed cover.

Hinged-Cover Enclosures: NEMA 250, Type 1, with continuous hinge cover and flush latch.

1. Metal Enclosures: Steel, finished inside and out with manufacturer's standard enamel.

Concrete Boxes: Pre-cast reinforced, size and type as shown; Christy, Brooks or approved equal. All underground boxes shall be provided with traffic grade, spring loaded, bolt-down, steel cover.

FACTORY FINISHES
Finish: For raceway, enclosure, or cabinet components provide manufacturer's standard prime-coat finish ready for field painting.

EXECUTION
RACEWAY APPLICATION
Outdoors:

1. Exposed: Rigid steel or IMC
2. Concealed: Rigid steel or IMC
3. Underground, Single Run: RNC
4. Underground, Grouped: RNC
5. Connection to Vibrating Equipment (Including Transformers and Hydraulic, Pneumatic, Electric Solenoid, or Motor-Driven Equipment): LFMC
6. Boxes and Enclosures:
    a. NEMA 250, Type 3R
    b. NEMA 250, Type 4, Stainless Steel

Minimum Raceway Size: 3/4-inch trade size.

Raceway Fittings: Compatible with raceways and suitable for use and location.

1. Intermediate Steel Conduit: Use threaded rigid steel conduit fittings, unless otherwise indicated.
2. PVC Externally Coated, Rigid Steel Conduits: Use only fittings approved for use with that material. Patch all nicks and scrapes in PVC coating after installing conduits.
3. For Outdoor Use – conduit hub, NEMA 4 for conduit connection/terminating to cabinet/panel/boxes.

4. All connectors to be steel. Die cast connectors are not acceptable.

INSTALLATION

1. Complete raceway installation before starting conductor installation.
2. Support raceways as specified in Section "Basic Electrical Materials and Methods."
3. Install temporary closures to prevent foreign matter from entering raceways.
4. Make bends and offsets so ID is not reduced. Keep legs of bends in same plane and keep straight legs of offsets parallel, unless otherwise indicated.
5. Join raceways with fittings designed and approved for that purpose and make joints tight.
6. Use insulating bushings to protect conductors on all raceways 2" and larger.
7. Tighten set screws of threadless fittings with suitable tools.
8. Terminations:
    a. Where raceways are terminated with locknuts and bushings, align raceways to enter squarely and install locknuts with dished part against box. Use two locknuts, one inside and one outside box.
    b. Where raceways are terminated with threaded hubs, screw raceways or fittings tightly into hub so end bears against wire protection shoulder. Where chase nipples are used, align raceways so coupling is square to box; tighten chase nipple so no threads are exposed.
9. Install raceway sealing fittings at suitable, approved, and accessible locations and fill them with UL-listed sealing compound. For concealed raceways, install each fitting in a flush steel box with a blank cover plate having a finish similar to that of adjacent plates or surfaces. Install raceway sealing fittings at the following points:
    a. Where otherwise required by NFPA 70.

PROTECTION

Provide final protection and maintain conditions that ensure coatings, finishes, and cabinets are without damage or deterioration at time of Substantial Completion.

1. Repair damage to galvanized finishes with zinc-rich paint recommended by manufacturer.
2. Repair damage to PVC or paint finishes with matching touchup coating recommended by manufacturer.

SP33-06 EXTERIOR LIGHTING

GENERAL

SUMMARY

This Section includes the following: Exterior luminaires with LED lamps and drivers.

SUBMITTALS

1. Product Data: For each luminaire, arranged in the order of lighting unit designation. Include data on features, accessories, finishes.
2. Operation and maintenance data.

QUALITY ASSURANCE

1. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, Article 100, by a testing agency acceptable to authorities having jurisdiction, and marked for intended use.
2. Comply with IEEE C2, "National Electrical Safety Code."
3. Comply with NFPA 70.

PRODUCTS

EXTERIOR LUMINAIRES, GENERAL

1. Comply with UL 1598 and listed for installation in wet locations.
2. Comply with IESNA RP-8 for parameters of lateral light distribution patterns indicated for luminaires.
3. Metal Parts: Free of burrs and sharp corners and edges.
4. Sheet Metal Components: Corrosion-resistant aluminum, unless otherwise indicated. Form and support to prevent warping and sagging.
5. Housings: Rigidly formed, weather- and light-tight enclosures that will not warp, sag, or deform in use. Provide filter/breather for enclosed luminaires.
6. Doors, Frames, and Other Internal Access: Smooth operating, free of light leak-age under operating conditions, and designed to permit relamping without use of tools. Designed to prevent doors, frames, lenses, diffusers, and other components from falling accidentally during relamping and when secured in operating position. Doors shall be removable for cleaning or replacing lenses. Designed to disconnect ballast when door opens.
7. Plastic Parts: High resistance to yellowing and other changes due to aging, expo-sure to heat, and UV radiation.
8. Reflecting surfaces shall have minimum reflectance as follows, unless otherwise indicated:
    a. White Surfaces: 85 percent
    b. Specular Surfaces: 83 percent
    c. Diffusing Specular Surfaces: 75 percent
9. Lenses and Refractors Gaskets: Use heat- and aging-resistant resilient gaskets to seal and cushion lenses and refractors in luminaire doors.

LAMPS

1. LED fixtures
2. Turn over job with all lamps in new and operating condition

CONTROLS

Exterior lighting shall be controlled by remote photocell

EXECUTION

INSTALLATION

1. Install lamps in each fixture
2. Luminaire Attachment: Fasten to indicated structural supports
3. Adjust luminaires that require field adjustment or aiming

SP33-07 MEASUREMENT AND PAYMENT

1. The contract price for electrical conductors shall be included and spread among appropriate bid items as determined by the Contractor**.**
2. The contract price for grounding conductors and ground rods fuses shall be included and spread among appropriate bid items as determined by the Contractor.
3. Cost of wiring devices shall be included and spread among appropriate bid items as determined by the Contractor.
4. Cost of switches and circuit breakers shall be included and spread among appropriate bid items as determined by the Contractor.
5. The following costs shall be done as a Time and Materials item as follows:
    a. Temporary safe off of 30am circuit breaker in existing pedestal to allow for completion of new work.
    b. Intercept the existing electrical circuit with new splices for the new connections for new lights, new irrigation controller and reconnection of existing parking lot light poles per detail 1/E-6.0 “EXISTING SERVICE PEDESTAL ONE-LINE DIAGRAM”.

The contract prices paid per each for **“Bollard Fixtures including Bases”, “Recessed Wall Fixtures”,** and **“Sign Up Lights”** shall include full compensation for furnishing all the labor, materials, tools, equipment, and incidental, and for doing all the work involved in installation, including concrete bases for the bollard fixtures, and up to four hours of operating instructions on-site (SP33-01) as specified in the State Standard Specifications, and these Specifications, and as directed by the Engineer.

The contract price paid per linear foot for **“1” Power Conduit”** shall include full compensation for furnishing all the labor, materials, tools, equipment, and incidental, for the installation of the new conduits and conductors as specified in the State Standard Specifications, and these Specifications, and as directed by the Engineer

The contract price paid per each for **“Pull Boxes”** shall include full compensation for furnishing all the labor, materials, tools, equipment, and incidental, and for doing all the work involved in installation as specified in the State Standard Specifications, and these Specifications, and as directed by the Engineer.

The contract paid per each for **"Photocell Controller"** shall include full compensation for furnishing all the labor, materials, tools, equipment, and incidental, and for doing all the work involved in installation as specified in the State Standard Specifications, and these Specifications, and as directed by the Engineer.

SPECIAL PROVISIONS SECTION SP-34

PAINTING AND POWDER COATING

(NO BID ITEM)

General

Paint system is divided into two (2) parts:

- The paint that is applied at the *factory* or point of fabrication and;
- The *field painting and touchup* paint that is required at the installation site in Lafayette, California.

The final finish on painted surfaces, in place, shall be free of all scratches, gouges and defects of any kind.

Factory/Fabrication Site

Paint System:

- Prime: Two-part polyamidoamine epoxy, Series N69 Hi-build Epoxoline II by Tnemec Company, or approved equal. Apply by spray to a dry film thickness of 3.0 to 5.0 mils (75 to 125 microns) D.F.T.

- Top Coat: Two-part aliphatic acrylic polyurethane, series 75 semi-gloss by Tnemec Company, or approved equal. Apply by spray to a dry film thickness of 5.0 mils (125 microns) D.F.T.

- Surface Preparation: All scale, rust and other contaminates shall be removed and all surfaces cleaned to Steel Structures Painting Council (SSPC) SP-6 commercial blast cleaning standard. Prior to prime and topcoat application, all surfaces must be clean, dry and free of oil, grease, fingerprints and other contaminants. The application, curing temperature and metal temperature must be above 60 degrees Fahrenheit (16 degrees Celsius).

- Total Film Thickness: 8 to 10 mils (200 to 250 microns).

- Color: Black or other as specified herein.

- Application Method: Airless, air or H.V.L.P. spray, or electrostatic spray.

Powder Coating:
TGIC-Polyester coating system, Alesta by DuPont/Axalta Coating Systems, PFB652S6 "Vulcan Black" or approved equal, with film thickness of 3.5 to 5.0 mils using cold electrostatic spray application and cured at 400 degrees Fahrenheit for 10 minutes.

Field Painting or Field Touch-Up

- Surface Preparation: Area to be touched-up shall be scarified with a palm sander, pole sander or scotch brite pad. All rust shall be removed to bright metal. All oil, grease, fingerprints and other contaminants shall be removed with clean solvent and clean rags.

- Prime: Two-part polyamide epoxy. Color: Black (or other as specified herein) Tnemec series 27 E.C. epoxy, or approved equal. Apply by brush or roller to 3.0 to 4.5 mils (75 to 110 microns) dry film thickness. This may require two or three coats to reach required D.F.T.

- Top Coat: Two-part aliphatic acrylic polyurethane – series 75 semi-gloss by Tnemec or approved equal. Color: Black (or other as required to match existing top coating). Apply by brush or roller to 3.5 to 5.0 mils (88 to 125 microns) D.F.T. This may require several coats to reach the required D.F.T.

- Total Dry Film Thickness: match factory applied coatings.

- Color: Black or other as specified herein.

- Application Temperature: Shall be 60 degrees Fahrenheit (16 degrees Celsius) or higher. Application temperature is critical for proper adhesion and curing properties. It is best to do the touch-up mid to late mornings so as to allow the higher afternoon temperatures to help these two-part paints to cure properly.

Substitutions
Other coating systems may be substituted for the products specified herein. A complete submittal package shall be submitted to the Engineer for review and approval prior to the coating operation.

SP34-01 PAYMENT

No separate payment will be made for conforming to the provisions of this section. Full compensation for conforming to all the provisions of this section shall be considered as included in the prices paid for various contract items of work and no additional compensation will be allowed therefor.

APPENDICES

LAFAYETTE
SETTLED 1848 — INCORPORATED 1968

Planning & Building Department
3675 Mt. Diablo Boulevard, Suite 210
Lafayette, CA 94549-1968
Tel. (925) 284-1976 • Fax (925) 284-1122
http://www.ci.lafayette.ca.us

WASTE MANAGEMENT PLAN INSTRUCTIONS

CONSTRUCTION AND DEMOLITION DEBRIS RECYCLING

GENERAL

The City of Lafayette is mandated by the State of California to divert 50-percent of all solid waste from landfills either by salvage or recycling. To help meet this goal, the City requires completion of a Waste Management Plan (WMP) for covered projects identifying how at least 50-percent of project waste materials will be diverted from the landfill. A "covered project" is defined as:

1. Construction, renovation, and demolition projects where the total costs are projected to be equal to or greater than $50,000; and/or
2. Construction or renovation projects equal to or greater than 1,000 sq. ft.; and/or
3. Demolition projects equal to or greater than 300 sq. ft.

All phases of a project and all related projects taking place on single or adjoining parcels are considered a single project.

