



CONTRACT DOCUMENTS

For Construction of

LAKEPORT

DOWNTOWN IMPROVEMENT PROJECT

PHASE II

February, 2016

Crawford & Associates

Geotechnical Engineering, Design and Construction Service
100 N. Pine Street
UKIAH, CA 95482

For Information on this Project, Contact
Paul Curren, City Engineer
Or
Kevin Ingram, Community Development Director
at
(707) 263-5614

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SPECIFICATION NO. 16-01
IN THE CITY OF LAKEPORT, CALIFORNIA

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**SECTION A
DOWNTOWN IMPROVEMENT PROJECT – PHASE II
BID NO. 16-01
IN THE CITY OF LAKEPORT, CALIFORNIA**

NOTICE INVITING SEALED BIDS

**NOTICE INVITING SEALED BIDS
DOWNTOWN IMPROVEMENT PROJECT – PHASE II
BID NO. 16-01
IN THE CITY OF LAKEPORT, CALIFORNIA**

PUBLIC NOTICE IS HEREBY GIVEN that the City of Lakeport as AGENCY, invites sealed bids for the above stated project and will receive such bids in the office of the City Clerk, 225 Park Street, Lakeport, CA 95453 up to the hour of **4:00 p.m., on the 24th day of March, 2016**. The bids will be publicly opened and read at 4:00 p.m. on the 24th day of March, 2016, in the Lakeport City Hall Council Chambers.

The work is located on Main Street from the 1st Street intersection to the 4th Street intersection. The project to be constructed consists of replacing existing sewer lines and laterals; replacing existing water services; installing new storm drain inlets and piping; relocating existing street lights; installing irrigation and street trees; replacing and/or installing curb, gutter and sidewalk; performing pavement replacement and dig outs; milling existing pavement and installing HMA leveling course, pavement fabric and HMA surfacing; installing pavement markings and signage; and all other necessary work to complete the project per the contract plans and special provisions.

There is a **MANDATORY pre-bid** meeting to be held on **March 2, 2016 at 1 PM** at the Council Chambers at 225 Park Street, Lakeport, CA. Anyone arriving late will not be allowed to attend. All bidder representatives present at the pre-bid meeting must sign-in using a sign-up sheet the City shall provide. Bidders shall indicate the name of their representative at the pre-bid meeting as provided on the Bid Proposal form. Bidders that did not have a representative at the pre-bid meeting or fail to indicate the name of their representative that attended the pre-bid meeting may be considered non-responsive bidders.

Copies of the plans, specifications, and contract documents are available from the City of Lakeport website at <http://www.cityoflakeport.com/departments/docs.aspx?deptID=38&catID=51> **Improvement Bid Documents and Bid Results/Downtown Improvement Project - Phase II**. In accordance with the provisions of California Public Contract Code § 3300, and Business and Professions Code § 7028.15(e), the Agency has determined that the contractor shall possess a valid Class A contractor's at the time that the contract is awarded. Failure to possess the specified license shall render a bidder's bid as non-responsive and shall bar award of the contract to any bidder not possessing the specified license at the time of the award.

CONTRACTORS ARE REQUIRED BY LAW TO BE LICENSED AND REGULATED BY THE CONTRACTORS' STATE LICENSE BOARD. ANY QUESTIONS CONCERNING A CONTRACTOR MAY BE REFERRED TO THE REGISTRAR, CONTRACTORS' STATE LICENSE BOARD, P.O. BOX 2600, SACRAMENTO, CA 95826. At the time the contract is awarded, the contractor shall be properly licensed in accordance with the laws of this state. The first payment for work or material shall not be made unless and until the Registrar of Contractors verifies to the Agency that the records of the Contractors' State License Board indicate that the contractor was properly licensed at the time the contract was awarded. Any bidder or contractor not so licensed shall be subject to all legal penalties imposed by law including, but not limited to, any appropriate disciplinary action by the Contractors' State Board. Failure of the bidder to obtain proper and adequate licensing for an award of a contract shall constitute a failure to execute the contract and shall result in the forfeiture of the security of the bidder. (Public Contract Code § 20103.5)

CONTRACTORS AND SUBCONTRACTORS ARE ALSO REQUIRED TO BE REGISTERED WITH THE CALIFORNIA DEPARTMENT OF INDUSTRIAL RELATIONS FOR ANY BID PROPOSAL SUBMITTED ON OR AFTER MARCH 1, 2015, AND FOR ANY CONTRACT FOR PUBLIC WORK ENTERED INTO ON OR AFTER APRIL 1, 2015. A contractor or subcontractor shall not be qualified to bid on, be listed on a bid proposal for, or perform any public work contract unless it is currently registered with the California Department of Industrial Relations as described in Labor Code § 1725.5.

Bids must be prepared on the approved bid forms in conformance with INSTRUCTIONS TO BIDDERS and submitted in the envelopes provided, sealed and plainly marked on the outside:

“SEALED BID FOR DOWNTOWN IMPROVEMENT PROJECT – PHASE II
BID NO. 16-01
DO NOT OPEN WITH REGULAR MAIL”

The bid must be accompanied by a bid guarantee in the amount of 10% of the total bid by 4:00 p.m. ON THE DATE ADVERTISED FOR THE OPENING OF BIDS. More specifically, pursuant to Public Contract Code §§ 20170 and 20171, all bids for the project shall be presented, under sealed cover and shall be accompanied by one of the following forms of bidder’s security in the amount of ten percent (10%) of the bid: (a) cash; (b) a cashier’s check made payable to the City of Lakeport; (c) a certified check made payable to the City of Lakeport; or (d) a bidder’s bond executed by an admitted surety insurer made payable to the City of Lakeport. Such security shall be forfeited should the successful bidder to whom the contract is awarded fails to timely execute the contract and to deliver the necessary bonds and insurance certificates as specified in the contract documents.

To the extent applicable, at any time during the term of the Agreement for the proposed project, the successful bidder may, at its own expense, substitute securities equivalent to the amount withheld as retention (or the retained percentage) in accordance with Public Contract Code § 22300.

Pursuant to California Civil Code § 9550, a payment bond is required to be submitted for all projects estimated in excess of \$25,000.00

The Agency has determined that the proposed project is a public works subject to the provisions of Labor Code § 1720 thereby requiring the Contractor to pay the prevailing wage rates for all work performed under the Contract. Accordingly, the proposed project is subject to compliance monitoring and enforcement by the California Department of Industrial Relations.

The Agency reserves the right to reject any and all bids.

If you have any questions, please contact Paul Curren at 707-263-5613 ext. 28 or Kevin Ingram at 707-263-5613 ext.11.

BY ORDER OF the City Council of the City of Lakeport, California.

**SECTION B
DOWNTOWN IMPROVEMENT PROJECT – PHASE II
BID NO. 16-01
IN THE CITY OF LAKEPORT, CALIFORNIA**

INSTRUCTIONS TO BIDDERS

**INSTRUCTIONS TO BIDDERS
DOWNTOWN IMPROVEMENT PROJECT – PHASE II
BID NO. 16-01
IN THE CITY OF LAKEPORT, CALIFORNIA**

B1.01 INSPECTION OF SITE OF WORK

Bidders are required to inspect the site of the work in order to satisfy themselves, by personal examination or by such other means as they may prefer, of the location of the proposed work and as to the actual conditions of and at the site of work. If, during the course of his/her examination, a bidder finds facts or conditions which appear to him/her to conflict with the letter or spirit of the contract documents, or with any other data furnished him/her, he/she may apply to the Agency in writing in accordance with **B1.04 INTERPRETATION OF CONTRACT DOCUMENTS** for additional information and explanation before submitting his/her bid.

The submission of a proposal by the bidder shall constitute the acknowledgment that, if awarded the contract, he/she has relied and is relying on his/her own examination of (a) the site of the work, (b) the access to the site, and (c) all other data, matters, and things requisite to the fulfillment of the work and on his/her own knowledge of existing services and utilities on and in the vicinity of the site of the work to be constructed under the contract, and not on any representation or warranty of the Agency. No claim for additional compensation will be allowed which is based upon a lack of knowledge of these items.

B1.02 EXAMINATION OF CONTRACT DOCUMENTS

Each bidder shall thoroughly examine and be familiar with legal and procedural documents, general conditions, specifications, drawings and addenda (if any). The submission of a proposal shall constitute an acknowledgment upon which the Agency may rely that the bidder has thoroughly examined and is familiar with the contract documents. The bidders' attention is directed to the need, if any, for special invoicing for this project. The failure or neglect of a bidder to receive or examine any of the contract documents shall in no way relieve him/her from any obligations with respect to his/her proposal or to the contract. No claim for additional compensation will be allowed which is based upon a lack of knowledge of any contract document.

B1.03 CONTRACT PERIOD/CONSTRUCTION COMPLETION DATE

Bidder's attention is called to the provisions set forth in **SECTION E, STANDARD SPECIFICATIONS**, particularly those pertaining to the contract period and liquidated damages for avoidable delays.

The Contractor shall begin work within fifteen (15) calendar days after the date of the Notice to Proceed, and shall diligently prosecute said work to completion before the expiration 90 **WORKING DAYS**. The Contractor shall pay to the Agency the sum of **\$3000.00** per day, for each and every calendar days delay in finishing the work in excess of the number of working days prescribed above. The working day time allowance is subject to the restrictions and requirements identified in the special provisions.

B1.04 INTERPRETATION OF CONTRACT DOCUMENTS

No oral interpretations will be made to any bidder as to the meaning of the contract documents. Requests for an interpretation shall be made in writing and delivered to the Agency at least ten (10) days before the time announced for opening the proposals. Interpretations by the Agency will be in the form of addenda to

the contract documents and, when issued, will be sent as promptly as is practical to all parties to whom the contract documents have been issued. Agency makes no guarantee that all bidders will receive all addenda. Copies of addenda will be made available for inspection at the office where contract documents are on file for inspection as indicated on the Invitation for Bids. All such addenda shall become part of the contract. All questions shall be addressed Paul Curren at 707-263-5613 ext. 28 or Kevin Ingram at 707-263-5613 ext.11.

B1.05 SOIL INFORMATION

Soil reports have not been prepared for this project. Utility potholing information is located on the plans

B1.06 PROPOSAL

Proposals shall be made on the forms enclosed in **SECTION C** of these specifications with or without removal from the bound contract documents. All proposals shall give the prices proposed, both in words and in numbers, shall give all other information requested herein, and shall be signed by the bidder or his/her authorized representative, with his/her address. If the proposal is made by an individual, his/her name, signature and mailing address must be shown; if made by firm or partnership, the name and mailing address of the firm or partnership and the signature of at least one of the general partners must be shown; if made by a corporation, the proposal shall show the name of the state under the laws of which the corporation is chartered, the name and mailing address of the corporation, and the name and title of the person who signs on behalf of the corporation. If the proposal is made by a corporation, a certified copy of the bylaws or resolution of the board of directors of the corporation shall be furnished demonstrating the authority of the officer signing the proposal to execute contracts on behalf of the corporation.

Each proposal shall be enclosed in a sealed envelope, labeled as specified in **SECTION A - NOTICE INVITING SEALED BIDS**. Bidders are warned against making erasures or alterations of any kind, and proposals which contain omissions, erasures or irregularities of any kind may be rejected. No oral, telegraphic or telephonic proposals or modifications will be considered.

In conformance with the Business and Profession Code, § 7028.15, the Contractor must state clearly his/her license number and expiration date. In addition he/she shall sign a statement that these representations were made under the penalty of perjury. This statement shall be made on the **EXPERIENCE STATEMENT** in **SECTION C**.

The contractor will be required to pay prevailing wage pursuant to California Law, including California Labor Code §§ 1770 et seq. Copies of the prevailing rate of per diem wages are on file at the offices of the Agency.

B1.07 ADDENDA

Each proposal shall include specific acknowledgment in the space provided on **SECTION C - BID PROPOSAL** of receipt of all addenda issued during the bidding period. Failure to so acknowledge may result in the proposal being rejected as not responsive.

B1.08 BID PRICES

Bid prices shall include everything necessary for the completion of construction and fulfillment of the contract including, but not limited to, furnishing all materials, equipment, tools, plant and other facilities

and all management, superintendence, labor and services, except as may be provided otherwise in the contract documents. In the event of a difference between a price quoted in words and a price quoted in numbers for the same quotation, the words shall be the amount bid.

In preparing bid prices, bidder represents that he/she has carefully examined the Contract Documents and the site where the work is to be performed and that he/she has familiarized himself with all local conditions and federal, state and local laws, ordinances, rules, and regulations that may affect the performance of the work in any manner. The bidder further represents that he/she has studied all surveys and investigation reports about subsurface and physical conditions pertaining to the job site, that he/she has performed such additional surveys and investigations as he/she deems necessary to complete the work at his/her bid price, and that he/she has correlated the results of all such data with the requirements of the Contract Documents. The submittal of a bid shall be conclusive evidence that the bidder has investigated and is satisfied as to the conditions to be encountered, including locality, uncertainty of weather and all other contingencies, and as to the character, quality, quantities, and scope of the work.

The plans and specifications for the work show subsurface conditions or otherwise hidden conditions as the Design Engineer supposes or believes them to exist, but is not intended or to be inferred that the conditions as shown thereon constitute a representation that such conditions are actually existent. Except as otherwise specifically provided in the Contract Documents, the Agency, the Design Engineer and their consultants or agents shall not be liable for any loss sustained by the Contractor as a result of any variance of such conditions as shown on the plans and the actual conditions revealed during the progress of the work or otherwise.

The Contractor shall perform an independent take-off of the plans and bid accordingly. Quantities listed in the **BID SCHEDULE** in **SECTION C** are intended only as a guide for the Contractor as to the anticipated order of magnitude of work. Contractor shall be responsible for verifying all estimated quantities. Contractor will be reimbursed for the quantity of items actually installed as required by the Contract Documents and shown on the plans to neat line and grade.

The Contractor will not be reimbursed for unauthorized work performed outside of that required by the Contract Documents.

The bid contains some alternative costs for various items. These items are in lieu of other items. The bid shall be awarded on the BASE BID without consideration of the alternatives. The contract may be amended to include alternative items.

B1.09 TAXES

No mention shall be made in the proposal of sales tax, use tax, or any other tax, as all amounts bid will be deemed and held to include any such taxes which may be applicable.

B1.10 RECOGNITION OF BONDING COMPANIES

All bonding companies used by the Contractor in this contract must be recognized by the Federal Government within Circular 570. All proposals or contracts received that include bonds posted by bonding companies not recognized in Circular 570 will result in the disqualification of the bid proposal and forfeiture of the bid bond.

B1.11 QUALIFICATION OF BIDDERS

Each bidder shall be skilled and regularly engaged in the general class or type of work called for under the contract. A statement setting forth his/her experience shall be submitted by each bidder on the **EXPERIENCE STATEMENT** form provided in **SECTION C**.

Each bidder shall possess a valid Contractor's License issued by the Contractor's State License Board at the time his/her bid is submitted. The class of license shall be applicable to the work specified in the contract. Each bidder shall also have no less than five (5) years' experience in the magnitude and character of the work bid.

It is the intention of the Agency to award a contract to a bidder who furnished satisfactory evidence that he/she has the requisite experience and ability, and that he/she has sufficient capital, facilities, and plant to enable him/her to prosecute the work successfully and properly, and to complete it within the time stated in the contract.

To determine the degree of responsibility to be credited to the bidder, the Agency will weigh any evidence that the bidder has performed satisfactorily other contracts of like nature, magnitude and comparable difficulty and comparable rates of progress. If in the opinion of the Agency, a bidder is determined to be insufficiently qualified, then that bidder will not be considered for award of the contract.

B1.12 DESIGNATION OF SUPPLIERS AND SUBCONTRACTORS

Each proposal shall have listed on the **DESIGNATION OF SUPPLIERS AND SUBCONTRACTORS** form provided in **SECTION C** the name, address, and license number of each subcontractor to whom the bidder proposes to sublet portions of the work in excess of one-half percent of the total amount of his/her bid. For the purpose of this paragraph, a subcontractor is defined as one who contracts with the Contractor to furnish materials and labor, or labor only for the performance of work at the site of the work or who will specially fabricate a portion of the work off the site pursuant to detailed drawings in the contract documents.

Public Contract Code § 4104 requires all bidders to list subcontractors who will perform work in excess of ½% of the total bid, or in the case of streets and highways, ½% or \$10,000, whichever is greater.

