

City of Oakley
ADDENDUM NO. 1 to contract documents for
CIP 280 – LAUREL ROAD IMPROVEMENTS

BID OPENING DATE: June 27, 2024 2:00 PM

Notice is hereby given that the following clarifications and revisions are made to the above referenced contract documents:

Updates to the Plans & Specifications:

Plans: X-1, DM-4, DM-5, L-1 to L-4, L-7, GD-1, GD-2, GD-3, GD-7, D-1, D-4, D-7, DP-1 to DP-3, CD-1, TC-7 TO TC-11, LC-2, LC-3, LS-1, LS-2, IP-1 TO IP-7, ID-1, ID 3 TO ID-6, LP-1 TO LP-7, EC-1 TO EC-5, EC-7

Specifications:

Part 1:

- Revised number of working days and amount for liquidated damages
- Updated bid list

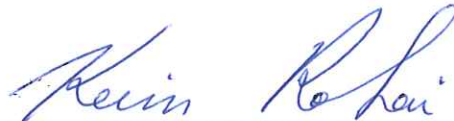
Part 2:

- Updated Section 7-1.17 to delete coordination with 3350 Main Street Development
- Updated Section 7-1.18 to delete non-potable requirement

Part 3:

- Various changes highlighted in yellow
- Updated Section 10-1.16 to delete ASTM D1557
- Updated Measure & Payment of COMMON EXCAVATION to delete Clearing and Grubbing

All bidders shall acknowledge receipt and acceptance of Addendum No. 1 by signing in the space provided at the end of this Addendum and submitting the signed addendum with their proposal.



Kevin Rohani
Public Works Director/City Engineer
June 19, 2024

Contractor Signature

Date

Company Name

The City Council reserves the right to reject any or all bids, waive any irregularities in any bids and its determination as to which bid is the lowest responsible bid and is for the best interest of the City shall be final. The City Council shall have NINETY (90) calendar days from and after the opening of the bids within which to make its determination.

The Contractor receiving the award of the contract shall begin work within **TEN (10)** Working days after receipt of the Notice to Proceed and shall diligently prosecute the same to completion within the time restrictions as listed in the technical specifications and all work shall be completed by the time allotted in the technical specifications.

The Contractor shall have **TWO HUNDRED TWENTY (220) Working Days** to complete this project. Working days will be counted starting from the date of the Notice-to-Proceed as day one. Severe weather and delay in utility relocation will not count against Working Days. The amount of the liquidated damages to be paid by the Contractor to the City for failure to complete the work by the Completion Date (as extended, if applicable) is **FIVE HUNDRED DOLLARS (500.00)** for each calendar day any work remains incomplete beyond the time fixed above for completion. Such amount is the actual cash value agreed upon as the loss to City resulting from Contractor's default.

At the time the Contractor's bid proposal is submitted, the Contractor shall possess a valid Class A California General Contractor's License. The Contractor shall also possess a valid City of Oakley Business License at the time the contract is awarded.

The City of Oakley, hereby notifies all bidders that the contract entered into pursuant to this advertisement will be awarded to the lowest responsible bidder without discrimination on the grounds of race, color, national origin, sex, religion, age or disability. **The contractor or subcontractor shall not discriminate on the basis of race, color, national origin, or sex in the performance of this contract. The contractor shall carry out applicable requirements of 49 CFR, Part 26 in the award and administration of DOT-assisted contracts. Failure by the contractor to carry out these requirements is a material breach of this contract, which may result in the termination of this contract, or such other remedy as recipient deems appropriate.**

Prevailing Rate of Wages: The State general prevailing wage rates determined by the Director of Industrial Relations are considered a part of this contract. Pursuant to Section 1773 of the Labor Code, the general prevailing wage rates in the county in which the work is to be done have been determined by the Director of the California Department of Industrial Relations. These wages are set forth in the General Prevailing Wage Rates for this project, available at City of Oakley address and available from the California Department of Industrial Relations' Internet web site at: <http://www.dir.ca.gov>. In payment of labor, the Contractor shall comply with the provisions of Labor Code Sections 1770 to 1781.

For any moneys earned by the Contractor and withheld by the City to ensure the performance of the contract, the Contractor may, at the Contractor's request and expense, substitute securities equivalent to the amount withheld in the form and manner and subject to the conditions provided in Article 8, (commencing with Section 10263), Chapter 1, Part 2, Division 2 of the Public Contract Code of the State of California.