GREEN HALO SYSTEMS

For a covered project, applicants are required to submit their WMP to the City using Green Halo Systems. Green Halo is a free web-based service for waste diversion and recycling tracking. Through Green Halo, applicants can establish, monitor and document their waste management plan and compliance online. Applicants can set-up a Green Halo account at www.greenhalosystems.com. For applicants who do not have access to the internet, Green Halo can set-up an account over the phone at 1-888-525-1301. Once an applicant has created a Green Halo account, they can track and manage multiple projects for different jurisdictions on their account.

PROCEDURE

Prior to issuance of a grading, demolition, and/or building permit for a covered project:

1. Submit a non-refundable administrative fee, payable to the City of Lafayette. See "Planning Fees" handout for current rate.
2. Submit a WMP to the City using Green Halo that includes the following:
    a) Identification of all the **materials** you estimate will be recycled, salvaged, or disposed; and
    b) Identification of which certified C&D **facilities** the various material types will go.
3. Green Halo will notify the City that a WMP has been submitted. The City will review the submitted WMP on Green Halo. The WMP will only be approved when all of the following conditions have been met:
    a) The WMP provides all information noted above; and
    b) The WMP indicates that at least 50% of all construction and demolition debris generated by the project will be diverted.
4. The WMP will be approved or not approved. If the WMP is incomplete and/or fails to meet the required diversion rate, the WMP will not be approved and the applicant will be notified about the reasons for non-approval. No grading, building, and/or demolition permit will be issued until the WMP is approved.

INFEASABILITY EXEMPTION

If an applicant for a covered project experiences unique circumstances that make it infeasible to comply with the diversion requirement, the applicant may apply for an exemption at the time the WMP is submitted. Increased costs to the applicant generally will not be a sufficient basis for an exemption. The applicant shall indicate on the WMP the minimum rate of diversion he/she believes is feasible for each material and the specific circumstances that he/she believes make it infeasible to comply with the diversion requirement.

UPON COMPLETION OF THE PROJECT

Prior to the final inspection of a grading, demolition, and/or building permit and within 30 days after project completion, the applicant shall submit their WMP to the City through Green Halo for final review. The goal of the final review is to provide documentation to the City showing that the diversion requirement has been met. The WMP submitted for final review shall include the following:

1. Receipts from the certified facilities that collected or received each material showing the actual volume or weight of the material received and how the material was disposed of; and
2. Any additional information the applicant believes is relevant to determining its efforts to comply in good faith with the diversion requirement.

Through Green Halo, the City will review the WMP and documentation noted above and a determination will be made if the applicant has complied with the diversion requirement as follows:

1. **Full compliance** - If the applicant has fully complied with the diversion requirement.
2. **Good Faith Effort to Comply** - If the diversion requirement has not been achieved, the City will determine on a case-by-case basis whether the applicant has made a good faith effort to comply with the diversion requirement. In making this determination, the City will consider the availability of markets for the C&D debris landfilled, the size of the project and the documented efforts of the applicant to divert the C&D debris.
3. **Noncompliance** - If the City determines that the applicant has not complied with the diversion requirement, the City may withhold final project approval until full compliance can be established.

No hold on final shall be released, until the WMP has been provided to and approved by the City as either full compliance or good faith effort to comply.

NONCOMPLIANCE

Please note that if the required documentation is not submitted and approved by the City, or the applicant has not made a good faith effort to comply, the applicant is in noncompliance status and is in violation of the Lafayette Municipal Code (LMC) and is liable for a civil penalty, or any other remedy provided in the LMC. This violation makes the property owner liable to the City for a civil penalty of $1,000 or one percent (1%) of the project cost, whichever is less. The project will not be approved and holds will not be released, until the project is in full compliance, meets the good faith effort to comply, or the civil penalty has been paid.

APPEAL

Appeal of the determination made by the City shall be made to the City Council within 30 days of the City's determination. To appeal, an applicant must submit a letter to the city manager concisely stating the facts of the case and the grounds of appeal. The city manager will schedule a meeting before the city council and notify the applicant of the date, time, and place. The decision of the city council is final. Appeals shall be limited to:

1. The granting or denial of an exemption; or
2. Whether the applicant has made a good faith effort to comply with the WMP.

NOTE: The applicant and property owner are responsible for the actions of their contractors or other agents with regard to the diversion requirement. Therefore, when reviewing proposals from project managers, contractors, site cleanup, vendors, and other building professionals, all aspects of the proposal should be considered and not just the cost.

Utility Pothole Log

(To be filled out and submitted to the Engineer prior to commencing excavation work)

The Contractor shall notify Underground Service Alert (800-227-2600) prior to potholing for utilities. The Contractor shall positively locate all utilities (laterals and mains) marked by utility representatives or identified by the Engineer.

Address	**Approx. Station**	**Offset From Existing Improvement or Centerline**	**Utility Owner and Type**	**Depth**
2685 Sample Street	*10+53*	*2' from North Gutter Lip, in Street*	*PG&E (Gas Service)*	*36"*

*Depth measured from existing surface

Please sign and date attesting that the above information is true and correct to the best of your knowledge.

Contractor Name:_____

Signature of Contractors Representative:_____ Date:_____

Signature of City of Lafayette Representative:_____ Date:_____

Contra Costa County
Flood Control
& Water Conservation District

Application and Permit Center

No Fee Permit
Work Order 8314

THIS PERMIT IS BEING ISSUED FOR BIDDING PURPOSES ONLY
THIS PERMIT DOES NOT AUTHORIZE THE START OF WORK

PERMIT #**649-21** #
TBM:
FILE #**649-21**
INSPECTION AREA **C**

Form Rev 7/8/20

ENCROACHMENT PERMIT FOR USE OF DISTRICT RIGHT OF WAY

PERMITTEE: **CITY OF LAFAYETTE**
ADDRESS: **3675 MT. DIABLO BOULEVARD, SUITE 210**
CITY/STATE/ZIP: **LAFAYETTE, CA 94549**
TELEPHONE NUMBER: **(925) 284-1951** FAX: **(925) 284-3169**

CONTACT PERSON: **MATT LUTTROPP** TELEPHONE NUMBER: **(925) 299-3247**
EMAIL ADDRESS: **MLUTTROPP@CI.LAFAYETTE.CA.US**

CONTRACTOR: _____
ADDRESS: _____
CITY/STATE/ZIP: _____
TELEPHONE NUMBER: _____

CONTACT PERSON: _____ TELEPHONE NUMBER: _____
EMAIL ADDRESS: _____

*PLEASE READ **ALL SECTIONS** OF THIS PERMIT CAREFULLY AND KEEP IT AT THE WORK SITE.*

The permittee agrees to defend, save, indemnify and hold harmless the County of Contra Costa, Contra Costa County Flood Control and Water Conservation District (District), their officers, employees and agents from all liabilities imposed by law by reason of injury to or death of any person(s) or damage to property, including without limitation liability for trespass, nuisance or inverse condemnation, which may arise out of the work covered by this permit, and does agree to defend the County and District, their officers, employees and agents against any such claim or action asserting such liability. Accepting this permit or starting any work hereunder shall constitute acceptance and agreement to all of the conditions and requirements of this permit and the Ordinance and Specifications authorizing issuance of such permit.

In compliance with your request, and subject to all of the terms, conditions and restrictions written below or given as general or special provisions on any part of this form, PERMISSION IS HEREBY GRANTED AS FOLLOWS:

LOCATION: **Lafayette Creek @ 3501 Golden Gate Way, Lafayette. APN 243-222-013, -014**

LATITUDE: **37° 53' 28.39" N** LONGITUDE: **122° 07' 00.32" W**

PERMITTED USE: Construction of a rain garden recreational area adjacent to and within the Contra Costa County Flood Control and Water Conservation District's easement for the Lafayette Creek flood control channel.

☐ Work Completed	Inspector: _____	**Approved Start Date**: **July 4, 2022**
☐ Expired		
☐ Looks OK – No Inspection Requested	Date: _____	**Expiration Date**: **September 30, 2022**
☐ Flood Control – OK to Final	Engineer: _____	Date: _____

Items Attached or Referred to Herein and Made Part Hereof:
1. General Provisions, Sheets GP-6 through GP-8, attached.

Special Provisions:
1. This permit is issued to the City of Lafayette (PERMITTEE) and [Contractor Name] (CONTRACTOR) for construction of a rain garden recreational area within the Contra Costa County Flood Control and Water Conservation District (DISTRICT) Lafayette Creek easement located southwest of the intersection of Golden Gate Way and First Street (APNs 243-222-013 and 243-222-014) in the City of Lafayette. The PERMITTEE's improvements include grading, a water quality basin, an outfall, paving, and landscaping.
2. CONTRACTOR must schedule an inspection from the Public Works Construction Division at least 48 hours before starting any work under this permit. The CONTRACTOR shall arrange for an inspection by phoning **Jon Suemnick @ (925) 595-6010** or email **jon.suemnick@pw.cccounty.us**.
3. PERMITTEE/CONTRACTOR shall not enter the flow area of the Lafayette Creek flood control channel at any time.
4. PERMITTEE/CONTRACTOR shall comply with all requirements of the Contra Costa County Health Departments regarding COVID-19.
5. This is a NO FEE permit. The DISTRICT's permit expenses will be billed to **Work Order 8314**.
6. This permit will expire on **September 30, 2022**. Request for time extension shall be submitted in writing to the DISTRICT at least 1 week before the expiration date.
7. The DISTRICT staff assigned to this permit is **Joe Smithonic**, telephone – **(925) 313-2348**, email address **– Joe.Smithonic@pw.cccounty.us**.
8. The DISTRICT Inspector is **Jon Suemnick**, telephone – **(925) 595-6010**, email address **– Jon.Suemnick@pw.cccounty.us**.
9. CONTRACTOR shall be responsible for scheduling a pre-construction meeting with the DISTRICT Inspector at least two weeks before the start of work. CONTRACTOR shall submit a schedule of work to the DISTRICT Inspector before or during the pre-construction meeting.
10. CONTRACTOR shall schedule an inspection with the DISTRICT Inspector within seven days of completion of all work/activities.
11. CONTRACTOR shall notify and include the DISTRICT Maintenance Supervisor of the Public Works Maintenance Division in the final inspection of the completed work. Contact **Matt Tolson**, telephone **(925) 313-7004**, email address – **Matt.Tolson@pw.cccounty.us**.

12. The proposed work shall be in accordance with the improvement plans entitled "First Street Rain Garden, Project #0149722, Bid Set" prepared by Restoration Design Group, Inc. and dated June 2, 2022. The DISTRICT shall be allowed to review and accept proposed changes to the work located within the DISTRICT's right of way before the changes are implemented.
13. In lieu of a cash bond, PERMITTEE agrees not to release the final payment and the performance bond of the CONTRACTOR until after the DISTRICT has notified the PERMITTEE that all work inside the DISTRICT's properties have been satisfactorily completed. The notification from the DISTRICT shall be in the form of a memorandum to the PERMITTEE.
14. Insurance is required. Prior to the issuance of this permit, CONTRACTOR shall submit a Certificate of Insurance that names Contra Costa County, Contra Costa County Flood Control and Water Conservation District, their employees, officers, and agents as additional insured for the duration of this permit.
15. By accepting this permit, PERMITTEE and CONTRACTOR agree to perform, at its sole expenses, all work necessary to correct any errors in the permitted design and construction, as directed by the DISTRICT.
16. PERMITTEE is solely responsible for obtaining any regulatory permits required for the proposed work. PERMITTEE shall submit to the DISTRICT copies of permits required by the Department of Fish and Wildlife, the Regional Water Quality Control Board, and other government agencies that have jurisdiction over the proposed work before starting work, or provide correspondence showing that the regulatory permits are not needed.
17. Before the start of work, CONTRACTOR shall take photos or other visual records of the condition of all facilities such as gates, fences, flood control channels, structures, and other improvements that may be adversely impacted by CONTRACTOR's activities. The cost of this work shall be the PERMITTEE and CONTRACTOR's responsibility. The documents will be used to settle questions related to repair of damage to the facilities or improvements. CONTRACTOR shall submit these pre-construction photos and/or video recording to the DISTRICT Inspector at or before the pre-construction meeting.
18. The required minimum relative compaction for native soil backfill within the DISTRICT's right of way is 90% using the Caltrans Method.
19. Suitable soil backfill shall be placed in 4-inch to 6-inch maximum lift and the backfill lifts shall be compacted adequately as required by the DISTRICT Inspector.
20. All soil taken by the CONTRACTOR from the DISTRICT's property becomes the property of the PERMITTEE and/or CONTRACTOR to be disposed of legally or used as the PERMITTEE and/or CONTRACTOR sees fit. DISTRICT has not analyzed the quality or condition of the soil at the site and makes no representation whatsoever as to the quality or condition of the soil material.