Public Contract Code § 6109 prohibits a contractor from performing work with a subcontractor who is debarred pursuant to Labor Code §§ 1777.1 or 1777.7.

B1.13 PROPOSAL GUARANTEE

The proposal shall be accompanied by a proposal guarantee bond duly completed on the form provided herewith by a guarantee company authorized to carry on business in the State of California for payments to the Agency in the sum of at least 10% of the total amount of the bid proposal, or alternatively by a certified or cashier's check payable to the Agency, or cash, in the sum of at least 10% of the total amount of the bid proposal. The amount payable to the Agency under the proposal guarantee shall be forfeited to the Agency in case of failure or neglect of the bidder to furnish, execute and deliver to the Agency the required bonds, evidence of insurance and to enter into, execute and deliver to the Agency the agreement on the form provided herewith, within ten (10) days after being notified in writing by the Agency that the award has been made and the agreement is ready for execution.

B1.14 MODIFICATION OF PROPOSAL

A modification of a bid proposal already received will be considered only if the modification is received before the time announced for the opening of bids. All modifications shall be made in writing, executed and submitted in the same form and manner as the original bid proposal.

B1.15 WITHDRAWAL OF PROPOSAL

A proposal may be withdrawn by a written request signed by the bidder. Such requests must be delivered to the Agency's designated official prior to the bid opening hour stipulated in **SECTION A – NOTICE INVITING SEALED BIDS**. Proposals may not be withdrawn after that time without forfeiture of the proposal guarantee. The withdrawal of a proposal will not prejudice the right of the bidder to submit a new proposal, providing there is time to do so.

B1.16 POSTPONEMENT OF BID OPENING

The Agency reserves the right to postpone the date and time for opening of bids at any time prior to the date and time announced in **SECTION A–NOTICE INVITING SEALED BIDS**.

B1.17 DISQUALIFICATION OF BIDDERS

If there is reason to believe that collusion exists among the bidders, none of the bids of the participants in such collusion will be considered. In the event that any bidder acting as a prime Contractor has an interest in more than one proposal, all such proposals will be rejected, and the bidder will be disqualified. This restriction does not apply to subcontractors or suppliers who may submit quotations to more than one bidder, and while doing so, may also submit a formal proposal as a prime Contractor.

B1.18 REJECTION OF PROPOSALS

The Agency reserves the right to reject any and all proposals, to waive any irregularity, and to reject any proposals which are incomplete, obscure or irregular; any proposals which omit a bid on any one or more items on which bids are required; which omit unit prices if unit prices are required; in which unit prices are unbalanced in the opinion of the Agency; which are accompanied by insufficient or irregular bid security; or which are from bidders who have previously failed to perform properly or to timely complete contracts of any nature.

B1.19 AWARD OF CONTRACT

The Contract will be awarded, if at all, to the lowest responsible and responsive bidder, whose bid proposal is not rejected for cause by the Agency. However, until an award is made, the Agency reserves right will be reserved to reject any or all bids, and to waive technical errors or discrepancies, if to do so is deemed to best serve the interests of the Agency. In no event will an award be made until all necessary investigations are made as to the responsibility and qualifications of the bidder to whom it is proposed to make such an award.

Each bidder's attention is directed to the possibility that the award of the project may be delayed for various reasons. The Agency reserves the right to delay the award of the project for 45 calendar days. After 45 calendar days, the low bidder may at any time request release from its bid without penalty.

The acceptance of a proposal will be evidenced by a Notice of Award of Contract in writing, delivered by mail to the bidder whose proposal is accepted. No other act of the Agency shall constitute acceptance of a proposal. The award of contract shall obligate the bidder whose proposal is accepted to furnish a

performance bond, payment bond and maintenance bond, as well as evidence of insurance and to execute the contract set forth herein.

B1.20 RETURN OF PROPOSAL GUARANTEES

Within ten (10) calendar days after the bids are opened, the Agency will release the proposal guarantees accompanying the proposals which are not to be considered in making the award. Proposal guarantees for the two lowest bidders will be held until the contract has been fully executed, after which they will be returned to the respective bidders.

B2.21 EXECUTION OF CONTRACT

The contract agreement shall be executed in duplicate by the successful bidder and returned, together with the contract bonds and evidence of insurance, within ten (10) calendar days after the notification of the contract award by the Agency in writing. In case of failure of the successful bidder to execute the contract agreement within ten (10) calendar days after such notice, or any subsequent extension approved by Agency, the Agency at its option may consider the bidder in default, in which case the bid bond or proposal guarantee accompanying the bid shall become the property of the Agency. After execution by the Agency, one original contract shall be returned to the Contractor.

B1.22 FLEXIBILITY OF BID SCHEDULE

It is the intent of the Agency to award a contract to the lowest responsible and responsive bidder and the flexibility shown in the bid schedule is necessary to ensure a project within the Agency's budget limits and constraints.

**SECTION C
DOWNTOWN IMPROVEMENT PROJECT – PHASE II
BID NO. 16-01
IN THE CITY OF LAKEPORT, CALIFORNIA**

PROPOSAL INFORMATION AND DOCUMENTS

**BID PROPOSAL
BID SCHEDULE
BID BOND
BID GUARANTEE
BIDDER INFORMATION
EXPERIENCE STATEMENT
DESIGNATION OF SUPPLIERS AND SUBCONTRACTORS
NON-COLLUSION AFFIDAVIT**

**BID PROPOSAL
DOWNTOWN IMPROVEMENT PROJECT – PHASE II
BID NO. 16-01
IN THE CITY OF LAKEPORT, CALIFORNIA**

The undersigned, as bidder, declares that he/she has examined all of the contract documents and specifications contained in this project manual for the above referenced project, and that he/she will contract with the Agency on the form of contract provided herewith to do everything necessary for the fulfillment of this contract at the price, and on the terms and conditions therein contained.

The following are included and are to be considered as forming a part of this proposal: **BID PROPOSAL, BID SCHEDULE, BID BOND, NONCOLLUSION AFFIDAVIT, BID GUARANTEE** (if submitted in lieu of Bid Bond), **BIDDER INFORMATION, EXPERIENCE STATEMENT, DESIGNATION OF SUPPLIERS & SUBCONTRACTORS, BIDDER'S STATEMENT REGARDING INSURANCE COVERAGE, and STATEMENT REGARDING CONTRACTOR'S LICENSING LAWS.**

Contractor acknowledges receipt and inclusion of addenda _____ to _____ into this bid proposal and the contract documents.

Attached is a Bid Bond duly completed by a guarantee company authorized to carry on business in the State of California in the amount of at least 10% of the total amount of this proposal, or alternatively, there is attached a certified or cashier's check payable to the Agency or evidence of a cash payment to the Agency, in the amount of at least 10% of the total amount of our proposal.

If this proposal is accepted, we agree to sign the contract form and to furnish the Performance Bond and the Payment Bond (each to be 100% of the bid amount), the Maintenance Bond (to be 50% of the bid amount), and the required evidences of insurance within ten (10) calendar days after receiving written Notice of Award of Contract.

We further agree if our proposal is accepted and a contract for the performance of the work is entered into with the Agency, to so plan the work and to prosecute it with such diligence that all of the work shall be completed within the time stipulated in **SECTION E - TIME OF COMPLETION.**

NAME OF BIDDER REPRESENTATIVE AT MANDATORY PRE-BID MEETING:

NAME OF BIDDER:

MAILING ADDRESS:

STATE OF INCORPORATION:

AUTHORIZED SIGNATURE:

TITLE:

DATE:

(If Company is a Corporation, provide corporate resolution per **B 1.06 PROPOSAL.**)

**BID SCHEDULE
DOWNTOWN IMPROVEMENT PROJECT – PHASE II
BID NO. 16-01
IN THE CITY OF LAKEPORT, CALIFORNIA**

The cost of all labor, services, material, equipment and installation necessary for the completion of the work itemized under this schedule, even though not shown or specified, shall be included in the unit price for the various items shown herein. For a description of the work associated with each bid item, see **SECTION E–SPECIAL PROVISIONS**. The Agency reserves the right to increase or decrease the quantity of any item or omit items as may be necessary, and the same shall in no way affect or void the contract, except that appropriate additions or deductions from the contract total price will be made at the stipulated unit price in accordance with these Contract Documents.

The Agency reserves the right to reject any and all bids, to waive any informality in a bid, and to make awards in the interest of the Agency.

The Contractor shall perform an independent take-off of the plans and bid accordingly. Quantities listed in this Bid Schedule are intended only as a guide for the Contractor as to the anticipated order of magnitude of work. The Contractor shall be responsible for verifying all estimated quantities. The Contractor will be reimbursed for the quantity of items actually installed as required by the Contract Documents, including addenda, and shown on the plans to neat line and grade.

The Contractor will not be reimbursed for work performed for his convenience, or as required to adapt to field conditions, or for unauthorized work performed outside of that required by the Contract Documents.

The Contractor shall be responsible for calculating and providing totals for the bid schedule. The proposal schedule shall include all costs for labor, services, material, equipment, and installation associated with completing the work in place per the plans, specifications and details.

NAME OF BIDDER: _____
CONTRACTOR'S LICENSE NO.: _____
AUTHORIZED SIGNATURE: _____
TITLE: _____
DATE: _____

The Contract will be awarded on the Base Bid Amount.

BID SCHEDULE (Continued)
DOWNTOWN IMPROVEMENT PROJECT – PHASE II
BID NO. 16-01
IN THE CITY OF LAKEPORT, CALIFORNIA

DOWNTOWN IMPROVEMENT PROJECT PHASE II					
Base Bid Schedule					
ITEM	DESCRIPTION	UNIT	QUANTITY	UNIT PRICE	COST
1	Mobilization	LS	1		
2	Traffic & Pedestrian Control System	LS	1		
3	Pothole Existing Utilities	LS	1		
4	Erosion Control & SWPPP	LS	1		
5	Construction Staking	LS	1		
6	Sheeting, Shoring, Bracing	LS	1		
7	Remove, Salvage, Store and Reset Bus Shelter	EA	1		
8	Remove, Salvage, Store and Reset Memorial Plaques	EA	26		
9	Remove and Salvage Signs and Street Furniture	LS	1		
10	All Other Demolition	LS	1		
11	Concrete Sidewalk - Standard Grey	SF	19357		
12	Concrete Sidewalk - Stamped and Colored	SF	1933		
13	Raised Concrete Sidewalk	SF	348		
14	Truncated Domes	SF	343		
15	Concrete Vertical Curb - Type A1-6"	LF	55		
16	Concrete Curb and Gutter - Type A2- 18"	LF	2031		
17	Sidewalk Drain	EA	9		
18	3" Cold Plane	SF	60199		
19	6 " Remove and Replace HMA in Travel Lanes	SF	8528		
20	6 " Remove and Replace HMA in Trench Patches	SF	5053		
21	3" Remove and Replace HMA in Misc. Locations	SF	3916		
22	No. 4 HMA (leveling)	TON	482		
23	1/2 HMA (surface)	TON	869		
24	Pavement Interlayer	SF	48900		
25	Street Print HMA Stamp and Color	SF	5908		
26	Construct Vent Box	EA	12		
27	Tree Frame and Grate	EA	34		
28	Provide Flagpole Mount	EA	29		
29	Remove, Salvage, Store and Reset Trash Receptacles	EA	12		
30	Install New Trash Receptacles	EA	4		
31	Handrail	lf	111		
32	Thermoplastic Traffic Stripe (4")	LF	2025		
33	Thermoplastic Pavement Markings	SF	2316		
34	New Single post Sign with Panel	EA	39		

35	72" Storm Drain Manhole	EA	1		
36	Curb Inlet, Type GOL-10 w/Type 24x Frame & Grate	EA	4		
37	Curb Inlet, Type GO w/Type 24X Frame & Grate	EA	3		
38	36"x36" SD Junction Box	EA	1		
39	23" x 14" Class 5 Elliptical RCP	LF	280		
40	Modify Storm Drain Manhole/DI	EA	6		
41	6" Sanitary Sewer drop connection	EA	4		
42	Reset Manhole Frame and Grates	EA	15		
43	Reset 6" Sanitary Sewer Rodding Inlet	EA	1		
44	6" PVC (SD-26) Sanitary Sewer Main	LF	1025		
45	Red Curb Marings	EA	1200		
46	Remove 48" Sanitary Sewer Manhole	EA	3		
47	4" Sanitary Sewer Lateral (shallow), Cleanout & Box	EA	23		
48	4" Sanitary Sewer Lateral (deep), Cleanout & Box	EA	2		
49	4" Sanitary Sewer Services stubs	EA	2		
50	2" Gate Valve & Box	EA	2		
51	4" Gate Valve & Box	EA	3		
52	6" Gate Valve & Box	EA	9		
53	8" Gate Valve & Box	EA	7		
54	1" Water Service (single) & Box	EA	14		
55	2" Water Service (single) & Box	EA	1		
56	2" Water Service (double) & Box	EA	2		
57	1" Pressure reducing Valve & Box	EA	5		
58	Reset Fire Hydrant	EA	3		
59	Quad 1" Water Services with 2" lateral and 2 Boxes	EA	2		
60	Double 1" Pressure Reducing Valves and Box	EA	1		
61	1" Water Services Stub & Box	EA	1		
62	Reconstruct Fire Hydrant	EA	1		
63	Relocate Street Lights & Install New Bases and Pull Boxes	EA	27		
64	Modify/Extend Street Light Conduit & Install New Conductors	LS	1		
65	New Service, Panels, and Controls	EA	1		
66	Install New Street Lights, Bases, & Pull Boxes	EA	3		
67	Conduit for Tree Receptacles	LS	1		
68	Electrical Outlet and Pigtails at Tree Well	EA	34		
69	Install Conductors for Tree Well Receptacles	LS	1		
70	Controller, wall mount in vandal-resistant enclosure	EA	1		
71	Install Tree including all features	EA	34		
72	Maintenance Period, 6 month	MO	6		
73	Controller, wall mount in vandal-resistant enclosure	EA	1		
74	Backflow Preventer in vandal-resistant enclosure	EA	1		

75	Irrigation Contol Wiring	LS	1		
76	Irrigation System	LS	1		
77	Hanging Baskets	LS	1		
78	Reset ATT Vault Manhole Frame and Grate	EA	3		
	Total Base Bid Amount				
Bid Alternate One					
81	Deduct - Concrete Sidewalk - Stamped and Colored	SF	-1933		
82	Add- Brick Pavers on Slab (at Tree Wells)	SF	1933		
83	Add - Concrete Border	LF	211		
	Total Bid Alternate One				

The Contractor shall be responsible for calculating and providing unit prices for the bid schedule. The bid schedule shall include all costs for services, labor, materials, equipment, and installation associated with completing the work in place per the plans, specifications and details.

Base Bid Schedule Total: \$ _____

Base Bid Schedule Total (in words): _____

Bid Alternate One Bid Schedule Total: \$ _____

Bid Alternate Bid Schedule Total (in words):

(Company Name of Bidder)

(Date)

BID BOND
DOWNTOWN IMPROVEMENT PROJECT – PHASE II
BID NO. 16-01

IN THE CITY OF LAKEPORT, CALIFORNIA

KNOW ALL MEN BY THESE PRESENTS that Bidder _____, as PRINCIPAL, and _____, as SURETY, are held and firmly bound unto the City of Lakeport as AGENCY, in the penal sum of _____ dollars (\$_____), which is ten percent (10%) of the total amount bid by PRINCIPAL to AGENCY for the above stated project, for the payment of which sum, PRINCIPAL and SURETY agree to be bound, jointly and severally, firmly by these presents.

The SURETY, for value received, hereby stipulates and agrees that the obligations of said SURETY and its BOND shall be in no way impaired or affected by any extension of the time within which the AGENCY may accept such Bid; and said SURETY does hereby waive notice of any such extension.

THE CONDITIONS OF THIS OBLIGATION ARE SUCH that, whereas PRINCIPAL is about to submit a bid to AGENCY 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 PRINCIPAL in the manner and time specified, and PRINCIPAL provides the required payment and performance bonds and insurance coverages to AGENCY, then this obligation shall be null and void, otherwise it shall remain in full force and effect in favor of AGENCY.

IN WITNESS WHEREOF the parties hereto have set their names, titles, hands, and seals this__ day of _____, 2016.

PRINCIPAL*

SURETY*

*Provide BIDDER and SURETY name, address and telephone number and the name, title, address and telephone number for their authorized representatives. Power of Attorney must be attached.

Subscribed and sworn to this day of....., 2016.