Plans and Contract Documents for bidding this project may be obtained from the **Public Works & Engineering Department located at 3231 Main Street, Oakley, CA 94561**, weekdays, excluding holidays, between the hours of 8:00 a.m. and 6:00 p.m. A Non-refundable fee for full size plans and contract documents are **\$100.00 per set**. Please include Federal Express number with mail-in requests for plans and specifications. If mailing is desired, without a Federal Express number, an additional non-refundable cost of **\$100.00 per set** will be required.

A. UNIT PRICE SCHEDULE

The undersigned, Pursuant to and in compliance with your Notice to Contractors and the Contract Documents relating to the **LAUREL ROAD IMPROVEMENTS (O'HARA AVENUE TO CLOVERBROOK AVENUE) CIP 280**, including Addenda No. _____, _____, _____, as Bidder, declares that the only persons or parties interested in this proposal as principals are those named herein; that this proposal is made without collusion with any other person, firm, or corporation; that he has carefully examined the location of the proposed work, the annexed proposed form of contract, and the plans therein referred to; and he proposes and agrees if this proposal is accepted that he will contract with the City of Oakley in the form of the scope of the contract annexed hereto, to provide all necessary machinery, tools, apparatus, and other means of construction, and to do all the work and furnish all the materials specified in the contract, in the manner and time therein prescribed, and according to the requirements of the Engineer as therein set forth, and that he will take in full payment therefore the following item prices, to wit:

BID ITEMS

ITEM NO.	DESCRIPTION OF ITEM	EST. QTY	U/M	UNIT PRICE	TOTAL
1	Mobilization (10%)	1	LS		
2	Traffic Control System and Construction Area Signs	1	LS		
3	Storm Water Pollution Prevention Plan (SWPPP)	1	LS		
4	Storm Water Pollution Control Implementation	1	LS		
5	Remove Tree	10	EA		
6	Remove Concrete Pavement and Base Material	3,340	SF		
7	Remove Curb	580	LF		
8	Remove Curb and Gutter	510	LF		
9	Remove AC Dike	1,530	LF		
10	Remove Wood Retaining Wall	20	LF		
11	Remove Concrete Block Retaining Wall	530	LF		
12	Remove Guardrail	80	LF		
13	Remove Concrete Barrier	80	LF		
14	Roadway Excavation	3,300	CY		
15	Common Excavation	5,100	CY		
16	Clearing & Grubbing	1	LS		
17	2" AC Grind	7,700	SY		
18	Conform Grind	150	LF		

ITEM NO.	DESCRIPTION OF ITEM	EST. QTY	U/M	UNIT PRICE	TOTAL
19	HMA (Type A)	2,800	TON		
20	RHMA-G	2,000	TON		
21	Aggregate Base CL-2	3,500	CY		
22	Rubberized Chip Seal	5,800	SY		
23	Slurry Seal	5,800	SY		
24	City Standard Sidewalk	13,500	SF		
25	City Standard Driveway	3,060	SF		
26	City Standard Curb & Gutter	2,050	LF		
27	City Standard 8" Vertical Curb	2,800	LF		
28	Deepened Curb	320	LF		
29	Deepened Curb and Gutter	270	LF		
30	Concrete Lateral Brace	90	LF		
31	Concrete Median and Maintenance Band	3,060	SF		
32	Curb Ramp (Caltrans Case A)	3	EA		
33	Pedestrian Barricade	1	EA		
34	Grouted Cobble	5,210	SF		
35	Remove Inlet	1	EA		
36	City Standard Type I Inlet	7	EA		
37	City Standard Type I Manhole	1	EA		
38	County Standard Type III Manhole	4	EA		
39	18" HDPE SD Pipe	700	LF		
40	Adjust Inlet to Grade	1	EA		
41	Adjust Storm Drain Manhole to Grade	3	EA		
42	Adjust Utility Box to Grade	1	EA		
43	Adjust Manhole to Grade	4	EA		
44	2" Water Service (DWD-Revocable)	1	EA		
45	Landscape Planting	1	LS		
46	Landscape Irrigation	1	LS		
47	Signing and Striping	1	LS		