21. CONTRACTOR shall not store construction materials or park equipment and vehicles with the DISTRICT's right of way. No refueling or maintenance of vehicles and equipment is permitted on the DISTRICT's property.
22. CONTRACTOR shall be responsible for keeping the DISTRICT's right of way secure at all times. CONTRACTOR shall install temporary fences or barriers, as necessary, to prohibit trespassing into the DISTRICT's right of way.
23. CONTRACTOR shall be solely responsible for determining the presence of underground utilities at the DISTRICT's right of way.
24. PERMITTEE shall have a licensed engineer present during construction to oversee and monitor geotechnical work. Prior to sign off of the permit, the licensed engineer shall certify the work was constructed in accordance with the geotechnical report.
25. CONTRACTOR shall install and maintain within their work area, silt fences or other forms of acceptable barriers to prevent soil or contaminants from entering drainage facilities. CONTRACTOR's erosion control measures shall not include products that contain mono-filament.
26. PERMITTEE shall submit to the DISTRICT Inspector an electronic copy of the as-built drawings, bearing the signature and seal of a licensed engineer, prior to the sign-off on this permit. As-built plans shall include a certification from the licensed engineer that the project was constructed in accordance with the plans, specifications, and geotechnical report, if applicable.
27. CONTRACTOR shall dispose all trash/debris collected from the DISTRICT's rights of way in a legal manner.
28. Prior to the sign off on the permit, PERMITTEE must enter into a Maintenance Agreement with DISTRICT for the continued maintenance of PERMITTEE's constructed improvements and landscaping within the DISTRICT's right of way.

Work performed under this permit shall not commence before **July 4, 2022**, and shall be completed by **September 30, 2022**.

Failure to complete work by said date shall void this permit unless a written extension is granted by the District.

FOR PERMITTEE AND CONTRACTOR:
I hereby acknowledge that I have read this permit and agree to comply with all of the conditions stated herein and with all applicable Ordinances and Laws. For those areas involved herein to which the District does not hold fee title, I have also obtained permission from the underlying property owners.

PERMITTEE:

(Sign)_____ Date_____

(Print)_____ Title_____

CONTRACTOR:

(Sign)_____ Date_____

(Print)_____ Title_____

FOR THE DISTRICT: Permission is Granted

Brian M. Balbas, Ex-Officio Chief Engineer

By_____ Date_____

****

Permit Fee / Deposit: Fee $ No Fee (W.O. 8314) Receipt Number: G-N/A

Bond Required? ☐Yes ☒No Bond Type ☐Cash ☐Surety

Bond Amount: Bond $ Waived (819800-0800) Receipt Number: G-N/A

Insurance Required? ☒Yes ☐No (The Minimum Limit for bodily injury and property damage is $1 million G.C.L.)

CONTRA COSTA COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT

Permit For Use Of District Right Of Way

GENERAL PROVISIONS

1. Definitions.

   a. "District" shall mean the Contra Costa County Flood Control and Water Conservation District, the grantor of this permit.

   b. "District's right of way" shall mean those areas involved herein on which District has land rights, whether those rights be held in fee, easement, license, permit from others, or any other form.

   c. "Permitted use", "planned installation", "permittee's facilities", "work covered herein" or other such phrases shall mean the specific work or purpose for which this permit is granted.

2. Scope of Permit. This permit is to be strictly construed and no work other than that specifically mentioned is authorized hereby. Incorporation herein of Permittee's plans does not constitute approval of items shown on said plans which lie outside the limits of District's right of way, nor of temporary alterations of District's flood control facilities (e.g. diversion dams, haul roads, cutting of banks or levees, sump holes) not shown on said plans which the Permittee or its contractor's may find necessary in order to construct or maintain the planned facilities. For any such alteration, Permittee or its contractor shall obtain District approval either by amendment to this permit or by separate permit.

3 No Precedent Established. It is understood and agreed by Permittee that approval of a particular action under a permit shall not establish a precedent for future similar requests by Permittee.

4. Granting of Rights to Others. Nothing herein contained shall be construed to prevent District from granting rights to others within District's right of way concerned herein or using said right of way for any and all purposes, provided, however, that District shall not unreasonably prevent or obstruct Permittee's rights hereunder.

5. Permission of Underlying Owners and Holders of Prior Rights. Where District's title to the right of way concerned herein is anything less than fee, or where others are holders of prior rights within right of way held in fee by District which might be affected by Permittee's proposed use, the permission granted herein is valid only to the extent that District is legally able to grant such permission. Permittee shall also obtain permission for the proposed use of said right of way from said underlying owners or holders of prior rights. This permit shall not be effective until such permission is obtained. When specifically stated elsewhere herein, Permittee shall submit evidence of such permission to District. Failure of District to notify Permittee of the existence of such underlying owners and holders of prior rights shall not relieve Permittee of the responsibility of obtaining said separate permission.

General Provisions (Continued)

6. Non-Assignment. Permittee shall not assign, transfer or sublet this permit or any privileges herein granted except with the written consent of District.

7. Pending Easement. If so indicated elsewhere herein, negotiations are underway for the granting of an easement by District to Permittee for that portion of the work or facilities permitted herein which lie within lands owned in fee by District. District reserves the right to incorporate any or all of the conditions of this permit in said easement. Any conditions of this permit not so incorporated shall remain in full force and effect unless specifically revised or negated in the easement document or by written amendment to this permit. This permit shall not be construed as a release or waiver in any way of the right to compensation for such easement.

8. Future Relocation. If Permittee's facilities should at some time in the future interfere with District's maintenance, repair, reconstruction, alteration or expansion of its flood control facilities, or with installation of new facilities by the District, Permittee's facilities shall be removed, relocated, or modified to the satisfaction of District at the sole cost and expense of Permittee.

9. Revocability and Modification. This permit is revocable on five days notice, and is subject to modification by the District at any time. The listing of a specific expiration date elsewhere in this permit does not waive the right of the District to revoke this permit prior to that date as hereinabove provided. This permit may be revoked or suspended without prior notice if justifiable complaints of "nuisance" (e.g. dust, noise or invasion of privacy) are received from occupants or owners of nearby property.

10. Hold Harmless. Permittee shall indemnify, defend and hold harmless the District of and from any and all claims including inverse condemnation, demands, damages, losses, actions, causes of action or judgments which District may pay or be required to pay by reason of any damages, injury or death to any person or property suffered by any person, firm or corporation as a result of the exercise by Permittee of the rights herein granted.

11. Insurance. If so stated elsewhere herein, this permit shall not be effective for any purpose unless and until Permittee files with District a certificate from his insurer stating that the Contra Costa County Flood Control and Water Conservation District and Contra Costa County has been named, for the purpose and duration of this permit, as an additional insured in his commercial general and automobile liability insurance policies to the minimum limits indicated.

12. Bond. If so stated elsewhere herein, this permit shall not be effective for any purpose unless and until Permittee files with District a bond in the form and amount indicated.

13. Expense of Inspection. Current fee schedule.

14. Notice Prior to Starting Work. Permittee shall notify District's Maintenance Division at least three working days in advance of starting the work covered herein or any new phase thereof.

General Provisions (Continued)

15. Non-Interference. Any work performed hereunder by Permittee or its authorized agents shall be done in such a manner as will at all times enable the District, its authorized agents or contractors, to use District's right of way.

16. Restoration of District's Facilities. Any District facilities removed or damaged during installation or maintenance of Permittee's facilities shall be replaced or repaired equivalent to, or better than their pre-existing condition at the sole cost and expense of the Permittee. If, upon being given reasonable notice by the District, the Permittee does not promptly make such restoration, the District reserves the right to perform the needed work and to bill the Permittee for the actual cost thereof.

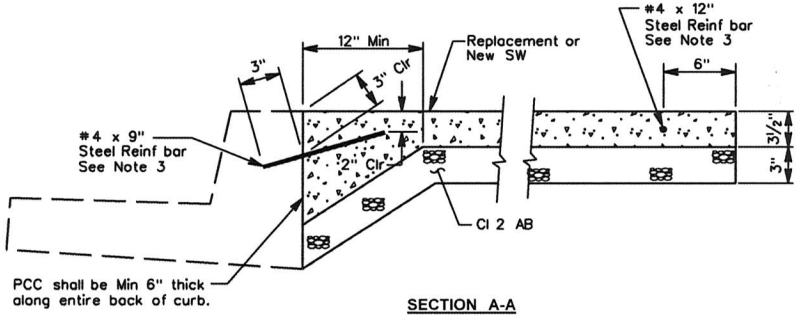
17. As-Built Plans. Upon completion of underground or surface work of consequence, Permittee shall furnish to the District plans showing location and details unless pre-installation plans attached hereto sufficiently and accurately show such information.

18. Marking of Underground Facilities. Above-ground markers shall be placed by Permittee at locations satisfactory to District to indicate the line and depth of underground facilities installed under this permit.

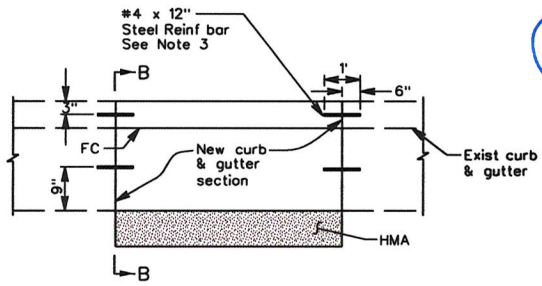
19. District Non-Responsibility. Unless otherwise provided herein, District assumes no responsibility for the design, construction, maintenance or repair of Permittee's facilities and will not be responsible in any way for any damage to Permittee's facilities resulting from District's construction, reconstruction, alteration, operation and maintenance of District's facilities.

20. Maintenance. Unless otherwise provided herein, the Permittee agrees to exercise reasonable care to maintain properly any item installed under this permit and to exercise reasonable care in inspecting and immediately repairing and making good any injury to any portion of District's facilities which occurs as a result of the maintenance of such items in District's right of way or as a result of the work done under this permit, including any and all injury to District's facilities which would not have occurred had such work not been done or such item not been placed therein. Except in the case of emergency, Permittee shall consult District at least seven days in advance of commencement of any non-routine maintenance operations.

21. No Recourse Against District. The Permittee shall have no recourse whatsoever against the District for any loss, cost, expense, or damage arising out of any provisions or requirement of this permit because of its enforcement or for the termination or revocation of this permit as provided herein. Nor shall this permit be given any value before any court or public authority in any proceeding of any character.