NOTARY PUBLIC _____ (SEAL)

**BID GUARANTEE
DOWNTOWN IMPROVEMENT PROJECT – PHASE II
BID NO. 16-01
IN THE CITY OF LAKEPORT, CALIFORNIA**

Note: The following statement shall be used if other than a bid surety bond accompanies bid.

“Accompanying this proposal is a money order*, certified check*, cashier’s check*, cash*, payable to the order of the City of Lakeport in the amount of _____ Dollars (\$_____) which is at least ten percent (10%) of the total amount of this bid. The proceeds of this bid guarantee shall become the property of the City of Lakeport provided this bid is accepted by said City, through action of its legally constituted contracting authorities, and the undersigned fails to execute a contract and furnish the required bonds and insurance within the stipulated time. Otherwise, the proceeds of this bid guarantee shall be returned to the undersigned.”

NAME OF BIDDER:

MAILING ADDRESS:
.....
.....

AUTHORIZED SIGNATURE:

TITLE:

DATE:

(*Circle the applicable words)

**BIDDER INFORMATION
DOWNTOWN IMPROVEMENT PROJECT – PHASE II
BID NO. 16-01
IN THE CITY OF LAKEPORT, CALIFORNIA**

BIDDER certifies that the following information is true and correct:

Name of Bidder:.....

Business Address:

Telephone:.....FAX:.....

E-mail:

Contractor's License No.:.....Date License Issued:

License Expiration Date:.....

The following are the names, titles, addresses, and phone numbers of all individuals, firm members, partners, joint venturers, and/or corporate officers having a principal interest in this proposal: (Name / Title / Address / Telephone)

.....
.....
.....
.....

Any voluntary or involuntary bankruptcy judgments against any principal having an interest in this proposal are as follows: (Type of Judgment / Date)

.....
.....
.....
.....

All current and prior DBA's, aliases, and/or fictitious business names for any principal having an interest in this proposal are as follows: (Principal / DBA's / Applicable Dates)

.....
.....
.....

Prior Disqualification

Has your firm ever been disqualified from performing work for any City, County, Public or Private Contracting entity? Yes / No _____. If yes, provide the following information. (If more than once, use separate sheets):

Date:..... Entity:

Location:

Reason:.....

Provide Status and any Supplemental Statement:.....

.....
.....
.....
.....

Has your firm been reinstated by this entity? Yes / No

Violations of Federal or State Law

A. Has your firm or its officers been assessed any penalties by any agency for noncompliance, violations of Federal or State labor laws and/or business or licensing regulations within the past five (5) years relating to your construction projects?

Yes / No: Federal / State:

If “yes”, identify and describe, (including status):.....

.....
.....
.....
.....

Have the penalties been paid? Yes / No: _____

B. Does your firm or its officers have any ongoing investigations by any AGENCY regarding violations of the State Labor Code, California Business and Professions Code or State Licensing laws?

Yes / No: Codes / Laws:..... Section / Article:.....

If “yes”, identify and describe (including status):.....

.....

I declare under penalty of perjury under the laws of the State of California that all of the representations made in this **BIDDER INFORMATION** are true and correct. Executed this _____ day of _____, 2016, at _____, California.

Authorized Representative Signature and Title _____

**EXPERIENCE STATEMENT
DOWNTOWN IMPROVEMENT PROJECT – PHASE II
BID NO. 16-01
IN THE CITY OF LAKEPORT, CALIFORNIA**

Pursuant to this **BID PROPOSAL** and **QUALIFICATION OF BIDDERS**, the following is a record of the Bidder's experience in construction of a type similar in magnitude and character to that contemplated under this contract. Included in this section should be a complete list of references for similar projects in terms of scope of work, value of work, and time constraints. The Contractor must demonstrate that he/she has experience with this type of project and can manage this project effectively. If necessary, additional numbered pages can be attached to this page. The Contractor must be properly licensed to perform the work in this project as determined by the State Contractor's License Board.

Project Title: _____

Client: _____

Date: _____ Project Value: _____ Contact: _____ Tel # _____

Description: _____

Subject to Federal Labor Standards: Yes No

Project Title: _____

Client: _____

Date: _____ Project Value: _____ Contact: _____ Tel # _____

Description: _____

Subject to Federal Labor Standards: Yes No

Project Title: _____

Client: _____

Date: _____ Project Value: _____ Contact: _____ Tel # _____

Description: _____

EXPERIENCE STATEMENT (Continued)
DOWNTOWN IMPROVEMENT PROJECT – PHASE II
BID NO. 16-01
IN THE CITY OF LAKEPORT, CALIFORNIA

Project Title: _____

Client: _____

Date: _____ Project Value: _____ Contact: _____ Tel # _____

Description: _____

Subject to Federal Labor Standards: Yes No

Project Title: _____

Client: _____

Date: _____ Project Value: _____ Contact: _____ Tel # _____

Description: _____

Subject to Federal Labor Standards: Yes No

I declare under penalty of perjury under the laws of the State of California that all of the representations made in this **EXPERIENCE STATEMENT** are true and correct. Executed this _____ day of _____, 2016, at _____, California.

Authorized Representative Signature and Title

Name, Address, and License # of Subcontractor	Employer Tax Id #	MBE/WBE (Y/N)	Work Subcontracted	Portion of Work (% of Contract Price)

These representations are made under the penalty of perjury under the laws of the State of California. The undersigned hereby certifies that each subcontractor has been notified in writing of its equal opportunity obligations.

NAME OF BIDDER: _____

AUTHORIZED SIGNATURE: _____

Date: _____

NON-COLLUSION AFFIDAVIT

The undersigned declares:

I am the _____ of _____, the party making the foregoing bid.

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

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

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

Signature of Declarant

Printed Name of Declarant

**SECTION D
DOWNTOWN IMPROVEMENT PROJECT – PHASE II
BID NO. 16-01
IN THE CITY OF LAKEPORT, CALIFORNIA**

**CONTRACT INFORMATION AND DOCUMENTS
ARTICLES OF AGREEMENT
PAYMENT BOND
FAITHFUL PERFORMANCE BOND
MAINTENANCE BOND
WORKER’S COMPENSATION INSURANCE CERTIFICATE
INSURANCE ENDORSEMENT
STATEMENT RE INSURANCE COVERAGE
STATEMENT RE THE CONTRACTOR’S LICENSING LAWS**

ARTICLES OF AGREEMENT

**DOWNTOWN IMPROVEMENT PROJECT – PHASE II
BID NO. 16-01
IN THE CITY OF LAKEPORT, CALIFORNIA**

AGREEMENT

THIS DOWNTOWN IMPROVEMENT PROJECT – PHASE II, BID NO. 16-01 AGREEMENT (“AGREEMENT”) is made and entered into for the above-stated project this **Xth day of Month, 20XX (Council Action Date Here)**, BY AND BETWEEN the City of Lakeport, a municipal corporation, hereafter designated as “AGENCY”, and **CONTRACTOR’S BUSINESS NAME**, a _____ (State) _____ (corporation, partnership, limited liability company, or other business form), hereafter designated as “CONTRACTOR.”

WITNESSETH that AGENCY and CONTRACTOR have mutually agreed as follows:

ARTICLE I: Contract Documents

The contract documents for the DOWNTOWN IMPROVEMENT PROJECT – PHASE II, BID NO. 16-01, shall consist of the Notice Inviting Sealed Bids, Instructions To Bidders, Bid Proposal, Bid Schedule, Standard Specifications, Special Provisions, and all referenced specifications, details, standard drawings, and appendices; together with two signed copies of the AGREEMENT, two signed copies of required bonds; one copy of the 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 ensure its completion in an acceptable manner (collectively referred to herein as the “Contract Documents”). All of the provisions of the Contract Documents are made a part hereof as though fully set forth herein.

ARTICLE II: Scope of Work

For and in consideration of the payments and agreements to be made and performed by AGENCY, CONTRACTOR agrees to furnish all materials and equipment and perform all work required for the above-stated project, and to fulfill all other obligations as set forth in the aforesaid contract documents.

AGENCY hereby employs 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 provided herein, and hereby contracts to pay the same at the time, in the manner, and upon the conditions set forth in this AGREEMENT.

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

ARTICLE III: Compensation

A. CONTRACTOR agrees to receive and accept the prices set forth in the Bid Proposal and Bid Schedule as full compensation for furnishing all materials, performing all work, and fulfilling all obligations hereunder. In no event shall the total compensation and costs payable to CONTRACTOR under this Agreement exceed the sum of [INSERT] Dollars (\$.....), unless specifically approved in advance and in writing by AGENCY

Such 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; and 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.

B. This AGREEMENT is subject to the provisions of Article 1.7 (commencing at Section 20104.50) of Division 2, Part 3 of the Public Contract Code regarding prompt payment of contractors by local governments. Article 1.7 mandates certain procedures for the payment of undisputed and properly submitted payment requests within 30 days after receipt, for the review of payment requests, for notice to Contractor of improper payment requests, and provides for the payment of interest on progress payment requests which are not timely made in accordance with that Article. This AGREEMENT hereby incorporates the provisions of Article 1.7 as though fully set forth herein.

C. At the request and expense of CONTRACTOR, securities equivalent to the amount withheld shall be deposited with AGENCY, or with a state or federally chartered bank in this state as the escrow agent, who shall then pay those moneys to CONTRACTOR upon Agency’s confirmation of CONTRACTOR’S satisfactory completion of this AGREEMENT. At any time during the term of this AGREEMENT CONTRACTOR may, at its own expense, substitute securities for funds otherwise withheld as retention (or the retained percentage) in accordance with Public Contract Code § 22300.

ARTICLE IV: Labor Code

AGENCY and CONTRACTOR acknowledge that this AGREEMENT is subject to the provisions of Division 2, Part 7, Chapter 1 (commencing with Section 1720) of the California Labor Code relating to public works and public agencies and agree to be bound by all the provisions thereof as though set forth fully herein. Full compensation for conforming to the requirements of the Labor Code and with other Federal, State and local laws related to labor, and rules, regulations and ordinances which apply to any work performed pursuant to this AGREEMENT is included in the price for all contract items of work involved.

This AGREEMENT is further subject to prevailing wage law, including, but not limited to, the following:

A. The CONTRACTOR shall pay the prevailing wage rates for all work performed under the AGREEMENT. When any craft or classification is omitted from the general prevailing wage determinations, the CONTRACTOR shall pay the wage rate of the craft or classification most closely related to the omitted classification. The CONTRACTOR shall forfeit as a penalty to AGENCY \$200.00 or any greater penalty provided in the Labor Code for each Calendar Day, or portion thereof, for each worker paid less than the prevailing wage rates for any work done under the AGREEMENT in violation of the provisions of the Labor Code whether such worker is employed in the execution of the work by CONTRACTOR or by any Subcontractor under CONTRACTOR. In addition, CONTRACTOR shall pay each worker the difference between such prevailing wage rates and the amount paid to each worker for each Calendar Day, or portion thereof, for which each worker was paid less than the prevailing wage rate.

B. CONTRACTOR shall comply with the provisions of Labor Code Section 1777.5 concerning the employment of apprentices on public works projects, and further agrees that CONTRACTOR is responsible for compliance with Section 1777.5 by all of its subcontractors.

C. Pursuant to Labor Code § 1725.5, CONTRACTOR and any subcontractor must be registered with the California Department of Industrial Relations for any bid proposal submitted on or after March 1, 2015, and for any contract for public work entered into on or after April 1, 2015. Further, this project is subject to compliance monitoring and enforcement by the Department of Industrial Relations.

D. Pursuant to Labor Code § 1776, CONTRACTOR and any subcontractor shall keep accurate payroll records, showing the name, address, social security number, work classification, straight time and overtime hours worked each day and week, and the actual per diem wages paid to each journeyman, apprentice, worker, or other employee employed by him or her in connection with this AGREEMENT. Each payroll record shall contain or be verified by a written declaration that it is made under penalty of perjury, stating both of the following: (1) The information contained in the payroll record is true and correct; and (2) The employer has complied with the requirements of Labor Code §§ 1811, and 1815 for any work performed by his or her employees on the public works project. The payroll records enumerated under subdivision (a) shall be certified and shall be available for inspection at all reasonable hours as required by Labor Code § 1776.

E. This AGREEMENT is further subject to 8-hour work day and wage and hour penalty law, including, but not limited to, Labor Code Sections 1810 and 1813, as well as California nondiscrimination laws, as follows:

CONTRACTOR shall strictly adhere to the provisions of the Labor Code regarding the 8-hour day and the 40-hour week, overtime, Saturday, Sunday and holiday work and nondiscrimination on the basis of race, religious creed, color, national origin, ancestry, physical disability, mental disability, medical condition, marital status, sex or sexual orientation, except as provided in Section 12940 of the Government Code. Pursuant to the provisions of the Labor Code, eight hours' labor shall constitute a legal day's work. Work performed by CONTRACTOR's employees in excess of eight hours per day, and 40 hours during any one week, must include compensation for all hours worked in excess of eight hours per day, or 40 hours during any one week, at not less than one and one-half times the basic rate of pay. CONTRACTOR shall forfeit as a penalty to AGENCY \$25.00 or any greater penalty set forth in the Labor Code for each worker employed in the execution of the work by CONTRACTOR or by any Subcontractor of CONTRACTOR, for each Calendar Day during which such worker is required or permitted to the work more than eight hours in one Calendar Day or more than 40 hours in any one calendar week in violation of the Labor Code.

F. This AGREEMENT is subject to Public Contract Code Section 6109: CONTRACTOR shall be prohibited from performing work on this project with a subcontractor who is ineligible to perform work on the project pursuant to Sections 1777.1 or 1777.7 of the Labor Code.

ARTICLE V: Work Site Conditions

A. In compliance with and pursuant to Government Code Section 4215, AGENCY shall assume the responsibility, as between the parties to this AGREEMENT, for the timely removal, relocation, or protection of existing main- or trunk-line utility facilities located on the site of any construction project that is a subject of this AGREEMENT, if such utilities are not identified by AGENCY in the plans and specifications made a part of the invitation for bids. The Contract Documents shall include provisions to compensate CONTRACTOR for the costs of locating, repairing damage not due to the failure of CONTRACTOR to exercise reasonable care, and removing or relocating such utility facilities not indicated in the plans and specifications with reasonable accuracy, and for equipment on the project necessarily idled

during such work. CONTRACTOR shall not be assessed liquidated damages for delay in completion of the project, when such delay was caused by the failure of AGENCY or the owner of a utility to provide for removal or relocation of such utility facilities.

B. To the extent that the work requires trenches in excess of five feet (5') and is estimated to cost more than \$25,000, prior to any excavation, CONTRACTOR must provide the AGENCY, or a registered civil or structural engineer employed by the AGENCY to whom authority has been delegated to accept such plans, a detailed plan showing the design of shoring, bracing, sloping, or other provisions to be made for worker protection from the hazard of caving ground during the excavation of such trench or trenches. If such plan varies from the shoring system standards, the plan shall be prepared by a registered civil or structural engineer. Nothing in this section shall be deemed to allow the use of a shoring, sloping, or protective system less effective than that required by the Construction Safety Orders.

C. This AGREEMENT is further subject to Public Contract Code Section 7104 with regard to any trenches deeper than four feet (4') involved in the proposed work as follows:

CONTRACTOR shall promptly, and before the following conditions are disturbed, notify AGENCY, in writing, of any:

- (1) Material that CONTRACTOR believes may be hazardous waste, as defined in Section 25117 of the Health and Safety Code, which is required to be removed to a Class I, Class II, or Class III disposal site in accordance with existing law.
- (2) Subsurface or latent physical conditions at the site differing from those indicated by all available information provided prior to the deadline for submission of bids.
- (3) Unknown physical conditions at the site of any unusual nature, different materially from those ordinarily encountered and generally recognized as inherent in work of the character provided for in the contract.

AGENCY shall promptly investigate the conditions, and if it finds that the conditions do materially so differ, or involve hazardous waste, and cause a decrease or increase in CONTRACTOR's cost of, or the time required for, performance of any part of the work, AGENCY shall issue a change order under the procedures described in this AGREEMENT.

In the event that a dispute arises between AGENCY and CONTRACTOR whether the conditions materially differ, or involve hazardous waste, or cause a decrease or increase in CONTRACTOR's cost of, or time required for, performance of any part of the work, CONTRACTOR shall not be excused from any scheduled completion date provided in the AGREEMENT, but shall proceed with all work to be performed under the AGREEMENT. CONTRACTOR shall retain any and all rights provided either by contract or by law which pertain to the resolution of disputes and protests between the contracting parties.