ITEM NO.	DESCRIPTION OF ITEM	EST. QTY	U/M	UNIT PRICE	TOTAL
48	Lighting and Electrical Work	1	LS		
49	Traffic Signal Modification	1	LS		
50	New Traffic Signal	1	LS		
51	Bioretention Areas	1	LS		

City shall have the right to remove Bid Item 44 from the contract scope of work and have those items of work performed by Diablo Water District's (DWD) contractor. City's contractor shall coordinate and provide for DWD's contractor to perform traffic control and perform the work indicated in Bid Item 44 that may have been removed. City's contractor shall provide ten (10) consecutive calendar days working period, for DWD's contractor to perform the work in Bid Item 44, if the bid item work is performed by DWD's contractor. In the event DWD's contractor performs the work in Bid Item 44, DWD's contractor shall be responsible for the AC patch paving around the valve cans. City's contractor shall not be entitled to any additional time extension or compensation, including overhead or profit, in the event any of Bid Item 44 are removed from the project scope and the amounts entered in the Bid Schedule for the remainder of the work shall remain unchanged. City shall notify City's contractor if it will be removing any of the items from the scope of work within ten (10) working days after the Notice of Award.

Total Bid (Items 1-51) \$ _____
(Numbers)

_____ **Dollars**

(Written)

The LAUREL ROAD IMPROVEMENTS (O'HARA AVENUE TO CLOVERBOOK AVENUE) requires bids to include prices for items that may be added to or deducted from the scope of the work in the contract for which the bid is being submitted.

Pursuant to the Public Contract Code § 20103.8c the lowest bid shall be "the lowest total of the bid prices on the base contract and those additive or deductive items that when taken in order from a specifically identified list of those items in the solicitation, and added to, or subtracted from, the base contract, are less than, or equal to, a funding amount publicly disclosed by the local agency before the first bid is opened." In this case, the funding amount publically disclosed is the Engineer's Estimate, which totals \$9,500,000.

In no case shall the Contractor's operations violate the noise ordinance (Chapter 9) of the City Code.

7-1.16 PRESERVATION OF PROPERTY

Attention is directed to Section 5-1.36, "Property and Facility Preservation," and 5-1.37, "Maintenance and Protection," and 5-1.39 "Damage Repair and Restoration," of the Standard Specifications and these Special Provisions.

All existing private and public improvements that conflicts or is damaged by reason of the Contractor's operation shall be removed and restored to original or better condition in new locations at the Contractor's expense as shown on the plans or as approved in advance by the Engineer.

7-1.17 COOPERATION

Attention is directed to Section 5-1.20, "Coordination with Other Entities," and Section 8-1.04, "Nonhighway Facilities," of the Standard Specifications and these special provisions.

PG&E is performing a utility pole line relocation in support of this project. It is unknown when this relocation will occur. All work shall be coordinated with this utility relocation and the Engineer. Contractor shall allow ample time for coordination, and no claims of delay are allowed as a result of this utility relocation.

Contractor shall coordinate with PG&E for utility services.

7-1.18 WATERING

All construction water must be metered and paid for by the Contractor and a hydrant meter may be picked up at DWD's District office located at 87 Carol Lane, Oakley, CA 94561. The hydrant meter requires a \$500 deposit at pick up. The Contractor will be required to obtain the hydrant meter through his or her own means, at his or her own expense, and at no additional cost to the City. Contact Diablo Water District (DWD) at (925)625-3798.

For Non-potable/recycled water services, contact Ironhouse Sanitary District (ISD) at (925) 675-2279. ISD offices are located at 450 Walnut Meadows Drive. Oakley, CA 94561.

7-1.19 DUST CONTROL

Dust control shall conform to the provisions in Section 14-11.04, "Dust Control," of the Standard Specifications and these Special Provisions. The Contractor is advised that residential housing exists adjacent to the work site and the Contractor shall control all dust such that the residential area is not adversely affected.

7-1.20 WATER POLLUTION PREVENTION

Contractor shall be responsible for ensuring that all work conforms to the provisions in Section 13, "Water Pollution Control," of the Standard Specifications and these special provisions. All operations shall be in compliance with the provisions of the Clean Water Act, Regional Water Quality Control Board, and the City of Oakley Storm Water Ordinance and policies with regard to protection of the storm water system from any pollutants. The Contractor is required to secure all

10-1.03 TRAFFIC CONTROL & CONSTRUCTION AREA SIGNS

GENERAL

Attention is directed to Sections 7-1.03, "Public Convenience," and Section 12, "Temporary Traffic Control," of the Standard Specifications and to the provisions in "Public Safety" of these special provisions as well as these Technical Specifications. The provision in this Section will not relieve the Contractor from his/her responsibility to provide such additional devices or take such measures as may be necessary to comply with the provisions in Section 7-1.04, "Public Safety," of the Standard Specifications.