SECTION A-A



DOWELING LOCATION FOR NEW CURB CONFORMING TO EXISTING CURB

PUBLIC WORKS DIRECTOR

March 11, 2014

PLANS APPROVAL DATE

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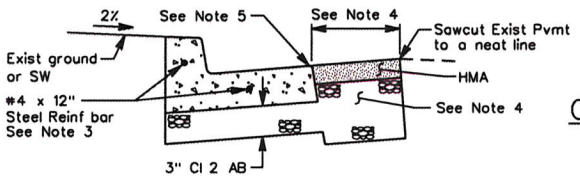
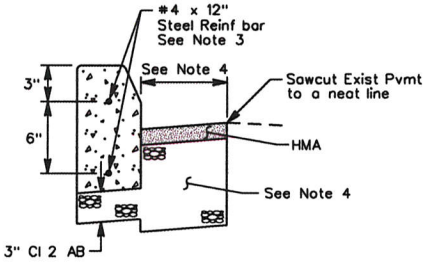
REGISTERED PROFESSIONAL ENGINEER — JULIA R BUEREN — No. 37937 — CIVIL — STATE OF CALIFORNIA



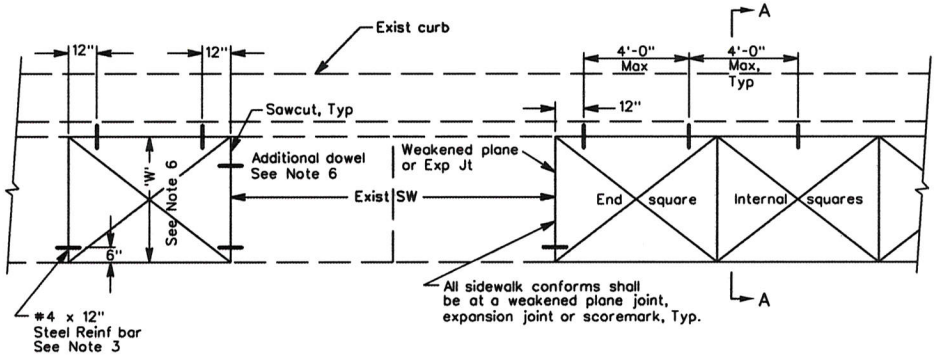
TYPE S1 CURB

OR



TYPE M CURB

SECTION B-B



REPLACEMENT OF ONE SQUARE

REPLACEMENT OF TWO OR MORE SQUARES

LOCATIONS FOR REPLACEMENT SIDEWALK

NOTES:

1. All curb, gutter, and sidewalk shall conform to Standard Plans CA70 and CA71.
2. Concrete sidewalk removed for replacement construction shall be sawcut to a neat line at the nearest weakened plane joint, expansion joint or scoremark.
3. Dowels shall be placed in a ¾" diameter drilled hole filled with 1:1 sand cement grout.
4. When replacing existing curb on existing alignment and grade, sawcut existing pavement 6" from gutter lip (or face of curb for Type 'B' curb replacement). Remove existing HMA and base to minimum 6" depth, compact subgrade and replace with full depth HMA. If placing new curb, sawcut pavement minimum of 12" inside existing edge of pavement, EP, unless otherwise directed on project plans. New pavement structural section shall be 0.5' HMA, 0.0' AB minimum unless otherwise specified on the plans or as required by the Public Works Department.
5. Paving at the gutter lip shall conform to Detail A of Standard Plan CA70. When the street slopes away from the curb. the paving shall match the gutter lip.
6. If W>5' add additional doweling, 4' maximum spacing between dowels.

NO.	DATE	REVISION DESCRIPTION	BY

COUNTY OF CONTRA COSTA
PUBLIC WORKS DEPARTMENT
MARTINEZ, CALIFORNIA

STANDARD PLAN

DOWELING DETAILS FOR CURB AND SIDEWALK

SCALE: NO SCALE | DATE: 3/14

DRAWN BY: H. HUSSEY | PLAN NO. CA74

CHECKED BY: M. HOLLINGSWORTH

STD. PLAN CA74

PUBLIC WORKS DIRECTOR

March 11, 2014

PLANS APPROVAL DATE

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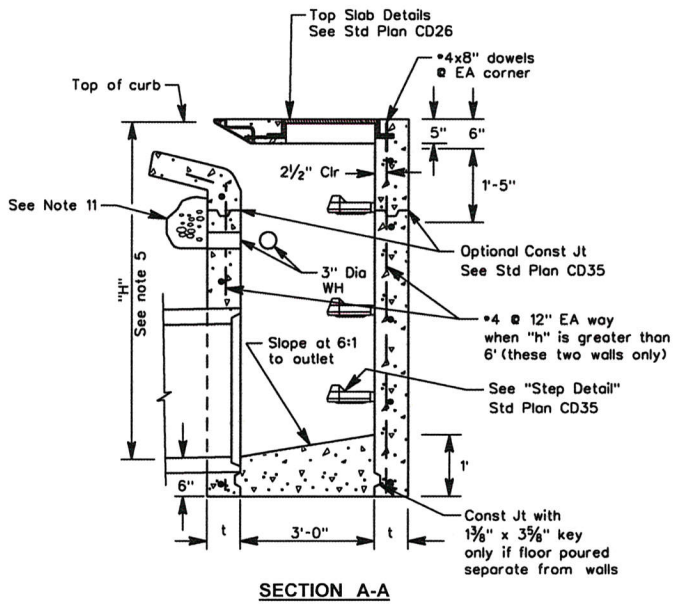
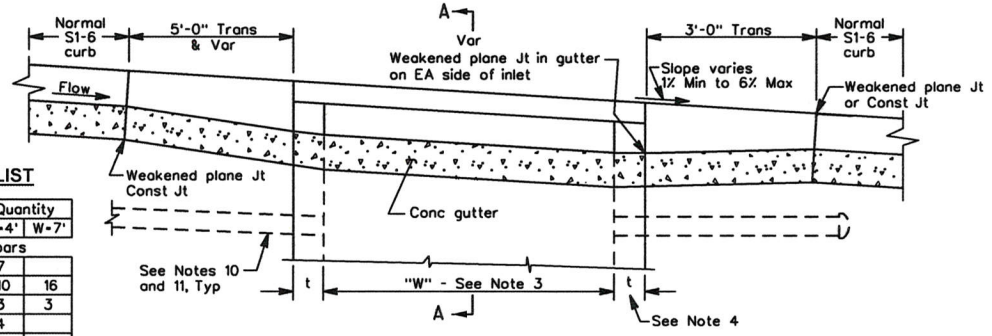
REGISTERED PROFESSIONAL ENGINEER — JULIA R BUEREN — No. 37937 — CIVIL — STATE OF CALIFORNIA



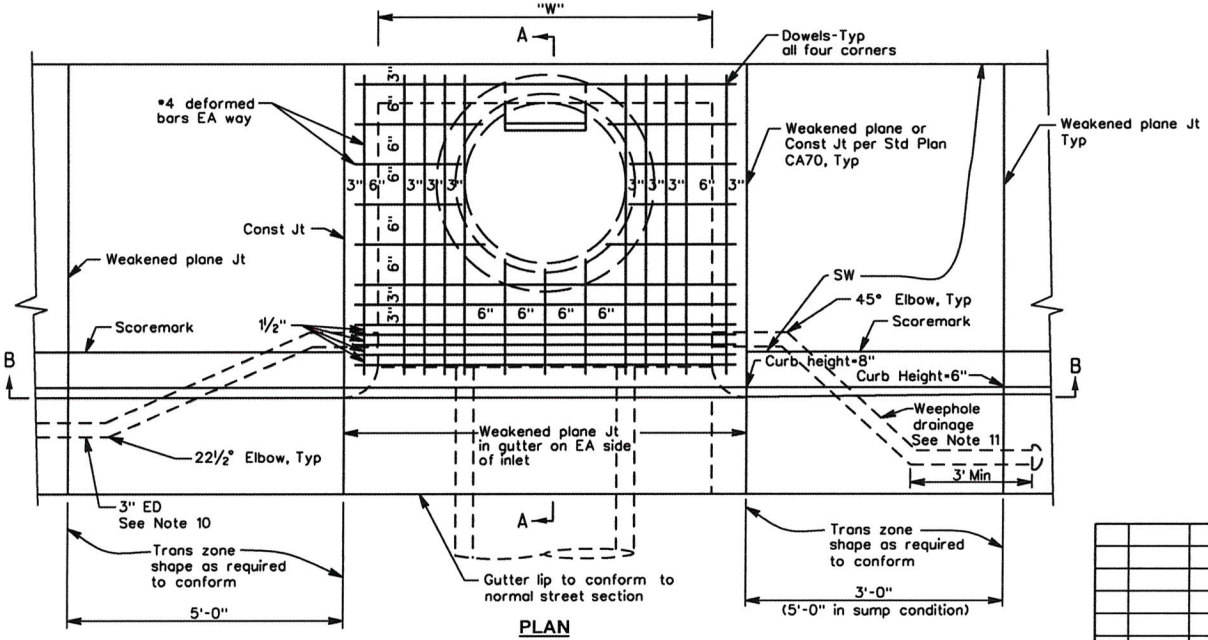
SECTION A-A

STEEL LIST

Material	Quantity W=4'	Quantity W=7'
•4 deformed bars		
L=4'-8"	7	
L=3'-2"	10	16
L=1'-1"	3	3
L=1'-6"	4	
L=1'-3"	4	
L=0'8"	4	4
L=7'-8"		7
L=2'-9"		4
L=3'-0"		4
Inlet Steel	1	1
F & C	1	1



SECTION B-B



PLAN

NOTES:

1. See County Standard Plan CD26 for top slab and inlet opening details.
2. For Inlet General Notes and Details, see Standard Plan CD35.
3. For street grades less than or equal to 6%, "w"=4'-0". For street grades greater than 6%, "W"=7'-0". For "W" = 7'-0" see Steel List for required steel.
4. t = 6 inches if "H" is 4 feet or less.
   t = 8 inches if "H" is greater than 4 feet and less than 8 feet.
   t = 10 inches if "H" is greater than 8 feet and less than 12 feet.
5. If "H" exceeds 12', construct precast inlet on a Type III manhole base. See Standard Plan CD32 for Type III manhole details.
6. A pipe shall not enter the inlet through a corner. If pipe exceeds 36" in diameter, or the skew angle prevents the pipe opening from being made in a single wall, construct a Type III manhole base per County Standard Plan CD32 to accept storm drain pipe.
7. Curvature of the lip and sidewalls at gutter opening shall be formed and shall not be made by plastering.
8. Inlet and outlet pipes shall be trimmed to the final shape and length before concrete is poured.
9. All exposed surfaces in the basin shall conform in slope, grade, color, finish, and scoring to existing or proposed curb and sidewalk adjacent to the inlet.
10. If edge drains are specified by Public Works Department or shown on the plans, see Standard Plan CD08 for edge drain (ED) details.
11. See Standard Plan CD35 for weephole drainage details unless edge drain is shown on plans or as specified by Public Works Department. For edge drain details, see Standard Plan CD08.

NO.	DATE	REVISION DESCRIPTION	BY

COUNTY OF CONTRA COSTA
PUBLIC WORKS DEPARTMENT
MARTINEZ, CALIFORNIA

STANDARD PLAN

TYPE "F" INLET

SCALE: NO SCALE | DATE: 3/14

DRAWN BY: P. WARDEN | PLAN NO. CD25

CHECKED BY: M. HOLLINGSWORTH

PUBLIC WORKS DIRECTOR

March 11, 2014

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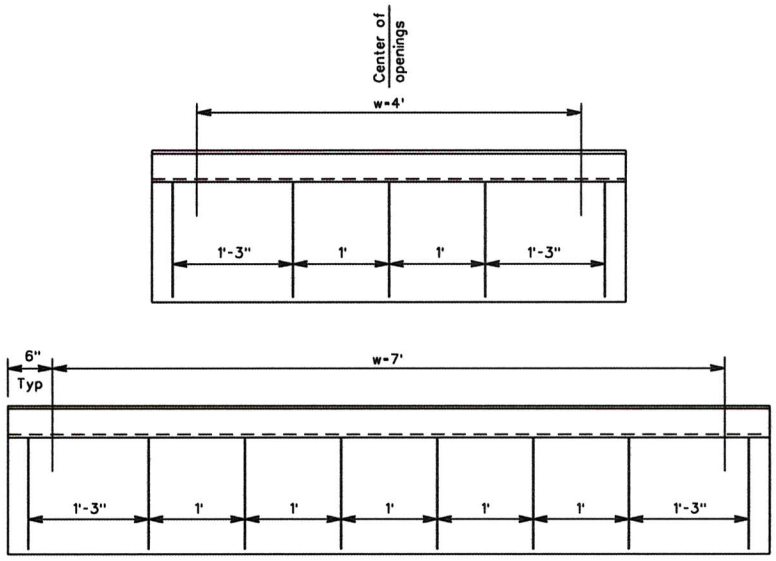