ARTICLE VI: Insurance

- A. With respect to performance of work under this AGREEMENT, CONTRACTOR shall maintain, and shall require all of its subcontractors to maintain, insurance as required by Section E "Standard Specifications" of the Contract Documents.
- B. This AGREEMENT is further subject to Workers' Compensation obligations, including, but not limited to, California Labor Code Sections 1860 and 1861 as follows:

CONTRACTOR shall take out and maintain, during the life of this contract, Worker's Compensation Insurance for all of CONTRACTOR's employees employed at the site of improvement; and, if any work is sublet, CONTRACTOR shall require the subcontractor similarly to provide Worker's Compensation Insurance for all of the latter's employees, unless such employees are covered by the protection afforded by CONTRACTOR. CONTRACTOR and any of CONTRACTOR's subcontractors shall be required to provide AGENCY with a written statement acknowledging its obligation to secure payment of Worker's Compensation Insurance as required by Labor Code § 1861; to wit: 'I am aware of the provisions of Section 3700 of the Labor Code which require every employer to be insured against liability for workers' compensation or to undertake self-insurance in accordance with the provisions of that code, and I will comply with such provisions before commencing the performance of the work of this contract.' If any class of employees engaged in work under this AGREEMENT at the site of the Project is not protected under any Worker's Compensation law, CONTRACTOR shall provide and shall cause each subcontractor to provide adequate insurance for the protection of employees not otherwise protected. CONTRACTOR shall indemnify and hold harmless AGENCY for any damage resulting from failure of either CONTRACTOR or any subcontractor to take out or maintain such insurance.

ARTICLE VII: Indemnification

To the fullest extent permitted by law, CONTRACTOR shall, at its sole cost and expense, fully defend, indemnify and hold harmless AGENCY, its authorized representatives and their respective subsidiaries, affiliates, members, directors, officers, employees and agents (collectively, the "Indemnitees") from and against any and all claims, actions, demands, costs, judgments, liens, penalties, liabilities, damages, losses, and expenses, including but not limited to any fees of accountants, attorneys or other professionals (collectively "Liabilities"), arising out of, in connection with, resulting from or related to, any alleged act, omission, fault or negligence of CONTRACTOR, CONTRACTOR's Representative, or any of its officers, agents, employees, Subcontractors or Suppliers, or any person or organization directly or indirectly employed by any of them (Collectively, the "Indemnitors"), in connection with or relating to or claimed to be in connection with or relating to the work performed under this AGREEMENT. CONTRACTOR shall not be entitled to any refund of attorneys' fees, defense costs and expenses in the event that it is adjudicated to have been non-negligent.

CONTRACTOR shall not be required to defend or indemnify AGENCY for liabilities caused by the sole active negligence or willful misconduct of the AGENCY.

If CONTRACTOR is a joint venture or partnership, each venturer or partner shall be jointly and severally liable for any and all of the duties and obligations of CONTRACTOR that are assumed under or arise out of this AGREEMENT. Each of such venturers or partners waives notice of the breach or non-performance of any undertaking or obligation of CONTRACTOR contained in, resulting from or assumed under this AGREEMENT, and the failure to give any such notice shall not affect or impair such venturer's or partner's joint and several liability hereunder.

ARTICLE VIII: Binding Effect

AGENCY and CONTRACTOR each binds itself, its partners, successors, assigns, and legal representatives to the other party hereto and to its partners, successors, assigns, and legal representatives in respect of all covenants, agreements, and obligations contained in the Contract Documents. This AGREEMENT 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.

ARTICLE IX: Dispute Resolution

A. Any court action arising out of this AGREEMENT shall be filed in the Lake County Superior Court. Any alternative dispute resolution proceeding arising out of this AGREEMENT shall be heard in the County of Lake.

B. AGENCY shall have full authority to compromise or otherwise settle any claim relating to this AGREEMENT or any part hereof at any time. AGENCY shall provide timely notification to CONTRACTOR of the receipt of any third-party claim relating to this AGREEMENT. AGENCY shall be entitled to recover its reasonable costs incurred in providing the notification required by this section.

C. This AGREEMENT is further subject to the provisions of Article 1.5 (commencing at Section 20104) of Division 2, Part 3 of the Public Contract Code regarding the resolution of public works claims of less than \$375,000. Article 1.5 mandates certain procedures for the filing of claims and supporting documentation by Contractor, for the response to such claims by the Agency, for a mandatory meet and confer conference upon the request of Contractor, for mandatory nonbinding mediation in the event litigation is commenced, and for mandatory judicial arbitration upon the parties' failure to resolve the dispute through mediation. This AGREEMENT hereby incorporates the provisions of Article 1.5 as though fully set forth herein.

ARTICLE X: Independent Contractor

CONTRACTOR is and shall at all times remain as to AGENCY, a wholly independent contractor. Neither AGENCY nor any of its agents shall have control of the conduct of CONTRACTOR or any of 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 AGENCY.

ARTICLE XI: Taxes

CONTRACTOR is responsible for paying all retail, sales and use, transportation, export, import, special or other taxes and duties applicable to, and assessable against any work, materials, equipment, services, processes and operations incidental to or involved in this AGREEMENT. The CONTRACTOR is responsible for ascertaining and arranging to pay such taxes and duties. The prices established in this AGREEMENT shall include compensation for any taxes the CONTRACTOR is required to pay by laws and regulations in effect as of the execution of this AGREEMENT.

ARTICLE XII: Notices

All notices and communications shall be sent in writing to the parties at the following addresses:

AGENCY: KEVIN INGRAM]

CONTRACTOR: [INSERT CONTACT]

CITY OF LAKEPORT

CONTRACTOR'S BUSINESS NAME

225 Park Street

Mailing Address

Lakeport, CA 95453

City, State Zip Code

ARTICLE XIII: Entire Agreement

This AGREEMENT 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 herein. Each party to this AGREEMENT 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, statement or promise not contained in this AGREEMENT shall not be valid or binding. Any modification of this AGREEMENT will be effective only if signed by the party to be charged.

The benefits and obligations of this AGREEMENT shall inure to and be binding upon the representatives, agents, partners, heirs, successors and assigns of the parties hereto. This AGREEMENT shall be construed pursuant to the laws of the State of California.

ARTICLE XIV: Authority to Contract

The signatories hereto represent that they are authorized to sign on behalf of the respective parties they represent and are competent to do so, and each of the parties hereto hereby irrevocably waives any and all rights to challenge signatures on these bases.

ARTICLE XV: General Provisions

A. All reports, documents or other written material (“written products” herein) developed by CONTRACTOR in the performance of this Agreement shall be and remain the property of AGENCY without restriction or limitation upon its use or dissemination by AGENCY. CONTRACTOR may take and retain copies of such written products as desired, but no such written products shall be the subject of a copyright application by CONTRACTOR.

B. In the performance of this Agreement, CONTRACTOR shall not discriminate against any employee, subcontractor, or applicant for employment because of race, color, creed, religion, sex, marital status, sexual orientation, national origin, ancestry, age, physical or mental disability, medical condition or any other unlawful basis.

C. The captions appearing at the commencement of the sections hereof, and in any paragraph thereof, are descriptive only and for convenience in reference to this Agreement. Should there be any conflict between such heading, and the section or paragraph at the head of which it appears, the section or paragraph hereof, as the case may be, and not such heading, shall control and govern in the construction of this Agreement. Masculine or feminine pronouns shall be substituted for the neuter form and vice versa, and the plural shall be substituted for the singular form and vice versa, in any place or places herein in which the context requires such substitution(s).

D. The waiver by AGENCY or CONTRACTOR of any breach of any term, covenant or condition herein contained shall not be deemed to be a waiver of such term, covenant or condition or of any subsequent breach of the same or any other term, covenant or condition herein contained. No term, covenant or condition of this Agreement shall be deemed to have been waived by AGENCY or CONTRACTOR unless in writing.

E. Each right, power and remedy provided for herein or now or hereafter existing at law, in equity, by statute, or otherwise shall be cumulative and shall be in addition to every other right, power, or remedy provided for herein or now or hereafter existing at law, in equity, by statute, or otherwise. The exercise, the commencement of the exercise, or the forbearance of the exercise by any party of any one or more of such rights, powers or remedies shall not preclude the simultaneous or later exercise by such party of any of all of such other rights, powers or remedies.

F. CONTRACTOR shall maintain any and all ledgers, books of account, invoices, vouchers, canceled checks, and other records or documents evidencing or relating to charges for services or expenditures and disbursements charged to CITY under this Agreement for a minimum of three (3) years, or for any longer period required by law, from the date of final payment to CONTRACTOR under this Agreement. All such documents shall be made available for inspection, audit, and/or copying at any time during regular business hours, upon oral or written request of CITY. In addition, pursuant to Government Code Section 8546.7, all such documents and this Agreement shall be subject to the examination and audit of the State Auditor, at the request of CITY or as part of any audit of CITY, for a period of three (3) years after final payment under the Agreement.

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 AGREEMENT to be executed in duplicate by setting hereunto their names, titles, hands, and seals this 15th day of March 2016 (Council Action Date Here)

CONTRACTOR: Contractor's Business Name

Contractor's Sign Name, Title
Contractor's License No. XXXXXX

Subscribed and sworn to this _____ day of _____, 20__.

NOTARY PUBLIC _____ (SEAL)

AGENCY: _____
Mayor of the _____ Date
City of Lakeport

ATTESTED: _____
City Clerk of the _____ Date
City of Lakeport

APPROVED AS
TO FORM: _____
City Attorney of the _____ Date
City of Lakeport

(EXECUTE IN DUPLICATE)

**MAINTENANCE BOND
DOWNTOWN IMPROVEMENT PROJECT – PHASE II, BID NO. 16-01 IN THE CITY OF
LAKEPORT, CALIFORNIA**

KNOW ALL PERSONS BY THESE PRESENTS THAT WHEREAS, the City of Lakeport, as AGENCY has awarded to **Contractor's Business Name**, as CONTRACTOR, a contract for the above-stated project. AND WHEREAS, CONTRACTOR is required to furnish a bond in connection with the contract guaranteeing maintenance thereof;

NOW, THEREFORE, we, the undersigned CONTRACTOR and SURETY, are held firmly bound unto AGENCY in the sum of **DESCRIBE VERBALLY; 50% OF TOTAL CONTRACT AMOUNT—TO BE INSERTED BY CONTRACTOR** Dollars (**\$XXX,XXX.XX**), which is fifty percent (50%) of the total contract amount for the above-stated project to be paid to AGENCY, 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 CONDITIONS OF THIS OBLIGATION ARE SUCH that if CONTRACTOR shall remedy without cost to AGENCY any defects which may develop during a period of one (1) year from the date of recordation of the Notice of Completion of the work performed under the contract, provided such defects are caused by defective or inferior materials or work, then this obligation shall be void; otherwise it shall be and remain in full force and effect. In case suit is brought upon this bond, SURETY will pay reasonable attorneys' fees to the AGENCY in an amount to be fixed by the court.

IN WITNESS WHEREOF the parties hereto have set their names, titles, hands, and seals this ____ day of _____, 2012.

Contractor*

Contractor's Signer's Name, Title
Contractor's Business Name
Mailing Street Address
City, State, Zip Code
Telephone #

SURETY*

*Provide CONTRACTOR and SURETY name, address and telephone number and the name, title, address and telephone number for their respective authorized representatives. Powers of Attorney must be attached. Subscribed and sworn to this day of....., 2012.

NOTARY PUBLIC.....

(SEAL)

(EXECUTE IN DUPLICATE)

WORKERS' COMPENSATION INSURANCE CERTIFICATE

The Contractor shall execute the following form as required by the California Labor Code, Sections 1860 and 1861:

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

DATE: _____ **Contractor's Business Name** .
(Contractor)

By: _____
(Signature)

(Title)

Attest:

By: _____
(Signature)

(Title)

Note: See Section 7 Responsibility of the Contractor, Paragraph 7-3 of the Standard Specifications for insurance carrier rating requirements.

ENDORSEMENTS TO INSURANCE POLICY

Name of Insurance Company:

Policy Number:

Effective Date:

The following endorsements are hereby incorporated by reference into the attached Certificate of Insurance as though fully set forth thereon:

1. The naming of an additional insured as herein provided shall not affect any recovery to which such additional insured would be entitled under this policy if not named as such additional insured, and
2. The additional insured named herein shall not be held liable for any premium or expense of any nature on this policy or any extensions thereof, and
3. The additional insured named herein shall not by reason of being so named be considered a member of any mutual insurance company for any purpose whatsoever, and
4. The provisions of the policy will not be changed, suspended, canceled or otherwise terminated as to the interest of the additional insured named herein without first giving such additional insured twenty (20) days' written notice.
5. Any other insurance held by the additional insured shall not be required to contribute anything toward any loss or expense covered by the insurance, which is referred to by this certificate.
6. **The company provided insurance for this certificate is a company licensed to do business in the State of California with a Best's rating of A+ VIII or greater.**

It is agreed that the City of Lakeport, its officers and employees, are included as Additional Insureds under the contracts of insurance for which the Certificate of Insurance is given.

Authorized Insurance Agent

Date: _____

**STATEMENT REGARDING INSURANCE COVERAGE
DOWNTOWN IMPROVEMENT PROJECT – PHASE II, BID NO. 16-01
IN THE CITY OF LAKEPORT, CALIFORNIA**

The undersigned representative of Bidder hereby certifies that he/she has reviewed the insurance coverage requirements specified in **7-3 LIABILITY INSURANCE** of Section E, Standard Specifications. Should Bidder be awarded the contract for the work, the undersigned further certifies that Bidder can meet all of these specification requirements for insurance including insurance coverage of his/her subcontractors.

NAME OF BIDDER:

MAILING ADDRESS:

.....

.....

AUTHORIZED SIGNATURE:

TITLE:

DATE:

**STATEMENT REGARDING CONTRACTOR'S LICENSING LAWS
DOWNTOWN IMPROVEMENT PROJECT – PHASE II, BID NO. 16-01
IN THE CITY OF LAKEPORT, CALIFORNIA**

[Business & Professions Code § 7028.15]

[Public Contract Code § 20103.5]

I, the undersigned, certify that I am aware of the following provisions of California law and that I, or the entity on whose behalf this certification is given, hold a currently valid California contractor's license as set forth below:

Business & Professions Code § 7028.15:

- a) **It is a misdemeanor for any person to submit a bid to a public agency to engage in the business or act in the capacity of a contractor within this state without having a license therefor**, except in any of the following cases:

(1)The person is particularly exempted from this chapter.

(2)The bid is submitted on a state project governed by Section 10164 of the Public Contract Code or on any local agency project governed by Section 20104 [now § 20103.5] of the Public Contract Code.

- b) If a person has been previously convicted of the offense described in this section, the court shall impose a fine of 20 percent of the price of the contract under which the unlicensed person performed contracting work, or four thousand five hundred dollars (\$4,500), whichever is greater, or imprisonment in the county jail for not less than 10 days nor more than six months, or both.

In the event the person performing the contracting work has agreed to furnish materials and labor on an hourly basis, "the price of the contract" for the purposes of this subdivision means the aggregate sum of the cost of materials and labor furnished and the cost of completing the work to be performed.

- c) This section shall not apply to a joint venture license, as required by Section 7029.1. However, at the time of making a bid as a joint venture, each person submitting the bid shall be subject to this section with respect to his/her individual licenser.
- d) This section shall not affect the right or ability of a licensed architect, land surveyor, or registered professional engineer to form joint ventures with licensed contractors to render services within the scope of their respective practices.
- e) Unless one of the foregoing exceptions applies, a bid submitted to a public agency by a contractor who is not licensed in accordance with this chapter shall be considered nonresponsive and shall be rejected by the public agency. Unless one of the foregoing exceptions applies, a local public agency shall, before awarding a contract or issuing a purchase order, verify that the contractor was properly licensed when the contractor submitted the bid. Notwithstanding any other provision of law, unless one of the foregoing exceptions applies, the registrar may issue a citation to any public officer or employee of a public entity who knowingly awards a contract or issues a purchase order to a contractor who is not licensed pursuant to this chapter. The amount of civil penalties, appeal, and finality of such citations shall be subject to Sections 7028.7 to 7028.13, inclusive. **Any contract awarded to, or any purchase order issued to, as contractor who is not licensed pursuant to this chapter is void.**

- f) Any compliance or noncompliance with subdivision (e) of this section, as added by Chapter 863 of the Statutes of 1989, shall not invalidate any contract or bid awarded by a public agency during which time that subdivision was in effect.
- g) A public employee or officer shall not be subject to a citation pursuant to this section if the public employee, officer, or employing agency made an inquiry to the board for the purposes of verifying the license status of any person or contractor and the board failed to respond to the inquiry within three business days. For purposes of this section, a telephone response by the board shall be deemed sufficient.