The Contractor shall fulfill the requirements of this section, twenty-four (24) hours per day, seven (7) days a week, including holidays, from the time the Notice to Proceed is issued until the project is formally accepted.

Traffic control shall be coordinated for the minimum inconvenience and maximum safety of the public during the construction period. The Contractor shall bear full responsibility for maintaining traffic control during the construction period including cost for flagging.

The Contractor shall furnish all traffic control equipment, signs, flagmen and barricades necessary to complete the Project.

Flagging

Where work reduces street width, the Contractor shall provide flaggers to guide traffic. Flaggers and all personnel working near traffic shall wear CAL OSHA-approved safety clothing and equipment. Flaggers shall guide traffic with an appropriate stop/slow sign.

Section 12-1.04, "Payment," of the Standard Specifications is revised to provide that all flaggers and guards shall be furnished by the Contractor at his expense. The Contractor shall furnish, erect, maintain, and remove all necessary signs and devices during the length of this contract.

Property Access

Property access shall be maintained to all residents at all times unless otherwise approved by the City. Upon approval by the City, access to certain properties may be temporarily closed if the resident and/or property owner agrees to the closure.

Traffic Control Plan and Pedestrian Control Plan

The Contractor shall submit an engineered traffic control plan to the City representative a minimum of two (2) weeks prior to the start of work and a minimum of two (2) days before the pre-construction conference. The traffic and pedestrian control plan shall be reviewed and accepted by the City representative prior to any work commencing on the project. All traffic control plans shall be prepared in accordance with the State of California Department of Transportation, "Manual of Traffic Controls for Maintenance and Construction Work Zones 2012," or latest adopted version.

For night work, Contractor is responsible for notifications within 300-foot radius. Advance warning signs for night work closure shall be erected for a minimum of seven (7) days prior to night work.

Individual Traffic Control Plans shall be required for each construction activity or proposed detour that will result in a diversion or disruption of the existing traffic flow. The Contractor shall submit the plans to the City representative a minimum of five (5) days prior to the start of work.

Notification shall be **hand-delivered** a minimum of seventy-two (72) hours prior to the beginning of any work affecting traffic. Copies of submittals shall be given to the City's Public Works Director

10-1.04 CLEARING AND GRUBBING

GENERAL

The work consists of removing objectionable material from within the working area and material sites within the right-of-way, and other specified areas.

All such work shall conform to Section 17-2, "Clearing and Grubbing," of the Standard Specifications and these Technical Specifications.

CONSTRUCTION

General

Clear and grub construction areas on the job site where facilities are shown to be constructed, per Subsection 17-2.01 "General," of the Standard Specifications. Clear and grub before performing earthwork in an area.

Clearing

The work shall conform to Subsection 17-2.03B, "Clearing," of the Standard Specifications.

Grubbing

The work shall conform to Subsection 17-2.03C, "Grubbing," of the Standard Specifications.

Contractor shall remove all existing stumps, roots, buried logs and other objectionable material to a depth of 3 feet below the existing ground. Any voids created due to the removal of existing stumps, roots, buried logs and other objectionable material must be backfilled to the grades required for the project.

MEASUREMENT AND PAYMENT

CLEARING & GRUBBING shall be at the cost indicated in the Bid Schedule. The contract price paid per lump sum for CLEARING & GRUBBING shall include, but is not limited to, full compensation for furnishing all labor, materials, tools, equipment, and incidentals required for doing all the work involved with clearing and grubbing, as shown on the Plans, as specified in the Standard Specifications, these Technical Specifications and the Special Provisions, and as directed by the Engineer. Additionally, no payment will be made for work, equipment, or materials not covered in these plans and specifications, but necessary to insure a completed project as specified.

Remove Tree

Under no circumstances shall the Contractor remove existing trees that are indicated not to be removed.

Tree removal may not damage existing trees or vegetation to remain; consult with Engineer regarding and conflicts.