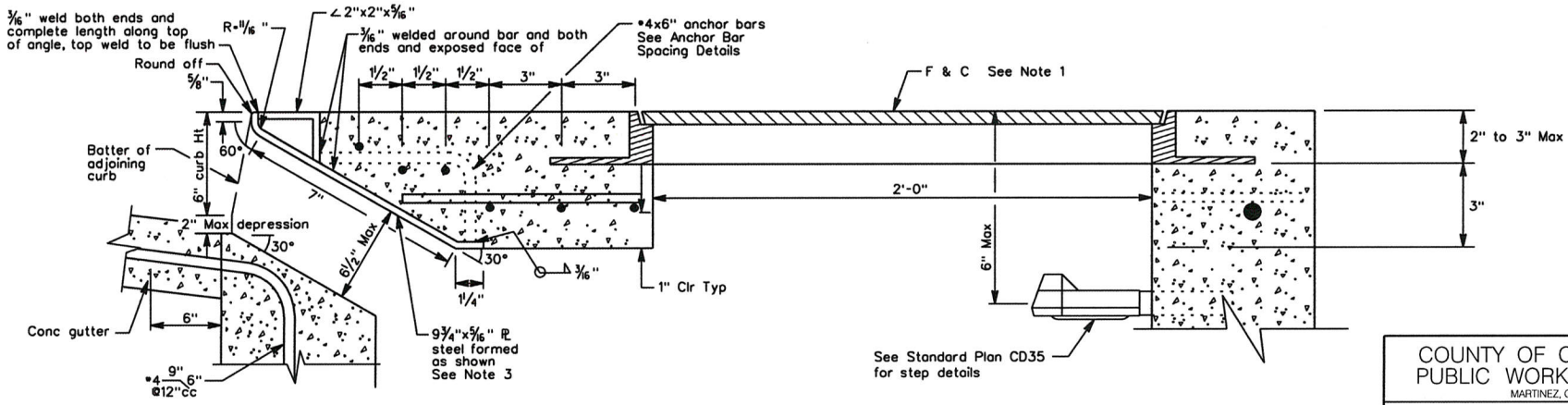
ANCHOR BAR SPACING

℄ & ∠ Length=8' for w=7'

℄ & ∠ Length=5' for w=4'

NOTES:

1. Cast iron manhole frame and cover shall be D&L Foundry & Supply Model No. H-5028 or approved equal. An alternate F&C must meet ASTM A48 Class, 30B specifications and H-20 wheel loading. Cover marking shall be "STORM DRAIN".
2. See CD25 for additional reinforcement steel details.
3. Steel to be assembled as one unit prior to galvanizing.



TOP SLAB DETAILS

NO.	DATE	REVISION DESCRIPTION	BY

COUNTY OF CONTRA COSTA
PUBLIC WORKS DEPARTMENT
MARTINEZ, CALIFORNIA

STANDARD PLAN

TYPE "F" TOP SLAB & INLET OPENING DETAILS

SCALE: NO SCALE | DATE: 3/14

DRAWN BY: P. WARDEN | PLAN NO. CD26

CHECKED BY: M. HOLLINGSWORTH

PUBLIC WORKS DIRECTOR

March 11, 2014

PLANS APPROVAL DATE

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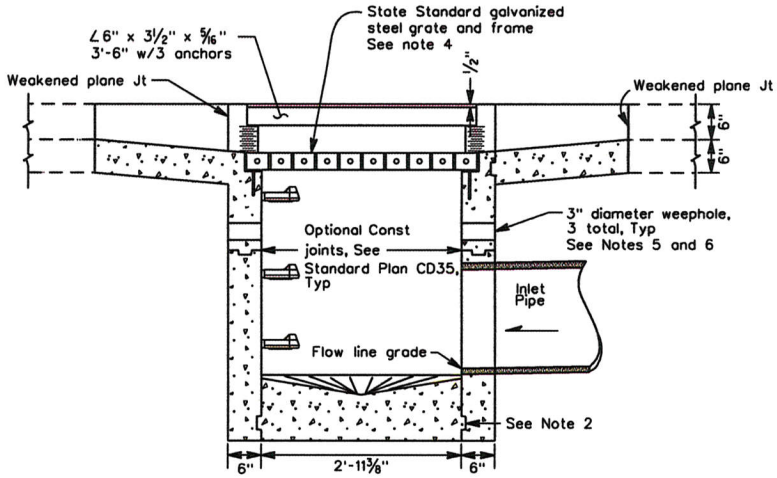
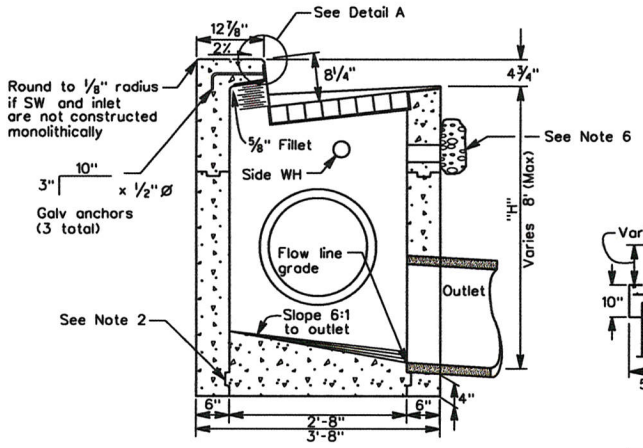
REGISTERED PROFESSIONAL ENGINEER — JULIA R BUEREN — No. 37937 — CIVIL — STATE OF CALIFORNIA



SECTION A-A
NO SCALE



SECTION B-B
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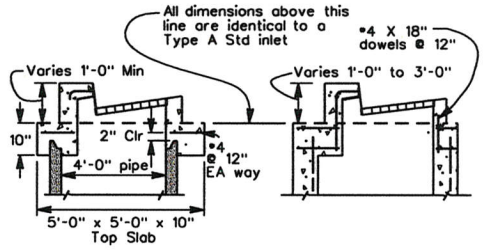
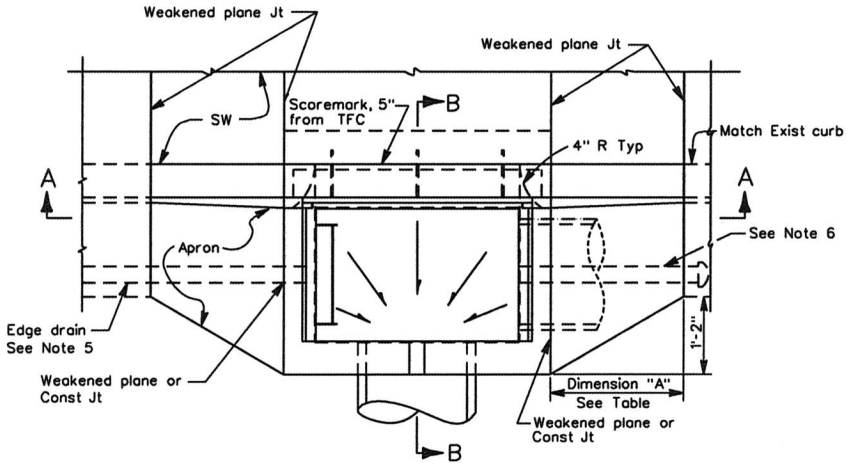
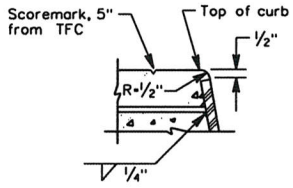


SECTION OF TYPE A OPENING
ON PRECAST MANHOLE BARREL
SEE STANDARD PLAN CD30

SECTION OF TYPE A OPENING
ON MANHOLE BASE
SEE STANDARD PLAN CD31 OR CD32



PLAN
NO SCALE
GRATE NOT SHOWN



DETAIL A
NO SCALE

NOTES:

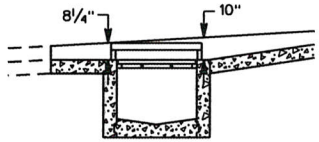
1. For Inlet General Notes and Details, see Standard Plan CD35.
2. Construction joints are optional where shown, other locations are subject to the approval of the Public Works Department. Key dimensions-¾" x 3".
3. When dimension "H" exceeds 6'-0", use a manhole base with Type "G" inlet top.
4. See Caltrans Standard Plan D77A for inlet frame and Caltrans Standard Plan D77B for type 24-10S inlet grate.
5. If edge drains are specified by Public Works Department or shown on the plans, see Standard Plan CD08 for edge drain (ED) details.
6. See Standard Plan CD35 for weephole drainage details unless edge drain is shown on plans or as specified by Public Works Department. For edge drain details, see Standard Plan CD08.

TABLE

DIMENSION "A" (in)		
UPSTREAM CURB GRADE	"A" UPSTREAM	"A" DOWNSTREAM
2% and less	24	24
3%	36	24
4%	48	24
5%	60	24
6%	72	24
7%	84	12
8%	96	12
9%	108	12
10% and greater	120	12

← See "DETAIL FOR STEEP CURB SLOPE"

When curb grade upstream is 5% or greater, depress upstream edge of grate to 10".



DETAIL FOR STEEP CURB SLOPE

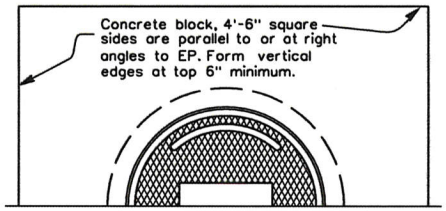
NO.	DATE	REVISION DESCRIPTION	BY

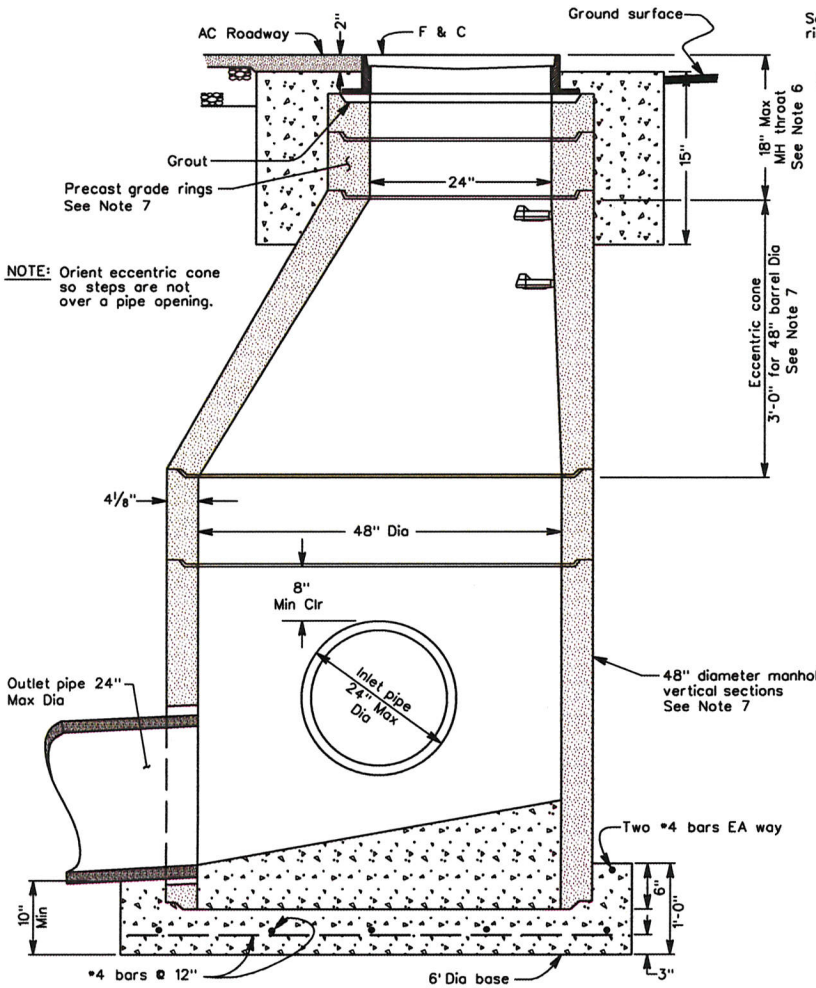
COUNTY OF CONTRA COSTA
PUBLIC WORKS DEPARTMENT
MARTINEZ, CALIFORNIA