Public Contract Code § 20103.5:

In all contracts subject to this part where federal funds are involved, no bid submitted shall be invalidated by the failure of the bidder to be licensed in accordance with the laws of this state. However, at the time the contract is awarded, the contractor shall be properly licensed in accordance with the laws of this state. The first payment for work or material under any contract shall not be made unless and until the Registrar of Contractors verifies to the agency that the records of the Contractors' State License Board indicate that the contractor was properly licensed at the time the contract was awarded. Any bidder or contractor not so licensed shall be subject to all legal penalties imposed by law, including, but not limited to, any appropriate disciplinary action by the Contractors' State License Board. The agency shall include a statement to that effect in the standard form of pre-qualification questionnaire and financial statement. **Failure of the bidder to obtain proper and adequate licensing for an award of a contract shall constitute a failure to execute the contract and shall result in the forfeiture of the security of the bidder.**

Contractors License Number: _____

License Expiration Date: _____

Authorized Signature: _____

Date: _____

SECTION E
DOWNTOWN IMPROVEMENT PROJECT – PHASE II, BID NO. 16-01
IN THE CITY OF LAKEPORT, CALIFORNIA

E-STANDARD SPECIFICATION

**STANDARD SPECIFICATIONS
DOWNTOWN IMPROVEMENT PROJECT – PHASE II, BID NO. 16-01
IN THE CITY OF LAKEPORT, CALIFORNIA**

0-1 STANDARD SPECIFICATIONS

Except as noted in section 0-3 below, the provisions of the 2010 Edition of the Caltrans Standard Specifications, with the latest supplements, updates, and amendments, prepared and promulgated by the California Department of Transportation, are adopted as the “Standard Specifications” for the Agency.

0-2 NUMBERING OF SECTIONS

The Special Provisions stated below will be numbered as Sections 700 through 799. Subsections of architectural work may be numbered according to the Construction Specifications Institute (“CSI”) format.

0-3 AMENDMENTS AND MODIFICATIONS

Division I “General Provisions” of the Caltrans Standard Specifications is deleted in its entirety and replaced with the following provisions. The remaining provisions of the 2010 Caltrans Standard Specifications, and any updates, supplements or amendments to those remaining provisions will remain in effect unless they conflict with other provisions set forth in this Agreement. In the event of any inconsistencies between the following Standard Specifications and those set forth in the Caltrans Standard Specifications, the following provisions shall control.

1-1 TERMS. Unless otherwise stated, the words *directed, required, permitted, ordered, instructed, designated, considered necessary, prescribed, approved, acceptable, satisfactory,* or words of like meaning, refer to actions, expressions, and prerogatives of the Engineer.

1-2 DEFINITIONS

Acceptance – The AGENCY’s formal written acceptance of a project that has been completed in all respects in accordance with the plans and specifications and any modifications thereof.

Addendum – Written or graphic instrument issued prior to the opening of Bids which clarifies, corrects, or changes the bidding or Contract Documents. The term Addendum shall include bulletins and all other types of written notices issued to potential bidders prior to opening of Bids.

AGENCY – The City of Lakeport.

Agent – Shall include persons and companies, other than the CONTRACTOR, retained by the City to perform design and construction services in relation to the Work.

Agreement – See Contract.

Base – A layer of specified material of planned thickness placed immediately below the pavement or surfacing.

Bid – The offer or proposal of the Bidder submitted on the prescribed form setting forth the prices for the Work.

Bidder – Any individual, firm, partnership, corporation, or combination thereof, submitting a Bid for the Work, acting directly or through a duly authorized representative.

Board – The officer or body constituting the awarding authority of the AGENCY. The City Council.

Bond – Bid, performance, and payment bond or other instrument of security.

Cash Contract – A Contract financed by means other than special assessments.

Change Order – A written order to the CONTRACTOR signed by the AGENCY directing an addition, deletion, or revision in the Work, or an adjustment in the Contract Price or the Contract time issued after the effective date of the Contract. A Change Order may or may not also be signed by the CONTRACTOR.

City – The City of Lakeport, California, as the AGENCY and Owner.

City Council – City Council of the City of Lakeport, California.

Code – The terms *Government Code*, *Labor Code*, etc., refer to codes of the State of California.

Construction Manager – Persons and/or company retained by the City to perform construction management services.

Contract – The written agreement between the AGENCY and the CONTRACTOR covering the Work.

Contract Documents – Including, but not limited to: the Contract, any Addendum (which pertain to the contract documents), Notice Inviting Bids, Instructions to Bidders; Bid (including documentation accompanying the Bid and any post-bid documentation submitted prior to the Notice of Award) when attached as an exhibit to the Contract, the Bonds, the general conditions, permits from other agencies, the Special Provisions, the Plans, Standard Plans, Standard Specifications, Reference Specifications, and all Modifications issued after the execution of the Contract.

CONTRACTOR – The individual, partnership, corporation, joint venture, or other legal entity having a Contract with the AGENCY to perform the Work. In the case of work being done under permit issues by the AGENCY, the permittee shall be construed to be the CONTRACTOR. The term “prime CONTRACTOR” shall mean CONTRACTOR.

Contract Price – The total amount of money for which the Contract is awarded.

Contract Unit Price – The amount stated in the Bid for a single unit of an item of work.

County Sealer – The Sealer of Weights and Measures of the county in which the Contract is let.

Days – Days shall mean consecutive calendar’s days unless otherwise specified.

Design Engineer – Persons and/or company retained by the City to perform engineering design services.

Due Notice – A written notification, provided in due time, of a proposed action, where the contract requires such notification within a specified time (usually 48 hours or two working days) prior to the commencement of the contemplated action.

Electrical – Street light assembly complete, including foundation, standard, luminaire arm, luminaire, etc.

Engineer – The City Engineer of the City of Lakeport, or his/her authorized representative.

Geotechnical Engineer – Person licensed to practice Soils Engineering or Geotechnical Engineering pursuant to the laws of the State of California and retained by the AGENCY during construction.

Geotextile – Synthetic fiber used in civil engineering applications, serving the primary functions of separation and filtration.

House Connection Sewer – A sewer, within a public street or right-of-way, proposed to connect any parcel, lot or part of a lot with a mainline sewer.

House Sewer – A sewer, wholly within private property, proposed to connect any building to a house connection sewer.

Luminaire – The lamp housing including the optical and socket assemblies (and ballast if so specified).

Luminaire Arm – The structural member, bracket, or mast arm, which, mounted on the standard, supports the luminaire.

Modification – Includes Change Orders and Supplemental Agreements. A Modification may only be issued after the effective date of the Contract.

Notice of Award – The written notice by the AGENCY to the successful Bidder stating that upon compliance by it with the required conditions, the AGENCY will execute the Contract.

Notice to Proceed – A written notice given by the AGENCY to the CONTRACTOR fixing the date on which the Contract time will start.

Person – Any individual, firm, association, partnership, corporation, trust, joint venture, or other legal entity.

Plans – The drawings, profiles, cross sections, working drawings, and supplemental drawings, or reproductions thereof, approved by the Engineer, which show the location, character, dimensions, or details of the Work.

Private Contract – Work subject to AGENCY inspection, control, and approval, involving private funds, not administered by the AGENCY.

Prompt – The briefest interval of time required for a considered reply, including time required for approval by a governing body.

Proposal – See Bid.

Reference Specifications – Those bulletins, standards, rules, methods of analysis or test, codes, and specifications of other agencies, engineering societies, or industrial associations referred to in the Contract Documents. These refer to the latest edition, including amendments in effect and published at the time of advertising the project or issuing the permit, unless specifically referred to by edition, volume, or date.

Roadway – The portion of a street reserved for vehicular use.

Service Connection – Service connections are all or any portion of the conduit, cable, or duct, including meter, between a utility distribution line and an individual consumer.

Sewer – Any conduit intended for the reception and transfer of sewage and fluid industrial waste.

Special Provisions – Additions and revisions to the Standard Specifications setting for the conditions and requirements peculiar to the Work.

Specifications – Standard Specifications, Reference Specifications, Special Provisions, and specifications in Supplemental Agreements between the CONTRACTOR and the Board.

Standard – The shaft or pole used to support street lighting luminaire, traffic signal heads, mast arms, etc.

Standard Plans – “Standard Plans for Public Works Construction” or “SSPWC” – Latest edition of the Southern California Chapter of the American Public Works Association.

State Standard Specifications (“SSS”) – Standard Specifications prepared by the State of California, Business and Transportation Agency, Department of Transportation.

State Standard Plans (“SSP”) – Standard Plans prepared by State of California, Business and Transportation Agency, Department of Transportation.

State – State of California.

Storm Drain – Any conduit and appurtenances intended for the reception and transfer of storm water.

Street – Any road, highway, parkway, freeway, alley, walk, or way.

Subbase – A layer of specified materials of planned thickness between a base and the subgrade.

Subcontractor – An individual, firm, or corporation having a direct contract with the CONTRACTOR or with any other Subcontractor for the performance of a part of the Work.

Subgrade – For roadways, that portion of the roadbed on which pavement, surfacing, base, subbase, or a layer of other materials is placed. For structures, the soil prepared to support a structure.

Supervision – Supervision, where used to indicate supervision by the Engineer, shall mean the performance of obligations, and the exercise of rights, specifically imposed upon and granted to the AGENCY in becoming a party to the Contract. Except as specifically stated herein, supervision by the AGENCY shall not mean active and direct superintendence of details of the Work.

Supplemental Agreement – A written amendment of the Contract Documents signed by both parties.

Surety – Any individual, firm, or corporation, bound with and for the CONTRACTOR for the acceptable performance, execution, and completion of the Work, and for the satisfaction of all obligations incurred.

Tonne – Also referred to as “metric ton” — Represents a unit of measure in the International System of Units equal to 1,000 kilograms.

Utility – Tracks, overhead or underground wires, pipeline, conduits, ducts, or structures, sewers, or storm drains owned, operated, or maintained in or across a public right of way or private easement.

Work – That which is proposed to be constructed or done under the Contract or permit, including the furnishing of all labor, materials, equipment, and services.

Working Days – Any days, except: (1) Saturdays, Sundays, legal holidays on which Lakeport City Hall is closed for business; (2) days when work is suspended by the Engineer for reasons unrelated to the performance of the CONTRACTOR, and provided in Subsections 6-3 and 6-3.1; and (3) days determined to be non-working in accordance with Section 6-7 “Time of Completion”

1-3 ABBREVIATIONS

1-3.1 Common Usage Terms. These Standard Specifications incorporate by reference the list of common usage terms in the edition of the “Standard Plans for Public Works Construction” with the following additions:

ARAM Asphalt Rubber Aggregate Membrane

ARHM Asphalt Rubber Hot Mix

1-3.3 Institutions. These Standard Specifications incorporate by reference the list of commonly used institution terms in the edition of the “Standard Plans for Public Works Construction” (aka the Greenbook) with the following additions:

ACI	American Concrete Institute
AGCA	Associated General CONTRACTORs of America
APWA	American Public Works Association
ASME	American Society of Mechanical Engineers
CRSI	Concrete Reinforcing Steel Institute
CSI	Construction Specifications Institute
IEEE	Institute of Electric and Electronic Engineers
NFPA	National Fire Protection Association
SSS	State of California Standard Specifications, latest edition, Department of Transportation
SSP	State of California Standard Plans, latest edition, Department of Transportation.
SSPWC	Standard Specifications for Public Works Construction
NEMA	National Electrical Manufacturers Association

1-4 UNITS OF MEASURE

1-4.1 General. U.S. Standard Measures, also called U.S. Customary System, are the principal measurement system in these specifications and shall be used for construction, unless otherwise stated in the Contract Documents. The International System of Units, also referred to as SI or the metric system, may be included in parenthesis. SI units and U.S. Standard Measures in parenthesis may or may not be exactly equivalent. Certain materials specifications and test requirements contained herein use SI units specifically and conversions to U.S. Standard Measures have not been included in these circumstances.

Reference is also made to ASTM E 380 for definitions of various units of the SI system and a more extensive set of conversion factors.

1-4.2 Units of Measure and Their Abbreviations.

U.S. Customary Unit (Abbreviations)	Equal To	SI (Abbreviations)	Unit
1 mil (= 0.0001 in)		25.4 micrometer (μm)	
1 inch (in)		25.4 millimeter (mm)	
1 inch (in)		2.54 centimeter (cm)	
1 foot (ft.)		0.3048 meter (m)	
1 yard (yd.)		0.9144 meter (m)	
1 mile (mi)		1.6093 kilometer (km)	
1 square foot (ft ²)		0.0929 square meter (m ²)	
1 square yard (yd ²)		0.8361 square meter (m ²)	

nano (n)	10 ⁻⁹
pico (p)	10 ⁻¹²

1-5 SYMBOLS

Δ	Delta, the central angle or angle between tangents
∠	Angle
%	Percent
'	Feet or minutes
"	Inches or seconds
¹	Number
/	Per or (between words)
°	Degree
PL	Property line
CL	Centerline
SL	Survey line or station line

SECTION 2 – SCOPE AND CONTROL OF WORK

2-1 AWARD AND EXECUTION OF CONTRACT. Award and execution of Contract will be as provided for in the Specifications, Instructions to Bidders, or Notice Advertising for Bids. The City reserves the right to reject any or all proposals.

2-1.1 Investigation of Site Conditions. Prior to submittal of the bid, Bidders must visit the site of work and complete their own investigations to satisfy themselves as to the existing conditions affecting the work to be done under these specifications. If the bidder chooses not to visit the site or conduct investigations, he will, nevertheless, be charged with the knowledge of conditions which reasonable inspection and investigation would have disclosed.

After the project is awarded the CONTRACTOR shall carefully study and compare the Contract Documents with each other and with information available to the CONTRACTOR and furnished by the Owner and shall immediately notify the Engineer of errors, inconsistencies or omissions discovered. If the CONTRACTOR performs any construction activity knowing it involves a recognized error, inconsistency or omission in the Contract Documents without such notice to the Engineer, the CONTRACTOR shall assume appropriate responsibility for such performance and may assume responsibility for the full costs for correction.

The CONTRACTOR shall make field measurements and verify field conditions and shall carefully compare such field measurements and conditions and other information known to the CONTRACTOR with the Contract Documents before commencing activities. Errors, inconsistencies or omissions discovered shall be reported to the Engineer immediately.

When existing conditions are encountered which, in the opinion of the Engineer, require temporary suspension of work for design modifications or for other determinations to be made, the CONTRACTOR shall move to other areas of work until such determinations are made at no cost to the City. No additional compensation will be allowed by reason of such temporary suspension of work, or modifications to work, except as noted in Section 3 of these Standard Specifications (“Changes in Work”) for specific items of

work not included in the bid. Appropriate extension of item for completion may be allowed where justification in the opinion of the Engineer.

2-1.2 Award of Contract. The Contract will be awarded, if at all, to the lowest responsible and responsive Bidder determined as provided on the Proposal Form, whose proposal complies with all the requirements prescribed. Such award, if made, will be made within the number of days stated in the proposal form. Refusal or failure to deliver the executed contract, bonds, or insurance in the form provided in the Contract and approved by the AGENCY's attorney within the time provided herein shall be cause, at the AGENCY's option, for the annulment of the award and forfeiture of the bid security. In such event, the AGENCY may successively award the Contract to the next lowest responsible and responsive Bidder until a properly executed Contract, bonds, and insurance is obtained, or it may at any time reject all remaining bids and proceed as provided by law. The refusal or failure of a successive lowest responsible and responsive Bidder to execute the Contract may, at the AGENCY's option, result in an annulment of the award to that Bidder and the forfeiture of that Bidder's bid security. The periods of time specified above within which the award of the Contract may be made shall be subject to extension for such further period as may be agreed upon in writing between the AGENCY and the concerned Bidder.

The AGENCY reserves the right to waive any irregularities.