Tree removal must be performed in accordance with Section 17-2, "Clearing and Grubbing," of the Standard Specifications and these technical specifications.

Remove Wood Retaining Wall

Wooden retaining wall, including all posts and foundations, where shown on the plans, shall be removed and disposed.

Remove Concrete Block Retaining Wall

Concrete block retaining wall, including foundations, where shown on the plans, shall be removed and disposed.

Remove Guardrail

Guardrail, including all posts and foundations, where shown on the plans, shall be removed and disposed.

Remove Treated Wood Post

Wood post removed from wood retaining wall, roadside sign, and guard rail is treated wood waste. Treated wood waste is considered as hazardous waste. Manage treated wood waste under section 14-11.07 of the Standard Specifications

Until disposal, store treated wood waste in metal containers.

Dispose of treated wood waste at a California disposal site operating under a Department of Toxic Substance Control (DTSC) permit.

Remove Concrete Barrier

Concrete barrier, including rebar and K-rails, where shown on the plans, shall be removed and disposed.

MEASUREMENT AND PAYMENT

All work shall be done in conformance with the applicable provisions of the Standard Specifications. Full compensation for "Existing Facilities," includes, but is not limited to, all labor, equipment, and materials required to conform to the provisions of this section shall be considered as included in the prices paid for the various items of work involved and no separate payment will be made therefor. Additionally, no payment will be made for work, equipment, or materials not covered in these plans and specifications, but necessary to insure a completed project as specified.

REMOVE TREE shall be at the cost indicated in the Bid Schedule. The contract prices paid per unit for REMOVE TREE shall include, but is not limited to, full compensation for furnishing all labor, materials, tools, equipment, and incidentals for doing all the work involved in removing trees, as shown on the Plans, as specified in the Standard Specifications, these Technical Specifications and the Special Provisions, and as directed by the Engineer. Additionally, no payment will be made for work, equipment, or materials not covered in these plans and

10-1.16 EARTHWORK

GENERAL

This work shall consist of excavation and embankment from existing ground to subgrade, for roadways, driveways, sidewalks, parking lot, planting areas and any other site improvements called for on the Plans. Additionally, this work shall consist of excavation, subgrade preparation, backfill and installation of wall drainage system at the reinforced concrete retaining wall.

Earthwork shall conform to the provisions in Section 19, "Earthwork," of the Standard Specifications and these technical specifications.

Definitions

Roadway Excavation – Removal of existing asphalt pavement, base material, and subgrade/native material encountered in existing paved areas above proposed subgrade elevations. Roadway excavation includes:

1. Excavating and stockpiling the selected material
2. Removing the stockpiled material and placing it in its final position
3. Removing surcharge material

Common Excavation - Removal of existing material encountered in existing unpaved areas above proposed subgrade elevations. Common excavation includes:

1. Excavating and stockpiling the selected material
2. Removing loose and stockpiled material and placing it in its final position
3. Removing surcharge material

Fill– Material placed to backfill excavations and to raise the subgrade or natural grade of the site.

Optimum Moisture Content - The water content at which a soil can be compacted to a maximum dry unit weight by a given comp active effort.

Relative Compaction - The ratio, expressed as a percentage, of the in-place dry density of material as compacted in the field to the maximum dry density of the same material.

Relative Density - Mass per unit volume as specified in ASTM D4253 and ASTM D4254, as applicable to the soil and test method employed.

Unsuitable Material - Excavated material or material below the natural ground surface in backfill areas or below subgrade elevation within Project limits, which is unsuitable for its planned use. Unsuitable material is further defined as material determined to be:

1. Of such unstable nature as to be incapable of being compacted to specified density using ordinary methods at optimum moisture content; or
2. Too wet to be properly compacted and circumstances prevent suitable drying prior to incorporation into the Work; or
3. Otherwise unsuitable for the planned use.

The presence of excessive moisture in a material is not, by itself, sufficient cause for determining

Place excavated material at a sufficient distance from edge of excavation so as not to cause cave-ins or bank slides, but in no case closer than 3 feet from the edge of excavations.

Excavated earth material that is suitable for fill, backfill, or embankment shall be conditioned for re-use and properly stockpiled for later filling and backfilling operations as herein specified. Test, screen, and mix as necessary to meet specified requirements.