STANDARD PLAN

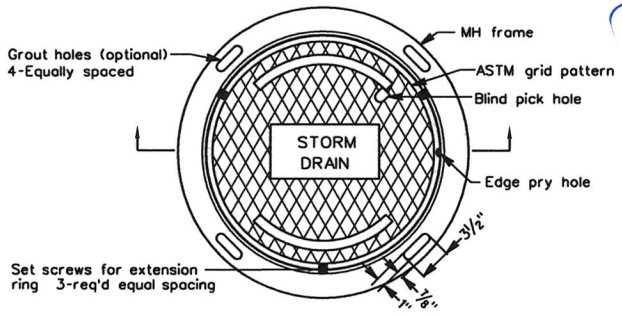
TYPE "G" INLET

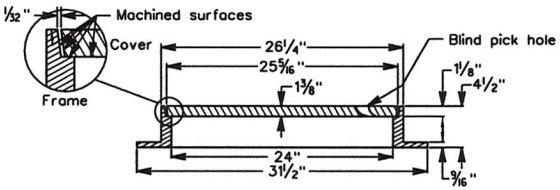
SCALE: NO SCALE | DATE: 3/14
DRAWN BY: L. COSTA | PLAN NO. CD27
CHECKED BY: M. HOLLINGSWORTH



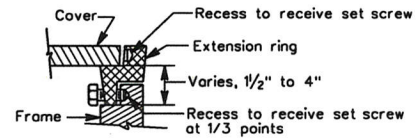


PRECAST MANHOLE WITH TYPE I BASE





TYPICAL FRAME AND COVER DETAIL



TYPICAL CAST IRON EXTENSION RING
See Note 7

NOTES:

1. For General Manhole Notes and Details, see Standard Plan CD35.
2. All concrete joints shall be cleaned wetted, and mortared prior to setting next section. Joints shall then be patched, troweled, and brushed smooth.
3. Frame and extension rings must be secured by concrete block, unless approved otherwise by the Public Works Department.
4. Manhole cover frame shall be adjusted to conform to grade and cross slope of pavement.
5. Manhole frame and cover shall be Phoenix Iron (Oakland) Model P-1090 or South Bay Foundry No. 1900 CPH or approved equivalent.
6. Use of precast grade rings are limited by 18" maximum manhole throat length. Cast iron extension rings are allowed for conforms to pavement overlays only.
7. The precast components shall conform to the Central Precast (U.S. Concrete Precast Group, Northern California) Drawing Nos. 20-48C, 20-48V and 20-48 EC, or equivalent.

PUBLIC WORKS DIRECTOR

March 11, 2014
PLANS APPROVAL DATE

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REGISTERED PROFESSIONAL ENGINEER
JULIA R BUEREN
No. 37937
CIVIL
STATE OF CALIFORNIA

NO.	DATE	REVISION DESCRIPTION	BY

COUNTY OF CONTRA COSTA
PUBLIC WORKS DEPARTMENT
MARTINEZ, CALIFORNIA

STANDARD PLAN

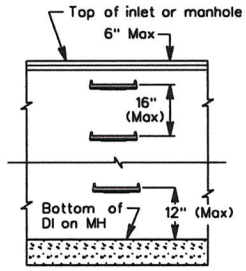
PRECAST MANHOLE, TYPE I BASE, FRAME & COVER

SCALE: NO SCALE
DATE: 3/14
DRAWN BY: H. HUSSEY
CHECKED BY: M. HOLLINGSWORTH
PLAN NO. CD30

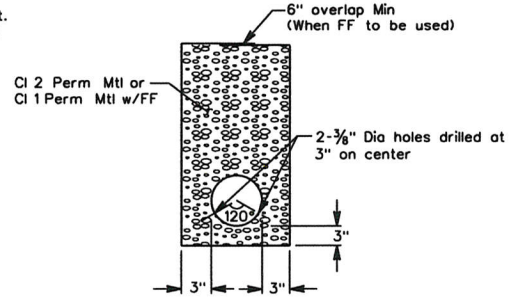
STD. PLAN CD30

NOTES:

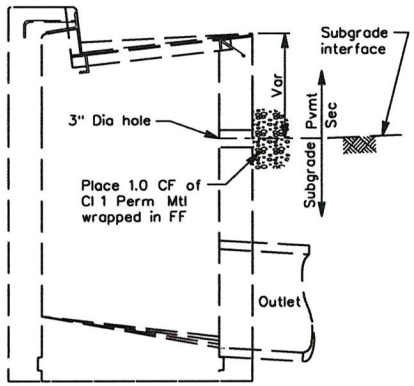
1. All inlets shall have a County approved "anti-pollution" plastic marker attached to the inlet as directed by the Inspector or Resident Engineer. The marker shall be applied following manufacturer's recommendations. PCC surfaces shall be mechanically cleaned just prior to attaching the marker. The marker and adhesive may be furnished by the Public Works Department, check your permit conditions or contract Special Provisions.
2. Steps shall be steel reinforced polypropylene plastic, M.A. Industries, Inc. No. PS2-PF or equivalent. Steps to be cast in place or press fitted into holes per manufacturer. Install steps with lowest rung 12" maximum above the floor and highest rung not more than 6" below top of inlet. The spacing between steps shall not exceed 16" and shall be uniform throughout the length of the wall. Place steps in the wall without an opening. Steps shall not be installed on inlet back wall. No steps required where distance from floor of inlet to top of grate is 4' or less. See "Step Detail"
3. Weephole elevation varies depending on the depth of the adjoining pavement section. It shall be at, or slightly below, the pavement section subgrade elevation with a minimum depth of 18" below the curb inlet grate elevation. **The side weephole detail shall be used at all "sump" locations.** Edge drain (Standard Plan CD08), or side weephole drains detail at other locations may be required as shown on the construction plans or by the Public Works Department. Where the side weephole detail or edge drains are not required, these weepholes shall conform to the front face weephole details shown on this plan.
4. 3" edge drain per Standard Plan CD08, when shown on the plans or specified by the Public Works Department.
5. Concrete shall conform to Section 90, "Concrete", of California Department of Transportation's Standard Specifications and the following.
   - A. Construction joints shown on standard plans are permitted when top portion of inlet is to be constructed monolithically with curb and sidewalk. Key dimensions-¾" x 3".
   - B. Concrete construction joint shall be located 12" to 18" below top of curb elevation.
   - C. Concrete above construction joint shall contain a minimum of 505 lbs of cementious material per cubic yard, 1" maximum aggregate grading.
   - D. Concrete below construction joint shall contain a minimum of 590 lbs of cementious material per cubic yard, 1" maximum aggregate grading.
   - E. When inlet is constructed as a single unit concrete shall comply with item D, described above.
6. Type "I" manhole (Std Pln CD30) bases are for use with pipes to 24" in diameter and where there is sufficient cover to use minimum length manhole barrel, eccentric cone, and cover frame. Use Type "II" manhole bases (Std Pln CD31) with pipes to 42" in diameter. Type "III" manhole bases (Std Pln CD32) for 60" in diameter. Use Type "V" manhole bases (Std Pln CD34) for pipes up to 96" in diameter. For pipe larger than 96" in diameter, a special manhole base design is required.
7. Unless otherwise noted on Standard Plans all concrete shall contain not less than 590 lbs. of cementious material per cubic yard, 1" maximum grading in conformance with Section 90, "Concrete" of California Department of Transportation's Standard Specifications. Invert paving concrete shall contain not less than 505 lbs per cubic yard of cementious material, 1" maximum grading, in conformance with said Standard Specifications.
8. Inlet and outlet pipes shall not intercept a manhole base through a corner. If skew angle is too great to permit the opening to be made in a single wall face, use a Type "III" manhole base. (See Std Pln CD32).



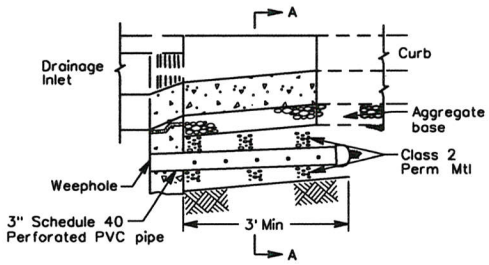
STEP DETAIL
See Note 2



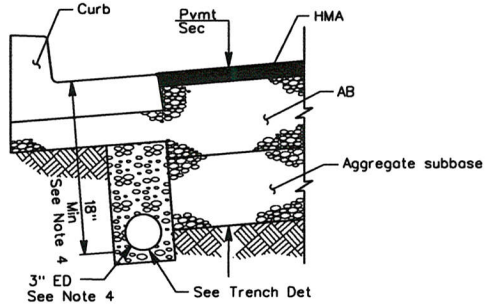
EDGE DRAIN TRENCH DETAIL



STANDARD FRONTSIDE WEEPHOLE DETAIL
See Note 3



SIDE WEEPHOLE DRAIN DETAIL
See Note 3



SECTION A-A

PUBLIC WORKS DIRECTOR

March 11, 2014
PLANS APPROVAL DATE

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REGISTERED PROFESSIONAL ENGINEER
JULIA R BUEREN
No. 37937
CIVIL
STATE OF CALIFORNIA

NO.	DATE	REVISION DESCRIPTION	BY

COUNTY OF CONTRA COSTA
PUBLIC WORKS DEPARTMENT
MARTINEZ, CALIFORNIA

STANDARD PLAN

STD INLET/MANHOLE PLAN GENERAL NOTES & DETAILS

SCALE: NO SCALE | DATE: 3/14
DRAWN BY: H. HUSSEY | PLAN NO. CD35
CHECKED BY: M. HOLLINGSWORTH

STD. PLAN CD35

PUBLIC WORKS DIRECTOR

March 11, 2014

PLANS APPROVAL DATE

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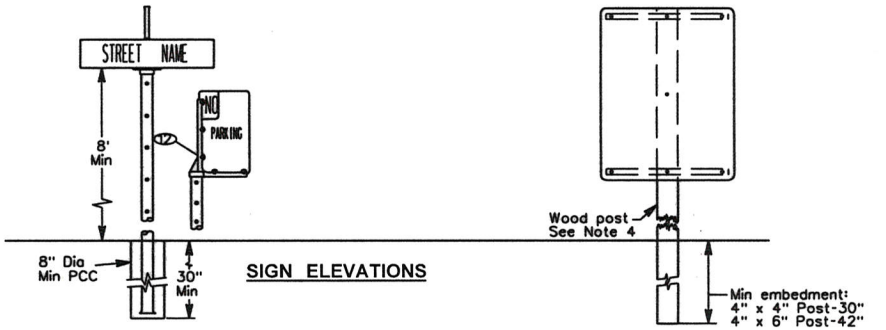
REGISTERED PROFESSIONAL ENGINEER — JULIA R BUEREN — No. 37937 — CIVIL — STATE OF CALIFORNIA

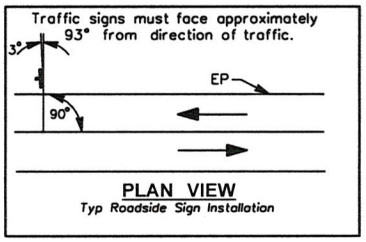


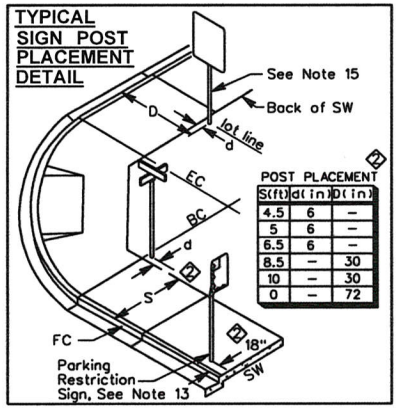
METAL POST FOUNDATION

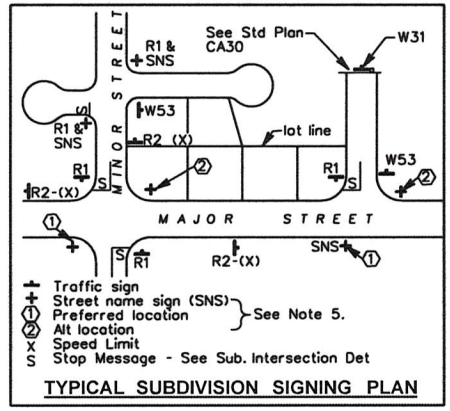
WOOD POST FOUNDATION AND MOUNTING DETAILS