Within ten (10) calendar days after the date of the Notice of Award, the CONTRACTOR shall execute and return the following contract documents to the AGENCY:

- Contract Agreement (in duplicate)
- Faithful Performance Bond (in duplicate)
- Maintenance Bond (in duplicate)
- Payment Bond (in duplicate)
- Public Liability and Property Damage Insurance Certificate (two original)
- Additionally Insured Endorsement
- Workers' Compensation Insurance Certificate (two original)

A corporation to which an award is made may be required, before the Contract agreement is executed by the AGENCY, to furnish evidence of its corporate existence, of its right to enter into contracts in the State of California, and that the officers signing the contract and bonds for the corporation have the authority to do so.

2-2 ASSIGNMENT. No Contract or portion thereof may be assigned without consent of the City Council, except that the CONTRACTOR may assign money due or which will accrue to it under the Contract. If given written notice, such assignment will be recognized by the City Council to the Extent permitted by law. Any assignment of money shall be subject to all property withholdings in favor of the AGENCY and to all deductions provided for in the Contract. All money withheld, whether assigned or not, shall be subject to being used by the AGENCY for completion of the Work, should the CONTRACTOR be in default.

2-3 SUBCONTRACTS.

2-3.1 General. Each Bidder shall comply with the Public Contract Code including Sections 4100 through 4113. The following excerpts or summaries of some of the requirements of this Chapter are included below for information:

The Bidder shall set forth in the Bid, as provided in 4104:

“(a) The name and location of the place of business of each subcontractor who will perform work or labor or render service to the prime CONTRACTOR in or about the construction of the work or improvement, or a subcontractor licensed by the State of California who, under subcontract to the prime CONTRACTOR, specially fabricates and installs a portion of the work or improvement according to detailed drawings contained in the plans and specifications, in an amount in excess of one-half of 1 percent of the prime

CONTRACTOR's total bid, or, in the case of bids or offers for the construction of streets or highways, including bridges, in excess of one-half of 1 percent of the prime CONTRACTOR's total bid or ten thousand dollars (\$10,000), whichever is greater.”

“(b) The portion of the work which will be done by each such subcontractor under this act. The prime CONTRACTOR shall list only one subcontractor for each such portion as is defined by the prime CONTRACTOR in his bid.”

Subcontracting of more than one-half of one percent of the work for which no Subcontractor was designated in the original Bid will be allowed only in cases of public emergency or necessity and only after the Engineer makes a written finding of circumstances constituting public emergency or necessity.

The CONTRACTOR must obtain written consent of the City Council to substitute a Subcontractor designated in the original Bid, to permit any subcontract to be assigned or transferred, or to otherwise allow a subcontract to be performed by anyone other than the originally designated Subcontractor.

A violation of any of the above provisions will be considered a violation of the Contract, and the City may cancel the Contract and collect appropriate damages or assess the CONTRACTOR a penalty of not more than ten (10) percent of the subcontract involved.

If subcontracted work is not being performed in a satisfactory manner, the City will notify the CONTRACTOR of the need to take corrective action and the Engineer may report the facts to the City Council. Upon order by City Council and the CONTRACTOR's receipt of written instructions from the Engineer, the Subcontractor shall immediately be removed from the Work and may not again be employed on the Work.

2-3.2 Additional Responsibility. The CONTRACTOR shall give personal attention to the fulfillment of the Contract and shall keep the Work under its control.

The CONTRACTOR shall perform, with its own organization, Contract work amounting to at least 50 percent of the Contract Price except that any designated “Specialty Items” may be performed by subcontract and the amount of any such “Specialty Items” so performed may be deducted from the Contract Price before computing the amount required to be performed by the CONTRACTOR with its own organization. “Specialty Items” will be identified by the AGENCY in the Bid or Proposal. Where an entire item is subcontracted, the value of work subcontracted will be based on the Contract Unit Price. When a portion of an item is subcontracted, the value of work subcontracted will be based on the estimated percentage of the Contract Unit Price. This will be determined from information submitted by the CONTRACTOR, and subject to approval by the Engineer.

Before the work of any Subcontractor is started, the CONTRACTOR shall submit to the Engineer for approval a written statement showing the work to be subcontracted giving the name and business of each Subcontractor and description and value of each portion of the work to be so subcontracted.

2-3.3 Status of Subcontractors. All persons engaged in the Work, including Subcontractors and their employees, will be considered employees of the CONTRACTOR. The CONTRACTOR will be held responsible for their work. The AGENCY will deal directly and solely with the CONTRACTOR and make all payments to the CONTRACTOR.

2-4 CONTRACT BONDS. Before execution of the Contract, the Bidder shall file surety bonds with the AGENCY to be approved by the City Council in the amounts and for the purposes noted below. Bond issued by a surety who is listed in the latest version of U.S. Department of Treasury Circular 570, who is authorized to issue bonds in California, and whose bonding limitation shown in said circular is sufficient to provide bonds in the amount required by the Contract shall be deemed to be approved unless specifically rejected by the AGENCY. Bonds from all other sureties shall be accompanied by all of the documents enumerated in Code of Civil Procedure 995.660(a). The Bidder shall pay all bond premiums, costs, and incidentals.

Each bond shall incorporate, by reference, the Contract and be signed by both the Bidder and Surety and the signature of the authorized agent of the Surety shall be notarized.

The Bidder shall provide two good and sufficient surety bonds. The "Payment Bond" (Materials and Labor Bond) shall be for not less than 100 percent of the Contract Price, to satisfy claims of materials suppliers and mechanics and laborers employed by it on the Work, The bond shall be maintained by the CONTRACTOR in full force and effect until the Work is accepted by the AGENCY and until all claims for materials and labor are paid, and shall otherwise comply with the Civil Code.

The "Performance Bond" shall be for 100 percent of the Contract Price to guaranty faithful performance of all work, within the time prescribed, in manner satisfactory to the AGENCY, and that all materials and workmanship will be free from original or developed defects. The bond must remain in effect until the end of all warranty periods set forth in the Contract.

Should any bond become insufficient, the CONTRACTOR shall renew the bond within 10 days after receiving notice from the AGENCY.

Should any Surety at any time be unsatisfactory to the City Council, notice will be given the CONTRACTOR to that effect. No further payments shall be deemed due or will be made under the Contract until a new Surety shall qualify and be accepted by the City Council.

Changes in the Work or extensions of time, made pursuant to the Contract, shall in no way release the CONTRACTOR or Surety from its obligations. Notice of such changes or extensions shall be waived by the Surety.

The PAYMENT BOND shall remain in force until thirty-five (35) calendar days after the date of recordation of the Notice of Completion. The FAITHFUL PERFORMANCE BOND shall remain in force until the date of recordation of the Notice of Completion. The MAINTENANCE BOND shall remain in force until one (1) year after the date of recordation of the Notice of Completion.

All bonds must be accompanied by a Power of Attorney.

2-5 PLANS AND SPECIFICATIONS.

2-5.1 General. The CONTRACTOR shall keep at the Work site a copy of the Plans and Specifications, to which the Engineer shall have access at all times.

The Plans, Specifications, and other Contract Documents shall govern the Work. The Contract Documents are intended to be complementary and cooperative. Anything specified in the Specifications and not shown on the Plans, or shown on the Plans and not specified in the Specifications, shall be as though shown on or specified in both.

The Plans shall be supplemented by such working drawings and shop drawings are necessary to adequately control the Work.

The CONTRACTOR shall ascertain the existence of any conditions affecting the cost of the Work through a reasonable examination of the Work site prior to submitting the Bid.

Existing improvements visible at the Work site, for which no specific disposition is made on the Plans, but which interfere with the completion of the Work, shall be removed and disposed of by the CONTRACTOR.

The CONTRACTOR shall, upon discovering any error or omission in the Plans or Specifications, immediately call it to the attention of the Engineer.

All final locations determined in the field, and any deviations from the Plans and Specification, shall be marked in red on the documents to show the as-built conditions. CONTRACTOR shall maintain a complete and accurate record of all changes of construction from that shown in these plans and specifications for the purpose of providing a basis for construction record drawings. No changes shall be made without prior written approval of the Engineer. Upon completion of the Project, CONTRACTOR shall deliver this record

of all construction changes to the Engineer along with a letter which declares that other than these noted changes “the Project was constructed in conformance with the Contract Documents.” Final payment will not be made until this requirement is met.

As the figured dimensions shown on the drawings and in the specifications of the Contract may not in every case agree with scaled dimensions, the figured dimensions shall be followed in preference to the scaled dimensions, and drawings to a large scale shall be followed in preference to the drawings to a small scale. Should it appear that the work to be performed, or any related matter, are not sufficiently detailed or explained in the Contract documents, the CONTRACTOR shall apply to the Engineer for such further explanations as necessary, and shall conform to such further explanations provided by the Engineer as part of the Contract to the extent that it is consistent with the terms of the Contract.

Caution: The engineer preparing these plans will not be responsible or liable for unauthorized changes to or uses of these plans. All changes to the plans must be approved in writing by the Engineer.

2-5.1.1 Records of Construction Changes/As-Built. CONTRACTOR shall maintain a complete and accurate record of all changes of construction from that shown in these Plans and Specifications for the purpose of providing a basis for construction record drawings. No changes shall be made without prior written approval of the City Engineer.

Upon completion of the Project, CONTRACTOR shall deliver this record of all construction changes to the Engineer along with a letter which declares that other than these noted changes that Project was constructed in conformance with the Contract Documents.

Caution: The engineer preparing these Plans will not be responsible for, or liable for, unauthorized changes to or uses of these Plans. All changes to the Plans must be approved in writing by City Engineer.

2-5.2 Precedence of Contract Documents. If there is a conflict between any of the Contract Documents, the document highest in precedence shall control. The precedence shall be as follows:

- 1) Permits issued by jurisdictional regulatory agencies.
- 2) Change Orders and/or Supplemental Agreements; whichever occurs last.
- 3) Contract/Agreement
- 4) Addenda.
- 5) Bid/Proposal.
- 6) Special Provisions.
- 7) Plans.
- 8) Standard Plans.
- 9) Standard Specifications.
- 10) Reference Specifications.

Detail drawings take precedence over general drawings.

2-5.3 Submittals.

2-5.3.1 General. Submittals shall be provided, at the CONTRACTOR’s expense, as required in 2-5.3.2, 2-5.3.3 and 2-5.3.4, when required by the Plans or Special Provisions, or when requested by the Engineer.

Materials shall neither be furnished nor fabricated, nor shall any work for which submittals are required be performed, before the required submittals have been reviewed and accepted by the Engineer. Neither review nor acceptance of submittals by the Engineer shall relieve the CONTRACTOR from responsibility for errors, omissions, or deviations from the Contract Documents, unless such deviations were specifically

called to the attention of the Engineer in the letter of transmittal. The CONTRACTOR shall be responsible for the correctness of the submittals.

The CONTRACTOR shall allow a minimum of 20 working days for review of submittals unless otherwise specified in the Special Provisions. Each submittal shall be accompanied by a letter of transmittal.

2-5.3.2 Working Drawings. Working drawings are drawings showing details not shown on the Plans which are required to be designed by the CONTRACTOR. Working drawings shall be of a size and scale to clearly show all necessary details.

Six copies and one reproducible shall be submitted. If no revisions are required, three of the copies will be returned to the CONTRACTOR. If revisions are required, the Engineer will return one copy along with the reproducible for resubmission. Upon acceptance, the Engineer will return two of the copies to the CONTRACTOR and retain the remaining copies and the reproducible.

Working drawings are required in the following subsections:

None

Working drawings listed above as Items [N/A] shall be prepared by a Civil or Structural Engineer registered by the State of California.

2-5.3.3 Shop Drawings. Shop drawings are drawings showing details of manufactured or assembled products proposed to be incorporated into the Work. Shop drawings required shall be as specified in the Special Provisions.

2-5.3.4 Supporting Information. Supporting information is information required by the Specifications for the purposes of administration of the Contract, analysis for verifications of conformance with the Specifications, the operation and maintenance of a manufactured product or system to be constructed as part of the Work, and other information as may be required by the Engineer. Six copies of the supporting information shall be submitted to the Engineer prior to the start of the Work unless otherwise specified in the Special Provisions or directed by the Engineer. Supporting information for systems shall be bound together and include all manufactured items for the system. If resubmittal is not required, three copies will be returned to the CONTRACTOR. Supporting information shall consist of the following and is required unless otherwise specified in the Special Provisions:

- 1) List of Subcontractors per 2-3.2.
- 2) List of Materials per 4-1.4.
- 3) Certifications per 4-1.5.
- 4) Construction Schedule per 6-1.
- 5) Confined Space Entry Program per 7-10.4.4.
- 6) Concrete mix designs per 201-1.1
- 7) HMA mix designs per 203-6.1.
- 8) Data, including, but not limited to, catalog sheets, manufacturer's brochures, technical bulletins, specifications, diagrams, product samples, and other information necessary to describe a system, product or item. This information is required for irrigation systems, street lighting systems, and traffic signals, and may also be required for any product, manufactured item, or system.

2-6 WORK TO BE DONE. The CONTRACTOR shall perform all work necessary to complete the Contract in a satisfactory manner. Unless otherwise provided, the CONTRACTOR shall furnish all materials, equipment, tools, labor, and incidentals necessary to complete the Work.

Any plan or method of work suggested by the AGENCY or the Engineer to the CONTRACTOR but not specified or required, if adopted or followed by the CONTRACTOR in whole or in part, shall be used at the risk and responsibility of the CONTRACTOR; and the AGENCY and the Engineer shall assume no responsibility therefore and in no way be held liable for any defects in the work which may result from or be caused by use of such plan or method of work.

2-7 SUBSURFACE DATA. All soil and test hole data, water table elevations, and soil analyses shown on the drawings or included in the Specifications apply only at the location of the test holes and to the depths indicated. Soil test reports for test holes which have been drilled are available for inspection at the office of the Engineer. Any additional subsurface exploration shall be done by Bidder or the CONTRACTOR at their own expenses.

2-8 RIGHT-OF-WAY. Rights-of-way, easements, or rights-of-entry for the Work will be provided by the AGENCY. Unless otherwise provided, the CONTRACTOR shall make arrangements, pay for, and assume all responsibility for acquiring, using, and disposing of additional work areas and facilities temporarily required. The CONTRACTOR shall indemnify and hold the AGENCY harmless from all claims for damages caused by such actions.

When the CONTRACTOR arranges for additional work areas and facilities temporarily required by him/her, he/she shall provide the AGENCY with proof that the additional work areas and/or facilities have been left in a condition satisfactory to the owner(s) of said work areas and/or facilities prior to acceptance of the work.

2-9 SURVEYING. The CONTRACTOR will provide all necessary construction surveying, staking or markings for locating the limits of construction and shall comply with the provisions of 2-9 of these Standard Specifications. The CONTRACTOR shall bear all costs for re-staking or marking.

Construction surveys shall be done only under the direction of the Engineer by a registered (licensed) Land Surveyor or a Registered Civil Engineer authorized to practice land surveying within the state. The AGENCY will provide available record map information. The CONTRACTOR is responsible for obtaining all necessary record maps, centerline ties and survey notes from Lake County.

The CONTRACTOR and his surveyor shall provide the Engineer with a copy of the constructing staking field notes used to construct the improvements. In addition the CONTRACTOR shall also prove a plot of the improvements to be constructed based on the surveyor's construction staking and markings prior to the installation of the improvements. The plot shall be the same scale as the improvement plans.

2-9.1 Permanent Survey Markers. The CONTRACTOR shall notify the Engineer, or the owner on a Private Contract, at least 7 days before starting work to allow for the preservation of survey monuments, lot stakes (tagged), and bench marks.

The CONTRACTOR shall protect existing survey monuments, if any exist within the work limits, during the entire project. Asphalt overlaying of existing survey monuments in the roadway will not be permitted. In the event a surveyed monument lies within an area to be cold planed, removed or reconstructed, the CONTRACTOR shall immediately notify the AGENCY's representative and protect said monument until the monument is relocated.

The CONTRACTOR shall reestablish destroyed survey monuments at the CONTRACTOR's expense.

The Engineer, or the owner at its cost, shall file a Corner Record Form referencing survey monuments subject to disturbance in the Office of the County Surveyor prior to the start of construction and also prior to the completion of construction for the replacement of survey monuments. The CONTRACTOR shall not disturb survey monuments, lot stakes (tagged), or bench marks without the consent of the Engineer or the owner on Private Contracts. The CONTRACTOR shall bear the expense of replacing any that may be disturbed without permission. Replacement shall be done only under the direction of the Engineer by

Registered (licensed) Licensed Land Surveyor or a Registered Civil Engineer authorized to practice land surveying within the state.