Subgrade Preparation

Perform all cutting, blading, and shaping as required to cut and shape the subgrade to the grades and elevations indicated.

Subgrade preparation includes fine grading, reworking as necessary, and preparation of cut or fill upon which the equipment foundations, pipe, base, and pavement will be placed. Remove unsuitable subgrade material, such as weak or compressible soils.

Scarify and mix entire surface of subgrade to a depth of at least 12 inches. Moisture-condition scarified sub grade to 3 percent above optimum moisture content. If subgrade stabilization material is required, incorporate it into the subgrade at this time.

After the material has been thoroughly mixed and moisture-conditioned, accurately construct and fine grade the sub grade to indicated line, grade, and contour with high and low spots eliminated. Compact for full width to the specified density. Remove soft spots developed during working, fill with approved material, and re-compact.

Compact each layer of subgrade material to not less than 90 percent relative. Finish sub grade to straightedge or template within specified tolerances with the finished surface bladed to a uniform, dense, smooth texture.

Fill for Modifying Grade

Compacted fill for modifying original grade to indicated elevation shall be constructed by approved methods. Fill material shall be spread in uniform lifts not exceeding 8 inches in uncompacted thickness. Fill material that does not contain sufficient moisture to compact properly shall be sprinkled with water; if it contains excess moisture it shall be aerated or permitted to dry to the proper water content. Fill material and water shall then be thoroughly mixed before being compacted. Each layer of spread fill material shall be compacted to the specified density.

Control of fill shall consist of field inspection and testing to determine that each layer has been compacted to the required density and to ensure that optimum moisture is being obtained. Any layer or portion of a layer that does not attain the compaction required shall be scarified and re-compact until the required compaction is obtained.

Spreading and compacting shall be performed as required to produce the required density and a uniform surface smooth and true to grade.

Compaction

Compact each layer of fill and backfill material to not less than 95 percent relative.

Finish Grading

Finish grade all areas to elevations and grades indicated. In areas to receive topsoil and landscape planting, coordinate with requirements of section 10-1.22, Landscape Planting.

Quality Control

The Contractor shall perform inspection and any required field tests to determine compliance with specified requirements for materials, density, and compaction of the earthwork.

MEASUREMENT AND PAYMENT

Quantities will be computed based on the neat lines or pay lines, section profiles, contours, and dimensions indicated on the Plans.

The upper limit for payment of common excavations in unpaved areas shall be the ground surface as it existed prior to the start of construction operations.

The upper limit for payment of roadway excavations in paved areas shall be the ground line at the time the excavation is made.

The lower limits for computing pay quantities of excavation shall be a plane at existing ground or the bottom of the completed roadbed, sidewalk and planting area, whichever is lower.

ROADWAY EXCAVATION shall be at the cost indicated in the Bid Schedule. The contract prices paid per cubic yard for ROADWAY EXCAVATION shall include, but is not limited to, full compensation for furnishing all labor, materials, tools, equipment, and incidentals required for doing all the work involved with roadway excavation, including sawcutting, grinding, removal and disposal of asphalt concrete pavement, base material, and subgrade/native material to the lines and grades shown on the Plans and which conflict with the work, dewatering, shoring and underpinning, rehandling of stockpiled material, erosion and dust control measures, subgrade preparation, excavation support and protection, disposal of unsuitable material, testing and off-hauling of material and surplus material, as specified in the Standard Specifications, these Technical Specifications and the Special Provisions, and as directed by the Engineer. Additionally, no payment will be made for work, equipment, or materials not covered in these plans and specifications, but necessary to insure a completed project as specified.

COMMON EXCAVATION shall be at the cost indicated in the Bid Schedule. The contract prices paid per cubic yard for COMMON EXCAVATION shall include, but is not limited to, full compensation for furnishing all labor, supervision, materials, tools, equipment, and incidentals required for doing all the work involved with common excavation, including dewatering, shoring and underpinning, rehandling of stockpiled material, placing in final position, erosion and dust control measures, subgrade preparation, excavation support and protection, disposal of unsuitable material, testing and off-hauling of material and surplus material as shown on the Plans, as specified in the Standard Specifications, these Technical Specifications and the Special Provisions, and as directed by the Engineer. Additionally, no payment will be made for work, equipment, or materials not covered in these plans and specifications, but necessary to insure a completed project as specified.