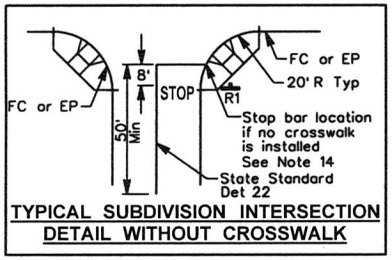
NOTES:

1. Street name signs (SNS) shall conform to the Public Works Department Standard Provisions for Public Works Construction. All traffic signs shall comply with current edition of California Manual of Uniform Traffic Control Devices (California MUTCD).
2. All sign support posts shall be 2" (12 gauge) "Unistrut", except as noted on this plan. Square sign post system approved for highway sign use by the FHWA is an acceptable substitution for "Unistrut".
3. Posts supporting street name signs and traffic signs, shall not be painted. 7' minimum clearance between bottom of sign and any sidewalk or pedestrian path.
4. Only wood posts shall be used in rural locations and shall conform to Section 56 of California Department of Transportation's Standard Specifications for grade, species and preservative treatment.
   a. Use 4" x 4" wood posts with any size R7 sign.
   b. Use 4" x 6" wood post with any 36" x 42" R-2 sign. A hole must be drilled at the base in accordance with California Department of Transportation's Standard Plan RS2, "Breakaway Feature".
5. Street name signs (SNS) shall be installed on the corner with the greatest sight distance and which favors the major street where conditions permit. SNS may be installed on the same sign post with a STOP (R1) sign.
6. One SNS shall be installed at an intersection on each side of the major road with two or more lanes in each direction.
7. Where sign posts are to be installed in an existing sidewalk, the sidewalk shall be sawcut to a neat appearance. Then new concrete placed and finished to match surrounding grade after sign post installation.
8. Striping details and markings shall conform to the California Department of Transportation's Standard Plans, and this Standard Plan.
9. Pavement markings and stripes shall be thermoplastic and shall conform to Section 84 of California Department of Transportation's Standard Specifications, Public Works Department Standard Provisions for Public Works Construction and project special provisions, if any.
10. For G7 sign use 6" U.C. and 4½" L.C. lettering.
11. The first 3' of all median curb noses shall be painted with reflective white paint.
12. All button head bolt threads shall be peened after assembly.
13. Sidewalk with parking restriction signs should be minimum 6'-6" wide.
14. Stop bars shall always be placed prior to a curb ramp.
15. Mid-block signs in residential areas shall be placed at or near lot line, except as indicated on this Standard Plan.









Note: Crosswalk shall be centered on the curb ramps, or as directed by the Public Works Department.

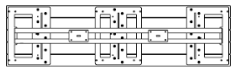
NO.	DATE	REVISION DESCRIPTION	BY

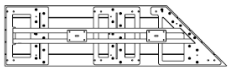
COUNTY OF CONTRA COSTA
PUBLIC WORKS DEPARTMENT
MARTINEZ, CALIFORNIA

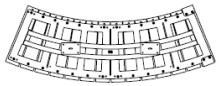
STANDARD PLAN

SIGNING & STRIPING STANDARDS

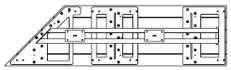
SCALE: NO SCALE | DATE: 3/14
DRAWN BY: H. HUSSEY | PLAN NO. CRS1
CHECKED BY: M. HOLLINGSWORTH

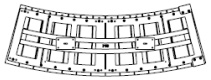

Inline straight


Left miter


Piano key 96inR

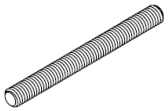

Piano key straight


Right miter


Piano key 140inR

Bench options

Included components: bench ships fully assembled


4X – 3/8-16 x 3-1/2" long threaded rod

Tools Required

- Safety glasses
- Hammer drill with 5/8" dia masonry drill bit
- epoxy anchoring system
- compressed air for clearing anchor holes of debris

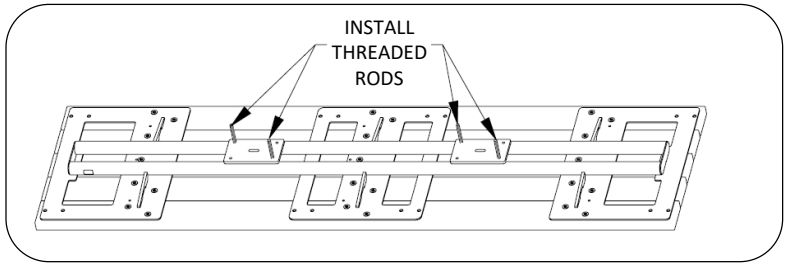


Fig. 1 – Threaded rod locations

ASSEMBLE WITH CARE! Pangard II® Polyester Powder coat is a strong, long-lasting finish. To protect this finish during assembly, place unwrapped powder coated parts on packaging foam or other non-marring surface. Do not place or slide powder coated parts on concrete or other hard or textured surface – this will damage the finish causing rust to occur. Use touch-up paint on any gouges in the finish caused by assembly tools.

PROCEDURE FOR INSTALLATION:

1. Prepare wall as required.

Note: Landscape Forms is not responsible for wall installation.

Note: DO NOT DRAG bench across concrete or other rough surfaces. This could damage the powder coat finish.

Note: Threaded rods for embedding are intended for adhesive anchoring. Once installed, the bench cannot be removed without damaging the bench and/or concrete base. Use either Powers Fasteners AC100 Plus™ or Hilti HIT RE 500 adhesive, approximately 3 ounces per bench is required. Gel and cure times vary with temperature, follow manufacturer's instructions for application.

1. Install threaded rods in bottom plates as shown in Fig. 1. Install 2 per plate, in opposite corners of plate.
2. Set unit in position. Mark hole locations. Move unit.
3. Drill holes using hammer drill and 5/8" dia drill bit.
4. Completely clear holes of debris. Holes must be free of standing water or ice.
5. Before dispensing adhesive, place bench in the installed position to verify correct placement of holes. Holes should be deep enough that the bench base is sitting flush on the top of the wall.
6. Remove the bench.
7. Follow the manufacturer's instructions for dispensing adhesive. Fill the holes from the bottom up to avoid air pockets. Fill to a level 1" from the top of each hole. The adhesive level will rise to the top of the hole as the bench is set in place.
8. Set the bench in position. Clean off any excess adhesive before it gels.

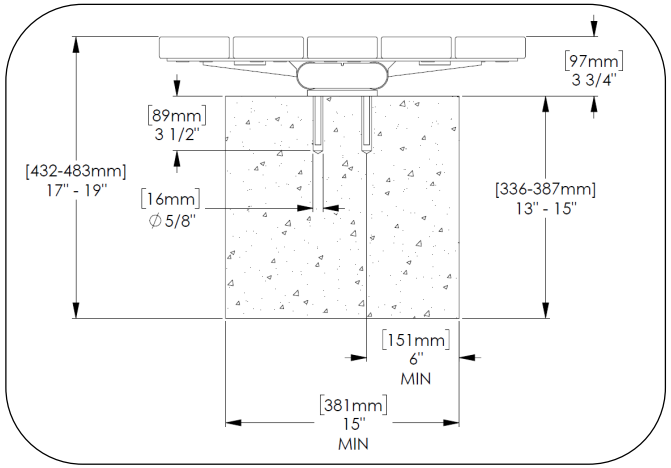
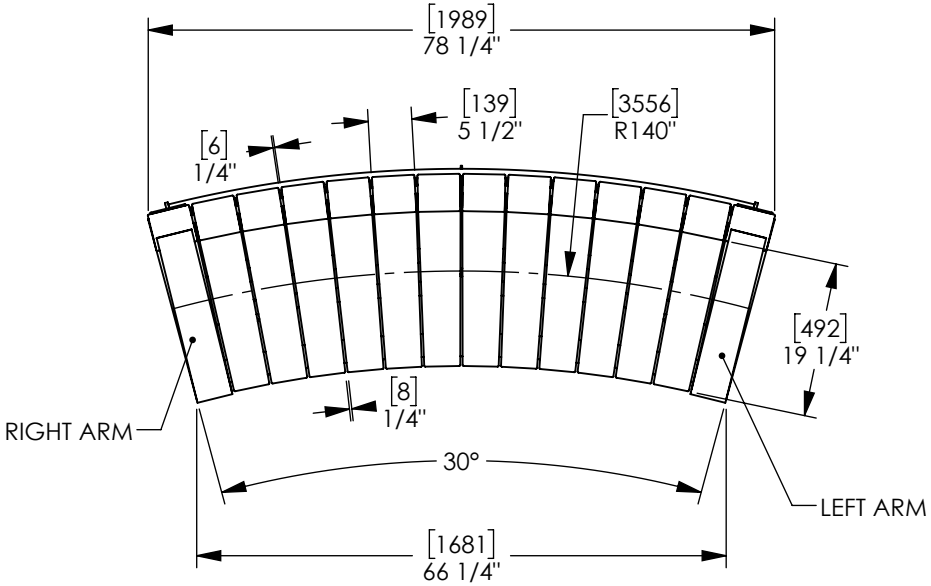
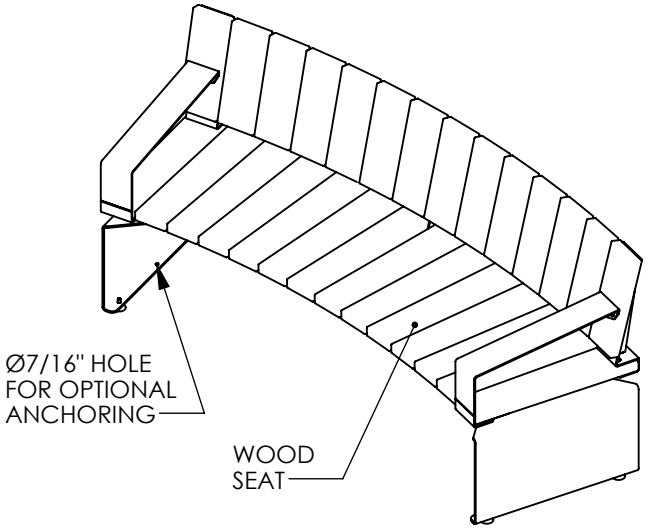
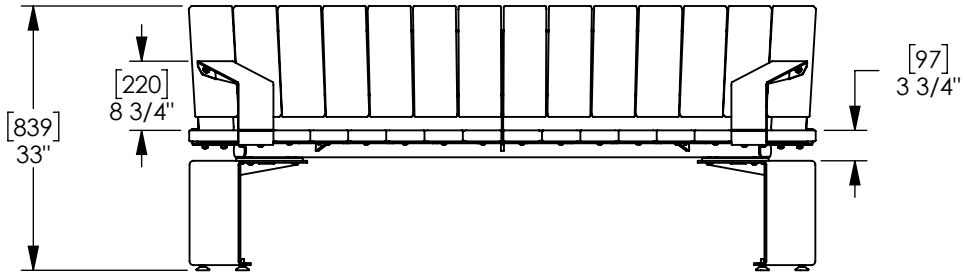
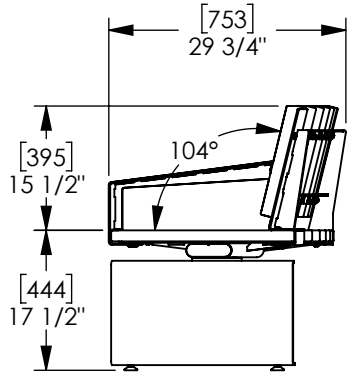


Fig. 2 – anchor hole size









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Drawing: BQ0116
Dimensions are in inches [mm]