When a change is made in the finished elevation of the pavement of any roadway in which a permanent survey monument is located, the CONTRACTOR shall adjust the monument cover to the new grade within 7 days of finished paving unless otherwise specified.

2-9.2 Survey Service. The Engineer will oversee surveying adequate for construction. The CONTRACTOR shall preserve construction survey stakes and marks for the duration of their usefulness. If any construction survey stakes are lost or disturbed and need to be replaced, such replacement shall be by the CONTRACTOR at his expense.

The CONTRACTOR shall notify the Engineer in writing at least 2 working days before survey services take place for the laying out of any portion of the Work. The CONTRACTOR shall dig all holes necessary for line and grade stakes.

Unless otherwise specified, stakes will be set and stationed by the CONTRACTOR for curbs, headers, sewers, storm drains, structures, and rough grade. A corresponding cut or fill to finished grade (or flowline) will be indicated on a grade sheet.

2-9.3 Line and Grade. The CONTRACTOR shall be responsible for all survey and layout of work.

The line and grades for construction will be parallel to and offset from the position of the work. From the established lines and grades, the CONTRACTOR shall extend the necessary lines and grades for construction of the work and shall be responsible for the correctness of same.

All work shall conform to the lines, elevations, and grades shown on the Plans.

Three consecutive points set on the same slope shall be used together so that any variation from a straight grade can be detected. Any such variation shall be reported to the Engineer. In the absence of such report, the CONTRACTOR shall be responsible for any error in the grade of the finished work.

Grades for underground conduits will be set at the surface of the ground. The CONTRACTOR shall transfer them to the bottom of the trench.

2-10 AUTHORITY OF COUNCIL AND ENGINEER. The City Council has the final authority in all matters affecting the Work. Within the scope of the Contract, the Engineer has the authority to enforce compliance with the Plans and Specifications. The CONTRACTOR shall promptly comply with instructions from the Engineer or an authorized representative.

The decision of the Engineer is final and binding on all questions relating to: quantities; acceptability of materials, equipment, or work; execution, progress or sequence of work; and interpretation of the Plans, Specifications, or other drawings. This shall be precedent to any payment under the Contract, unless otherwise ordered by the City Council.

2-11 INSPECTION. The Work is subject to inspection and approval by the Engineer. The CONTRACTOR shall notify the Engineer before noon of the working day before inspection is required. Work shall be done only in the presence of the Engineer, unless otherwise authorized. Any work done without proper inspection will be subject to rejection. The Engineer and any authorized representatives shall at all times have access to the Work during its construction at shops and yards as well as the project site. The CONTRACTOR shall provide every reasonable facility for ascertaining that the materials and workmanship are in accordance with these specifications. Inspection of the Work shall not relieve the CONTRACTOR of the obligation to fulfill all conditions of the Contract.

The AGENCY shall inspect for compliance with requirements for 8-hour days and 40-hour weeks on normal working days. The CONTRACTOR shall reimburse the AGENCY, at rates established by the AGENCY, for any additional inspection, including inspection on legal holidays.

SECTION 3 – CHANGES IN WORK

3-1 CHANGES REQUESTED BY THE CONTRACTOR.

3-1.1 General. Changes in the Plans and Specifications, requested in writing by the CONTRACTOR, which do not materially affect the Work and which are not detrimental to the Work or to the interests of the AGENCY, may be granted by the Engineer. Nothing herein shall be construed as granting a right to the CONTRACTOR to demand acceptance of such changes.

3-1.2 Payment for Changes Requested by the CONTRACTOR. If such changes are granted, they shall be made at a reduction in cost or no additional cost to the AGENCY.

3-2 CHANGES INITIATED BY THE AGENCY.

3-2.1 General. The AGENCY may change the Plans, Specifications, character of the work, or quantity of work provided the total arithmetic dollar value of all such changes, both additive and deductive, does not exceed 25 percent of the Contract Price. Should it become necessary to exceed this limitation, the change shall be by written Supplemental Agreement between the CONTRACTOR and AGENCY, unless both parties agree to proceed with the change by Change Order.

Change Orders shall be in writing and state the dollar value of the change or establish the method of payment, any adjustment in the Contract time of completion, and when negotiated prices are involved, shall provide for the CONTRACTOR's signature indicating acceptance.

3-2.2 Contract Unit Prices.

3-2.2.1 General. If a change is ordered in an item of work covered by a Contract Unit Price, and such change does not involve substantial change in character of the work from that shown on the Plans or specified in the Specifications, then an adjustment in payment will be made. This adjustment will be based upon the increase or decrease in quantity and the Contract Unit Price.

If the actual quantity of an item of work covered by Contract Unit Price and constructed in conformance with the Plans and Specifications varies from the Bid quantity by 25 percent or less, payment will be made at the Contract Unit Price. If the actual quantity of said item of work varies from the Bid quantity by more than 25 percent, payment will be made per 3-2.2.2 or 3-2.2.3 as appropriate.

If a change is ordered in an item of work covered by a Contract Unit Price, and such change does involve a substantial change in the character of the work from that shown on the Plans or specified in the Specifications, an adjustment in payment will be made per 3-2.4.

3-2.2.2 Increases of More than 25 Percent. Should the actual quantity of an item of work covered by a Contract Unit Price and constructed in conformance with the Plans and Specifications, exceed the Bid quantity by more than 25 percent, payment for the quantity in excess of 125 percent of the Bid quantity will be made on the basis of an adjustment in the Contract Unit Price mutually agreed to by the CONTRACTOR and the AGENCY, or at the option of the Engineer, on the basis of Extra Work per 3.3.

The Extra Work per 3-3, basis of payment, shall not include fixed costs. Fixed costs shall be deemed to have been recovered by the CONTRACTOR through payment for 125 percent of the Bid quantity at the Contract Unit Price.

3-2.2.3 Decreases of More Than 25 Percent. Should the actual quantity of an item of work covered by a Contract Unit Price, and constructed in conformance with the Plans and Specifications, be less than 75 percent of the Bid quantity, an adjustment in payment will not be made unless so requested in writing by the CONTRACTOR. If the CONTRACTOR so requests, payment will be made on the basis of an adjustment in the Contract Unit Price mutually agreed to by the CONTRACTOR and the AGENCY, or at the option of the Engineer, on the basis of Extra Work per 3.3; however, in no case will payment be less

than would be made for the actual quantity at the Contract Unit Price nor more than would be made for 75 percent of the Bid quantity at the Contract Unit Price.

3-2.3 Stipulated Unit Prices. Stipulated Unit Prices are unit prices established by the AGENCY in the Contract Documents. Stipulated Unit Prices may be used for the adjustment of Contract changes when so specified in the Special Provisions.

3-2.4 Agreed Prices. Agreed Prices are prices for new or unforeseen work, or adjustments in Contract Unit Prices per 3-2.2, established by mutual agreement between the CONTRACTOR and the AGENCY. If mutual agreement cannot be reached, the Engineer may direct the CONTRACTOR to proceed on the basis of Extra Work in accordance per 3-3, except as otherwise specified in 3-2.2.2 and 3-2.2.3.

3-2.5 Eliminated Items. Should any Bid item be eliminated in its entirety, payment will be made to the CONTRACTOR for its actual costs incurred in connection with the eliminated item prior to notification in writing from the Engineer so stating its elimination.

If material conforming to the Plans and Specifications is ordered by the CONTRACTOR for use in the eliminated item prior to the date of notification of elimination by the Engineer, and if the order for the material cannot be canceled, payment will be made to the CONTRACTOR for the actual cost of the materials. In this case, the material shall become the property of the AGENCY. Payment will be made to the CONTRACTOR for its actual costs for any further handling. If the material is returnable, the materials shall be returned and payment will be made to the CONTRACTOR for the actual cost of charges made by the supplier for returning the material and for handling by the CONTRACTOR.

Actual costs, as used herein, shall be computed on the basis of Extra Work per 3-3.

3-3 EXTRA WORK.

3-3.1 General. New or unforeseen work will be classified as “extra work” when the Engineer determines that it is not covered by the Contract Unit Prices or stipulated unit prices.

3-3.2 Payment.

3-3.2.1 General. When the price for the extra work cannot be agreed upon, the AGENCY will pay for the extra work based on the accumulation of costs as provided herein.

3-3.2.2 Basis for Establishing Costs.

(a) Labor. The costs of labor will be the actual costs for wages of workers performing the extra work at the time the extra work is done, plus employer payments of payroll taxes, workers compensation insurance, liability insurance, health and welfare, pension, vacation, apprenticeship funds, and other direct costs, resulting from Federal, State, or local laws, as well as assessments or benefits required by lawful collection bargaining agreements.

The use of a labor classification which would increase the extra work cost will not be permitted unless the CONTRACTOR establishes the necessity for such additional costs. Labor costs for equipment operators and helpers shall be reported only when such costs are not included in the invoice for equipment rental. The labor costs for foremen shall be proportioned to all of their assigned work and only that applicable to extra work will be paid.

Non-direct labor costs, including superintendence, shall be considered part of the markup of 3-3.2.3 (a).

(b) Materials. The cost of materials reported shall be at invoice or lowest current price at which such materials are locally available and delivered to the job site in the quantities involved, plus sales tax, freight, and delivery.

The AGENCY reserves the right to approve materials and sources of supply, or to supply materials to the CONTRACTOR if necessary for the progress of the Work. No markup shall be applied to any materials provided by the AGENCY.

(c) Tool and Equipment Rental. No payment will be made for the use of tools which have a replacement value of \$200 or less.

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

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

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

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

The reported rental time for equipment already at the Work site shall be the duration of its use on the extra work. This time begins when equipment is first put into actual operation on the extra work, plus the time required to move it from its previous site and back, or to a closer site.

(d) Other Items. The AGENCY may authorize other items which may be required on the extra work, including labor, services, materials, and equipment. These items must be different in their nature from those required for the Work, and be of a type not ordinarily available from the CONTRACTOR or Subcontractors.

Invoices covering all such items in detail shall be submitted with the request for payment.

(e) Invoices. Vendors' invoices for materials, equipment rental and other expenditures shall be submitted with the request for payment. If the request for payment is not substantiated by invoices or other documentation, the AGENCY may establish the cost of the item involved at the lowest price which was current at the time of the report.

3-3.2.3 Markup.

(a) Work by CONTRACTOR. Unless otherwise provided in the Special Provisions, a 10% (percent) allowance for overhead and profit shall be added to the CONTRACTOR's costs as determined under 3-3.2.2 and shall constitute the markup for all overhead and profit on work by the CONTRACTOR. The CONTRACTOR shall also be compensated for the actual increase in the CONTRACTOR's bond premium caused by the extra work.

(b) Work by Subcontractor. When any of the extra work is performed by a Subcontractor, the markup established in 303.2.3(a) shall be applied to the Subcontractor's costs as determined under 3-3.2.2. Unless otherwise provided in the Special Provisions, a 5% (percent) allowance for the CONTRACTOR's overhead and profit shall be added to the sum of the Subcontractor's costs and markup and shall constitute the markup for all overhead and profit for the CONTRACTOR on work by the Subcontractor.

3-3.3 Daily Reports by CONTRACTOR. When the price for the extra work cannot be agreed upon, the CONTRACTOR shall submit a daily report to the Engineer on forms approved by the AGENCY. Included are applicable delivery tickets, listing all labor, materials, and equipment involved for that day, and other services and expenditures when authorized. Failure to submit the daily report by the close of the next working day may waive any rights for that day. An attempt shall be made to reconcile the report daily, and it shall be signed by the Engineer and the CONTRACTOR. In the event of disagreement, pertinent notes shall be entered by each party to explain points which cannot be resolved immediately. Each party shall

retain a signed copy of the report. Reports by Subcontractors or others shall be submitted through the CONTRACTOR.

The report shall:

1. Show names of workers, classifications, and hours worked.
2. Describe and list quantities of materials used.
3. Show type of equipment, size, identification number, and hours of operations, including loading and transportation, if applicable.
4. Describe other services and expenditures in such detail as the AGENCY may require.

3-4 CHANGED CONDITIONS. The CONTRACTOR shall promptly notify the Engineer of the following Work site conditions (hereinafter called changed conditions), in writing, upon their discovery and before they are disturbed.

1. Subsurface or latent physical conditions differing materially from those represented in the Contract;
2. Unknown physical conditions of an unusual nature differing materially from those ordinarily encountered and generally recognized as inherent in work of the character being performed; and
3. Material differing from that represented in the Contract which the CONTRACTOR believes may be hazardous waste, as defined in Section 25117 of the Health and Safety Code that is required to be removed to a Class I, Class II, or Class III disposal site in accordance with provisions of existing law.

The Engineer will promptly investigate conditions which appear to be changed conditions. If the Engineer determines that the conditions are changed conditions and will materially affect costs, a Change Order will be issued adjusting the compensation for such portion of the Work in accordance with 3-2.2. If the Engineer determines that conditions are changed conditions and they will materially affect performance time, the CONTRACTOR, upon submitting a written request, will be granted an extension of time subject to the provisions of 6-6.

If the Engineer determines that the conditions do not justify an adjustment in compensation, the CONTRACTOR will be notified in writing. This notice will also advise the CONTRACTOR of its obligation to notify the Engineer in writing if the CONTRACTOR disagrees.

Should the CONTRACTOR disagree with the decision, it may submit a written notice of potential claim to the Engineer before commencing the disputed work. In the event of such a dispute, the CONTRACTOR shall not be excused from any scheduled completion date provided by the Contract and shall proceed with all work to be performed under the Contract. However, the CONTRACTOR shall retain any and all rights provided by either Contract or law which pertain to the resolution of disputes and protests between the contracting parties. The CONTRACTOR shall proceed as provided in 3-5.

The CONTRACTOR's failure to give notice of changed conditions promptly upon their discovery and before they are disturbed shall constitute a waiver of all claims in connection therewith.

3-5 DISPUTED WORK. If the CONTRACTOR and the AGENCY are unable to reach agreement on disputed work, the AGENCY may direct the CONTRACTOR to proceed with the work. Payment shall be as later determined by mediation or arbitration, if the AGENCY and CONTRACTOR agree thereto, or as fixed in a court of law.

Although not to be construed as proceeding under extra work provisions, the CONTRACTOR shall keep and furnish records of disputed work in accordance with 3-3.

SECTION 4 – CONTROL OF MATERIALS

4-1 MATERIALS AND WORKMANSHIP.

4-1.1 General. All materials, parts, and equipment furnished by the CONTRACTOR in the Work shall be new, high grade, and free from defects. Quality of work shall be in accordance with the generally accepted standards. Materials and work quality shall be subject to the Engineer's approval.

Materials and work quality not conforming to the requirements of the Specifications shall be considered defective and will be subject to rejection. Defective work or material, whether in place or not, shall be removed immediately from the site by the CONTRACTOR, at its expense, when so directed by the Engineer.

If the CONTRACTOR fails to replace any defective or damaged work or materials after reasonable notice, the Engineer may cause such work or materials to be replaced. The replacement expense will be deducted from the amount to be paid to the CONTRACTOR.

Used or secondhand materials, parts, and equipment may be used only if permitted by the Specifications.

The CONTRACTOR and all subcontractors, suppliers, and vendors, shall guarantee that the entire Work will meet all requirements of this Contract as to the quality of materials, equipment, and workmanship. The CONTRACTOR, at no cost to the AGENCY, shall make any repairs or replacements made necessary by defects in materials, equipment, or workmanship that become evident within one year after the date of recordation of the Notice of Completion. Within this one year period, the CONTRACTOR shall also restore to full compliance with the requirements of this Contract any portion of the Work which is found not to meet those requirements. The CONTRACTOR shall defend, indemnify, and hold the AGENCY, its officers, agents, and employees harmless from claims of any kind due to injuries or damages arising, directly or indirectly, from said defects or noncompliance.

The CONTRACTOR shall make all repairs, replacements, and restorations within thirty-five (35) days after the date of the Engineer's written notice.

If, in the opinion of the Engineer, the defective work is not of sufficient magnitude or importance to make the work dangerous or undesirable, or if, in the opinion of the Engineer, the removal of such work is impractical or will create conditions which are dangerous or undesirable, the AGENCY shall have the right and authority to retain such work instead of requiring it to be removed and reconstructed, but will make such deductions thereof in the payments due or to become due to the CONTRACTOR as the AGENCY may deem just and reasonable.