RECYCLED TOP MULCH

Wood mulch shall be recycled mahogany decorative mulch as manufactured by Recology or approved substitute. Wood mulch shall be 3/8 inch to 2 inches diameter and color subject to City approval. Mulch shall not include more than 5% fines. All planting areas shall receive a 3 inch layer wood mulch after all trees, shrubs, and groundcovers have been planted and after pre-emergent has been applied. Exclude mulch in turf and hydroseed areas. Mulch plant pits only in these areas.

GROUNDCOVERS, TREES, AND SHRUBS

All plant materials shall be nursery grown in accordance with the best known horticulture practices and under climatic conditions similar to those in the locality of the project. Container stock shall have grown in the containers in which delivered for at least six (6) months, but not over two years. No container plants that have cracked or broken balls of earth when taken from container shall be planted except upon special approval by Engineer.

Plants shall be vigorous and shall have a normal habit of growth. Plants shall be free of damage by insects, pests, diseases or wind; burns from insecticides or fertilizer; and stunted growth due to lack of water, lack of food, diseases, or other causes. Plants shall be in conformity with the sizes shown on the drawings.

Trees: Unless otherwise specified, tree trunks shall be straight with leader intact, undamaged, and uncut. All old abrasions and cuts are acceptable only if completely callused over.

Quantities: Quantities necessary to complete the work as shown on the drawings shall be furnished.

Root Systems: All shrubs and trees shall have a normal root system. No plants with roots that have encircled themselves will be accepted. In case of any unsatisfactory root system, a total group of plants may be rejected.

WATER SOURCE

Irrigation Water source shall be part of contract. Contractor shall provide transport of additional supply if required.

ROOT GUARDS

Deep Root Model UB 24-2 shall be used on all trees 6' or closer to pavement, curbs, etc. Deep Root (415) 344-1464. As shown on plan.

TREE STAKES

Per plan.

TREE TIES

Per plan.

REDWOOD HEADER

Per plan.

guarantee period, any plants that die, or in opinion of the Landscape Architect, are in an unhealthy or unsightly condition, and or have lost their natural shape due to dead branches, excessive pruning, inadequate or improper maintenance, or any other causes due to the Contractor's negligence. The Contractor shall not be held responsible for acts of vandalism occurring after the beginning of the guarantee period.

MEASUREMENT AND PAYMENT

All work shall be done in conformance with the applicable provisions of the Standard Specifications.

LANDSCAPE PLANTING shall be at the cost indicated in the Bid Schedule. The contract lump sum price paid per for LANDSCAPE PLANTING shall include, but is not limited to, full compensation for furnishing all labor, materials, tools, equipment, and incidentals for doing all the work involved in installing landscape planting, including 24"-box trees, 5-gallon shrubs, 1-gallon shrubs, tree staking, tree ties, topsoil, import topsoil, compost, soil amendment, organic fertilizers, fine grading, mulch, root barriers, redwood header, 180-day plant establishment complete in place, as shown on the plans, as specified in these specifications and the special provisions and as directed by the Engineer.

Fittings: Solvent Weld socket fittings: Schedule 40, Type 1, Grade 1, PVC and shall conform to ASTM D2466. Schedule 80, Type 1, Grade 1 PVC and shall conform to ASTM D2467. Solvent cement and primer for PVC solvent-weld pipe and fittings shall be of type recommended by pipe manufacturer.

Connections between main lines and remote control valves shall be of Schedule 80 PVC (threaded both ends) nipples and fittings.

Risers shall be as follows: Schedule 80 PVC threaded nipples and Schedule 80 PVC ells as shown on the construction details.

Detectable marking tape shall be 3 inch wide and consist of a minimum 5.0 mil overall thickness. The tape shall have a 20 gauge solid aluminum foil core, encapsulated within 2.55 mil polyethylene backing. Tape color shall be purple for recycled water or blue for potable water.

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 1-inch hose swivel for every 5-6 quick couplers.

Quick Coupling valves shall be restrained with a 1"x 3/16"x30" angle iron attached securely to the base of the valve with stainless steel clamps.

ISOLATION VALVES

Gate valves 2½ inch and smaller shall be 304 stainless steel construction with screw-in bonnet, non-rising stem, operating wheel and threaded connections. Install where shown on drawings.

Ball valves shall be Schedule 80 PVC full port design with double unions. PVC ball valves to be installed upstream of each remote control valve.