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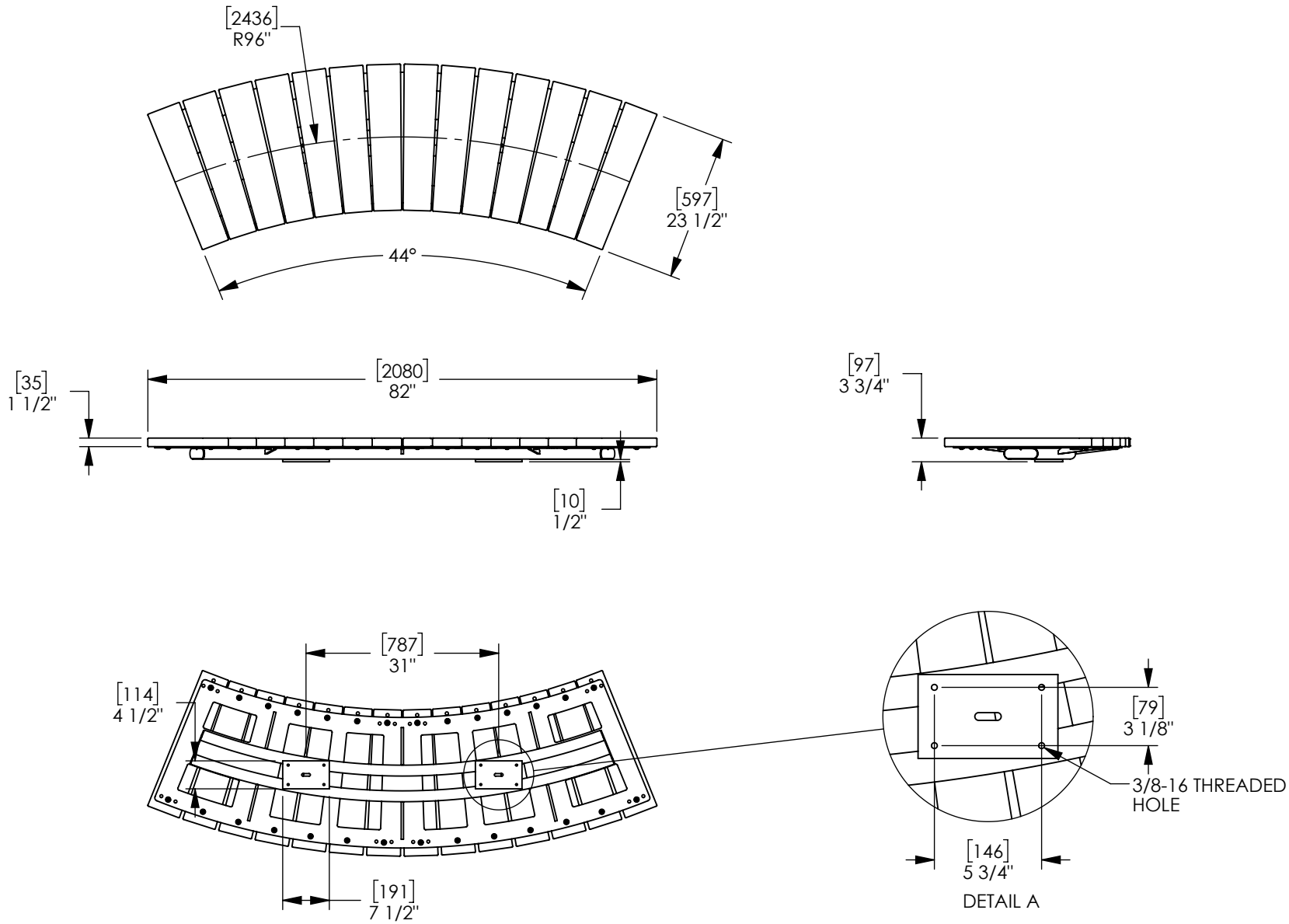

landscapeforms®

Drawing: BQ311-05
Dimensions are in inches [mm]

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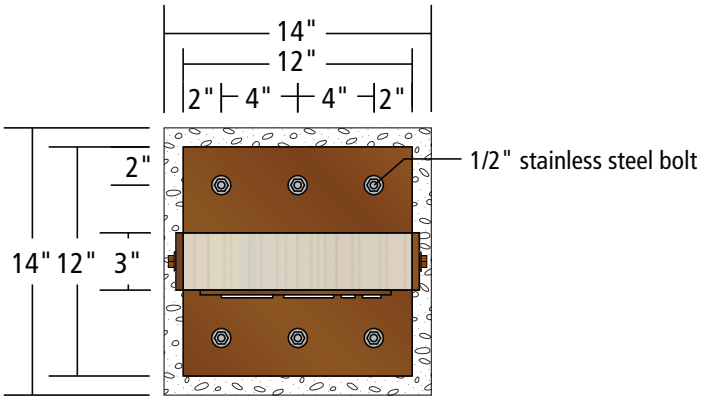
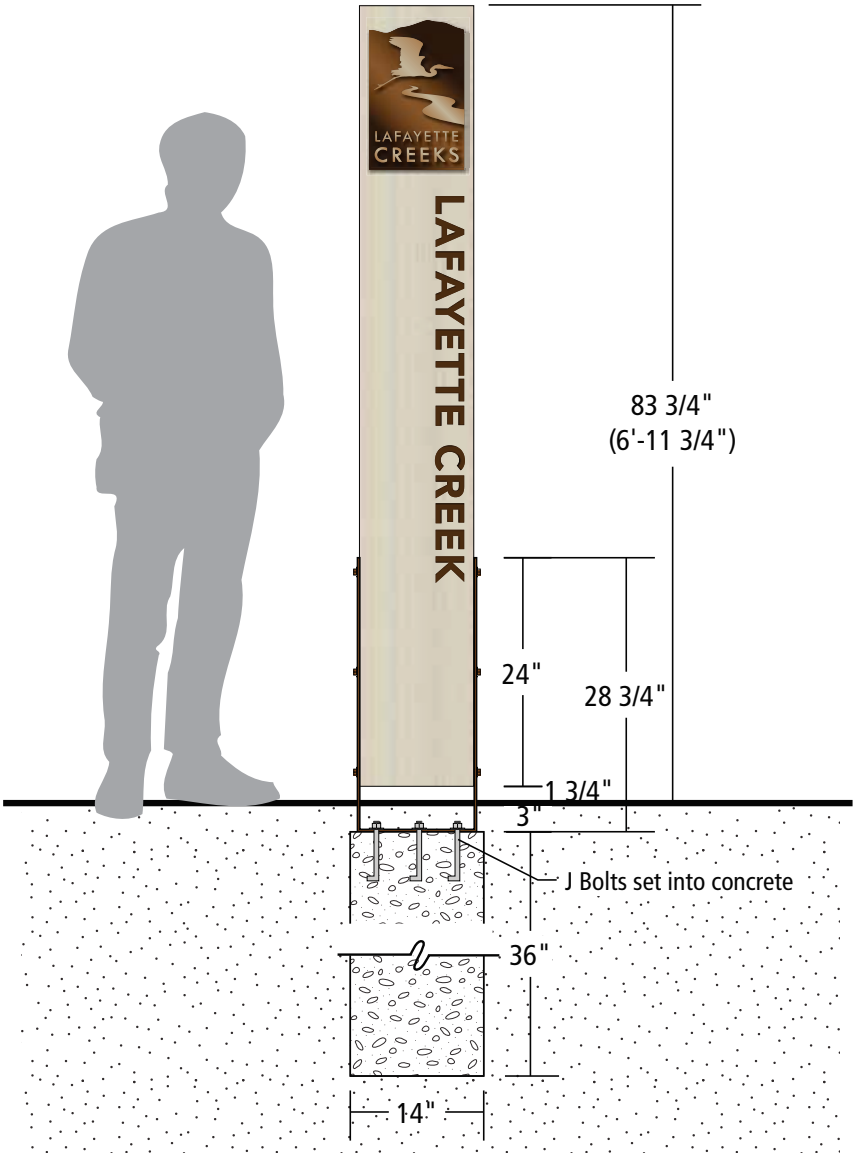


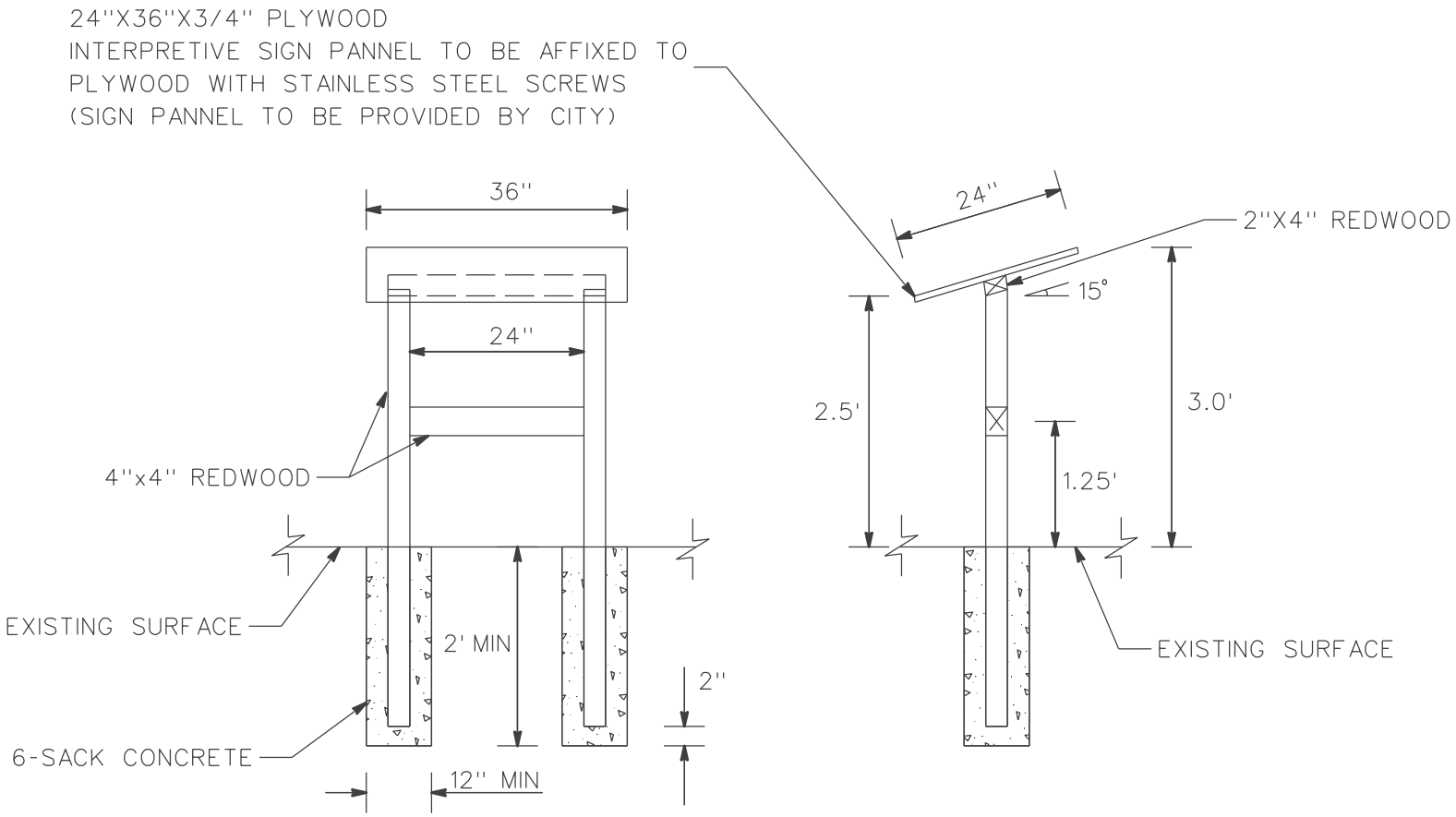
3 **PLAN VIEW**

SCALE: 1" = 1'-0"



1 **ELEVATION VIEW**

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



NOTES:

1. REDWOOD SHALL BE CONSTRUCTION HEART GRADE OR BETTER AND TREATED WITH "CABOTS CLEAR SOLUTION" WATERSEALER.
2. ALL FASTENERS TO BE STAINLESS STEEL OR HDG
3. ALL FASTNERS TO BE SCREWS, NO NAILS.
4. SIGN SHALL BE CENTERED ON WOOD SUPPORT

INTERPRETIVE SIGN DETAIL