REMOTE CONTROL VALVES

Remote control valves shall be globe pattern constructed of heavy duty glass-filled nylon and stainless steel with internal and external bleed. Operating pressure shall be 20 to 220 psi and flow range shall be .1-40 gpm (1") & .1-150 gpm (1.5"). All internal parts shall be removable from the top.

Install pressure regulating module on remote control valves as shown on drawings. Pressure regulating module shall be by same manufacturer as remote control valve.

Each valve shall have a plastic tag denoting its controller and station number.

Remote control valves shall be installed with the appropriate decoder as listed on the drawings.

MASTER REMOTE CONTROL VALVE

Master remote control valve shall be constructed of brass and shall have a brass drain cock for manual operation. Operating pressure shall be 20 to 200 psi and flow range shall be 0 gph to 200 gpm (2").

Master Valve shall be normally closed.

FLOW SENSOR

Flow sensors shall be ultrasonic capable of sensing programmed water flows during the operation

all other pullboxes. The wire bundle entering the controller cabinet shall be coiled in the bottom of the cabinet in order to obtain as much slack as possible.

Straight splices in signal neutral and multiple lighting conductors shall be insulated in conformance with Method B, tap splices in signal neutral and multiple lighting conductors shall be Type C, and conductors shall be spliced by the use of C-shaped compression connectors; as shown on Caltrans Standard Plan ES-13. Separate neutral conductors shall be run from the nearest pullbox to each "vehicle and pedestrian signal" terminal block. All other signal phase conductors shall be installed with no splices between the controller and the signal or pedestrian device terminal compartment terminal strip. All anchor bolts shall be visibly bonded to the system ground. A continuous No. 8 ground shall be installed in all conduits.

New conductors for traffic signal equipment shall not be spliced.

Conductors shall not be pulled into conduits until the pull boxes have been set to grade, rock sumps have been installed, and conduits have been bonded and grounded. A continuous No. 8 ground shall be installed in all conduits. All pullboxes shall be inspected and approved prior to pulling any conductors. Conductors shall not be pulled into conduits unless the Engineer is present to observe the operation. The ends of all unused cables shall be sealed.

Model 2070 Controller Assembly

Model 2070 Controller Assembly components will be furnished by the **Contractor**.

Pedestrian Signals (Countdown)

Gaskets for the mounting of pedestrian signal heads shall be installed on the outside of the housing to provide a watertight seal, and the Contractor shall take extra care to ensure that the gaskets are properly installed.

Video Detection System

The contractor shall arrange to have a technician, qualified to work on the video detection system and employed by the Video detection manufacturer or his/her representative present to setup and configure the System. The City Transportation Engineer shall be notified prior to completion of Video Detection System installation at the intersection. All Video Detection System equipment installation, cable termination, connections, camera alignment procedures, system setup, configuration, and programming of detector zones shall be completed prior to or during the pre turn-on work.

The Video Detection System shall be provided with a standard 3 year warranty.

Potholing

The Contractor shall conduct exploratory excavations by potholing to verify or to discover the actual locations and the size of existing underground utilities and improvements. Potholing shall be done at each proposed location of signal poles to occur at least fourteen (14) calendar days in advance of any excavation or construction in that area, to avoid possible delay in the progress of the Work.

The Contractor's proposed method of potholing and schedule for potholing shall be submitted to the Engineer for approval, at least one week prior to the commencement of operation. Any utilities damaged during potholing shall be immediately reported to the Engineer and repairs made immediately in accordance with the requirements of this Contract.

Class 1 delineators, in completing work as shown on the Plans, as specified in the Standard Specifications, these Technical Specifications and the Special Provisions, and as directed by the Engineer. Additionally, no payment will be made for work, equipment, or materials not covered in these plans and specifications, but necessary to insure a completed project as specified.

Measurement and payment for road signs shall be included in the lump sum price paid for SIGNING AND STRIPING as identified in the Bid Schedule and includes all costs associated for furnishing, installation, relocation, **removal and disposal** of road signs including all labor, materials, tools, equipment and incidentals for completing the work as shown on the Plans, as specified in the Standard Specifications, these Technical Specifications and the Special Provisions, and as directed by the Engineer. Additionally, no payment will be made for work, equipment, or materials not covered in these plans and specifications, but necessary to insure a completed project as specified.