4-1.2 Protection of Work and Materials. The CONTRACTOR shall provide and maintain storage facilities and employ such measures as will preserve the specified quality and fitness of materials to be used in the Work. Stored materials shall be reasonably accessible for inspection. The CONTRACTOR shall also adequately protect new and existing work and all items of equipment for the duration of the Contract.

The CONTRACTOR shall not, without the AGENCY's consent, assign, sell, mortgage, hypothecate, or remove equipment or materials which have been installed or delivered and which may be necessary for the completion of the Contract.

4-1.3 Inspection Requirements.

4-1.3.1 General. Unless otherwise specified, inspection is required at the source for such typical materials and fabricated items as bituminous paving mixtures, structural concrete, metal fabrication, metal casting, welding, concrete pipe manufacture, protective coating application, and similar shop or plant operations.

Steel pipe in sizes less than 450 mm (18 inches) and vitrified clay and cast iron pipe in all sizes are acceptable upon certification as to compliance with the specifications, subject to sampling and testing by the AGENCY. Standard items of equipment such as electric motors, conveyors, elevators, plumbing fixtures, etc., are subject to inspection at the job site only. Special items of equipment such as designed

electrical panel boards, large pumps, sewage plant equipment, etc., are subject to inspection at the source, normally only for performance testing. The Specifications may require inspection at the source for other items not typical of those listed in this section.

4-1.3.2 Inspection of Materials Not Locally Produced. When the CONTRACTOR intends to purchase materials, fabricated products, or equipment from sources located more than 80 km (50 miles) outside the geographical limits of the AGENCY, an inspector or accredited testing laboratory (approved by the Engineer), shall be engaged by the CONTRACTOR at its expense, to inspect the materials, equipment or process. This approval shall be obtained before producing any material or equipment. The inspector or representative of the testing laboratory shall judge the materials by the requirements of the Plans and Specifications. The CONTRACTOR shall forward reports required by the Engineer. No materials or equipment shall be shipped nor shall any processing, fabrication or treatment of such materials be done without proper inspection by the approved agent. Approval by said agent shall not relieve the CONTRACTOR of responsibility for complying with the Contract requirements.

4-1.3.3 Inspection by the AGENCY. The AGENCY will provide all inspection and testing laboratory services within 80 km (50 miles) of the geographical limits of the AGENCY. For private contracts, all costs of inspection at the source, including salaries and mileage costs, shall be paid by the permittee.

4-1.4 Test of Materials. Before incorporation in the Work, the CONTRACTOR shall submit samples of materials, as the Engineer may require, at no cost to the AGENCY. The CONTRACTOR, at its expense, shall deliver the materials for testing to the place and at the time designated by the Engineer. Except as elsewhere specified, the AGENCY will bear the cost of testing material and/or workmanship which meet or exceed the requirements indicated in the Standard Specifications and the Special Provisions. The CONTRACTOR shall bear the cost of all other tests, including the retesting of material or workmanship that fails to pass the first test.

The CONTRACTOR shall notify the Engineer in writing, at least 15 days in advance, of its intention to use materials for which tests are specified, to allow sufficient time to perform the tests. The notice shall name the proposed supplier and source of material.

If the notice of intent to use is sent before the materials are available for testing or inspection, or is sent so far in advance that the materials on hand at the time will not last but will be replaced by a new lot prior to use on the Work, it will be the CONTRACTOR's responsibility to re-notify the Engineer when samples which are representative may be obtained.

There will be inspection of this project to ensure strict adherence to these specifications. During the course of work, CONTRACTOR shall be responsible for calling the Project Engineer for testing and inspection (48) hours in advance. Work not properly tested and inspected will be subject to rejection.

Any work done in unauthorized areas or in a manner unacceptable to the inspector may not be accepted and/or paid for.

4-1.5 Certification. The Engineer may waive materials testing requirements of the Specifications and accept the manufacturer's written certification that the materials to be supplied meet those requirements. Materials test data may be required as part of the certification.

4-1.6 Trade Names or Equals. The CONTRACTOR may supply any of the materials specified or offer an equivalent. The Engineer shall determine whether the material offered is equivalent to that specified. Adequate time shall be allowed for the Engineer to make this determination.

Whenever any particular material, process, or equipment is indicated by patent, proprietary or brand name, or by name of manufacturer, such wording is used for the purpose of facilitating its description and shall be deemed to be followed by the words **or equal**. A listing of materials is not intended to be comprehensive, or in order of preference. The CONTRACTOR may offer any material, process, or equipment considered

to be equivalent to that indicated. Approval of equipment and materials offered as equivalents to those specified must be obtained prior to the opening of bids as set forth in the Instructions to Bidders.

The CONTRACTOR shall, at its expense, furnish data concerning items offered by it as equivalent to those specified. The CONTRACTOR shall have the material tested as required by the Engineer to determine that the quality, strength, physical, chemical, or other characteristics, including durability, finish, efficiency, dimensions, service, and suitability are such that the item will fulfill its intended function.

Test methods shall be subject to the approval of the Engineer. Test results shall be reported promptly to the Engineer, who will evaluate the results and determine if the substitute item is equivalent. The Engineer's findings shall be final. Installation and use of a substitute item shall not be made until approved by the Engineer.

If a substitute offered by the CONTRACTOR is not found to be equal to the specified material, the CONTRACTOR shall furnish and install the specified material.

The specified Contract completion time shall not be affected by any circumstance developing from the provisions of this section.

Along with information supplied by the CONTRACTOR regarding equivalency of the proposed item, the CONTRACTOR shall clearly identify all deviations from the specified item. Deviations discovered by the Engineer after acceptance of an "or equal" item which were not identified by the CONTRACTOR with his/her submittal shall be cause for rejection of the "or equal" item. CONTRACTOR shall be due no additional compensation in time or money for acceptance or rejection of a proposed "or equal" item and subsequent replacement with the item specified. CONTRACTOR shall pay cost to AGENCY for items requiring more than two submittals and analysis of any shop drawing which requires more than a general review of an "or equal" item.

4-1.7 Weighing and Metering Equipment. All scales and metering equipment used for proportioning materials shall be inspected for accuracy and certified within the past 12 months by the State of California Bureau of Weights and Measures, by the County Director or Sealer of Weights and Measures, or by a scale mechanic registered with or licensed by the County.

The accuracy of the work of a scale service AGENCY, except as stated herein, shall meet the standards of the California Business and Professions Code and the California Code of Regulations pertaining to weighing devices. A certificate of compliance shall be presented, prior to operation, to the Engineer for approval and shall be renewed whenever required by the Engineer at no cost to the AGENCY.

All scales shall be arranged so they may be read easily from the operator's platform or area. They shall indicate the true net weight without the application of any factor. The figures of the scales shall be clearly legible. Scales shall be accurate to within 1 percent when tested with the plant shut down. Weighing equipment shall be so insulated against vibration or moving of other operating equipment in the plant area that the error in weighing with the entire plant running will not exceed 2 percent for any setting nor 1.5 percent for any batch.

4-1.8 Calibration of Testing Equipment. Testing equipment, such as, but not limited to pressure gages, metering devices, hydraulic systems, force (load) measuring instruments, and strain-measuring devices shall be calibrated by a testing AGENCY acceptable to the Engineer at intervals not to exceed 12 months and following repairs, modification, or relocation of the equipment. Calibration certificates shall be provided when requested by the Engineer.

4-1.9 Construction Materials Dispute Resolution (Soils, Rock Materials, Concrete, Mortar and Related Materials, Masonry Materials, Bituminous Materials, Rock Products, and Modified Asphalts). In the interest of safety and public value, whenever credible evidence arises to contradict the test values of materials, the AGENCY and the CONTRACTOR will initiate an immediate and cooperative investigation. Test values of materials are results of the materials' tests, as defined by these Specifications

or by the special provisions, required to accept the Work. Credible evidence is process observations or test values gathered using industry accepted practices. A contradiction exists whenever work acceptance or performance becomes suspect. The investigation shall allow access to all test results, procedures, and facilities relevant to the disputed work and consider all available information and, when necessary, gather new and additional information in an attempt to determine the validity, the cause, and if necessary, the remedy to the contradiction. If the cooperative investigation reaches any resolution mechanism acceptable to both the AGENCY and the CONTRACTOR, the contradiction shall be considered resolved and the cooperative investigation concluded.

Whenever the cooperative investigation is unable to reach resolution, the investigation may then either conclude without resolution or continue by written notification of one party to the other requesting the implementation of a resolution process by committee. The continuance of the investigation shall be contingent upon recipient's agreement and acknowledged in writing within 3 calendar days after receiving a request. Without acknowledgement, the investigation shall conclude without resolution. The committee shall consist of three State of California Registered Civil Engineers. Within 7 calendar days after the written request notification, the AGENCY and the CONTRACTOR will each select one engineer. Within 14 calendar days of the written request notification, the two selected engineers will select a third engineer. The goal in selection of the third member is to complement the professional experience of the first two engineers. Should the two engineers fail to select the third engineer, the AGENCY and the CONTRACTOR shall each propose 2 engineers to be the third member within 21 calendar days after the written request notification. The first two engineers previously selected shall then select one of the court proposed engineers in a blind draw.

The committee shall be a continuance of the cooperative investigation and will re-consider all available information and if necessary gather new and additional information to determine the validity, the cause, and if necessary, the remedy to the contradiction. The committee will focus upon the performance adequacy of the material(s) using standard engineering principles and practices and to ensure public value, the committee may provide engineering recommendations as necessary. Unless otherwise agreed, the committee will have 30 calendar days from its formation to complete their review and submit their findings. The final resolution of the committee shall be by majority opinion, in writing, stamped and signed. Should the final resolution not be unanimous, the dissenter may attach a written, stamped, and signed minority opinion.

Once started, the resolution process by committee shall continue to full conclusion unless:

1. Within 7 days of the formation of the committee, the AGENCY and the CONTRACTOR reach an acceptable resolution mechanism; or
2. Within 14 days of the formation of the committee, the initiating party withdraws its written notification and agrees to bear all investigative related costs thus far incurred; or
3. At any point by the mutual agreement of the AGENCY and the CONTRACTOR.

Unless otherwise agreed, the CONTRACTOR shall bear and maintain a record for all the investigative costs until resolution. Should the investigation discover assignable causes for the contradiction, the assignable party, the AGENCY or the CONTRACTOR, shall bear all costs associated with the investigation. Should assignable causes for the contradiction extended to both parties, the investigation will assign costs cooperatively with each party or when necessary, equally. Should the investigation substantiate a contradiction without assignable cause, the investigation will assign costs cooperatively with each party or when necessary, equally. Should the investigation be unable to substantiate a contradiction, the initiator of the investigation shall bear all investigative costs. All claim notification requirements of the contract pertaining to the contradiction shall be suspended until the investigation is concluded.

SECTION 5 – UTILITIES

5-1 LOCATION. The Permittee (in the case of Private Contracts) and the AGENCY, will search known substructure records and furnish the CONTRACTOR with copies of documents which describe the location of utility substructures, or will indicate on the Plans for the project those substructures (except for service connections) which may affect the Work. Information regarding removal, relocation, abandonment, or installation of new utilities will be furnished to prospective bidders.

Where underground main distribution conduits such as water, gas, sewer, electric power, telephone, or cable television are shown on the Plans, the CONTRACTOR shall assume that every property parcel will be served by a service connection for each type of utility.

As provided in Section 4216 of the California Government Code, at least 2 working days prior to commencing any excavation, the CONTRACTOR shall contact the regional notification center (Underground Service Alert of Northern California) and obtain an inquiry identification number.

The California Department of Transportation is not required by Section 4216 to become a member of the regional notification center. The CONTRACTOR shall contact it for location of its subsurface installations.

The CONTRACTOR shall determine the location and depth of all utilities, including service connections, which have been marked by the respective owners and which may affect or be affected by its operations. If no pay item is provided in the Contract for this work, full compensation for such work shall be considered as included in the prices bid for other items of work.

5-1.1 Mandatory Notification Prior To Excavation. The Contractor's attention is directed to Section 4215.5 through 4217 of the Government Code of the State of California. This requires that two (2) working days prior to commencing any excavation "Underground Service Alert of Northern California" (USA) shall be notified by phone, toll free 1-800-227-2600, for the assignment of an Inquiry Identification Number.

Construction CONTRACTOR shall contact all utility companies at least five (5) working days prior to commencing work and shall verify the location of any known utilities and determine whether or not a representative of each company will be present during excavation.

The known public utilities contacts are:

City of Lakeport Municipal Sewer District No. 1 – sewer and storm drain

City of Lakeport – water

PG&E – gas and electric

AT&T – telephone and fiber optic

Mediacom Broadband – cable and fiber optic

The CONTRACTOR shall coordinate construction with public utility relocation activities.

The existing subsurface utilities shown have been indicated, based on the best available record information. However, to avoid or resolve any interference problems between these existing utilities and the proposed work, the CONTRACTOR shall field verify the vertical and horizontal locations of all utilities, such as water lines and water services, electronic conduits, telephone and television cable, storm drain facilities, and all other facilities and obstructions prior to beginning any excavations. If conflicts exist, revised grades and/or alignments may be established, if required. **Such field verification shall require exposing these utilities prior to the start of construction.**

Special reference is hereby made to Section 5-2, "Protection," of these Standard Specifications with respect to the protection, repair, and replacement of existing subsurface utilities.

Additionally, the CONTRACTOR shall also notify the following local entities of his/her schedule fourteen (14) days prior to commencing work, including local refuse collectors, street sweepers, the Post Office, Public Schools, and Bus Companies:

City of Lakeport Police and Fire Department

City of Lakeport Public Works Department

Cal Fire

Lakeport Fire District

Lakeport Unified School District

Lake County Transit

County of Lake

No excavation shall commence unless the CONTRACTOR has obtained the USA Inquiry Identification Number.

5-1.2 Accuracy of Utilities Information. The locations of known existing major utilities, whether above ground or underground, are indicated on the plans. Information and data reflected in the Contract Documents with respect to underground and above ground utilities at or contiguous to the site is based upon information and data furnished to the City and the Engineer by the owners of such utilities, and the City does not assume responsibility for the accuracy or completeness thereof. The CONTRACTOR shall take all possible precautions for the protection of unforeseen utility lines to provide for uninterrupted service and to provide such special protection as may be necessary.

The CONTRACTOR shall be responsible for determining the location and depth of all underground facilities, including service connections, which may affect or be affected by his/her operations and he/she shall include the cost to pothole all utilities within the limits of work in his/her bid. If an existing utility line, which has been marked by Underground Service Alert or is shown on the plans, is damaged by the CONTRACTOR, the CONTRACTOR shall repair the line and bear the cost thereof.

CONTRACTOR shall be aware that electrical conduits between street and traffic lights may exist beneath pavement and/or sidewalk in areas where such lights are in place and that said conduits are not shown on these plans.

In the event that the CONTRACTOR damages any existing utility lines that are not shown, shown incorrectly or the locations of which are not made known to the CONTRACTOR prior to excavation, a telephone call and written report shall be made immediately to the Utility owner, the Engineer, and to the City. If directed by the City, the CONTRACTOR shall make repairs under the provisions for changes and extra work contained in **SECTION 3 - CHANGES IN WORK** of these Standard Specifications.

5-2 PROTECTION.

Excavation, trenching, bedding and backfill construction shall be in accordance with the Contract Documents, applicable City requirements, the Standard Specifications, and the project drawings. All trenching including that for water, sewer, storm drain and utility conduits and all service connections and meter boxes (not permitted in driveways) shall be completed and inspected and approved by the agency having jurisdiction, and the structural backfill inspected and tested for compaction and approved before aggregate base, paving, and other permanent surface construction may commence.

Bedding and backfill material shall be tested by the CONTRACTOR to establish a procedure and to control his operations. Compliance testing will be performed by the Soil Engineer.

The CONTRACTOR shall not interrupt the service function or disturb the support of any utility without authority from the owner or order from the AGENCY. All valves, switches, vaults, and meters shall be maintained readily accessible for emergency shutoff.

Where protection is required to ensure support of utilities located as shown on the Plans or in accordance with 5-1, the CONTRACTOR shall, unless otherwise provided, furnish and place the necessary protection at its expense.

Upon learning of the existence and location of any utility omitted from or shown incorrectly on the Plans, the CONTRACTOR shall immediately notify the Engineer in writing. When authorized by the Engineer, support or protection of the utility will be paid for as provided in 3-2.2.3 or 3-3.

The CONTRACTOR shall immediately notify the Engineer and the utility owner if any utility is disturbed or damaged. The CONTRACTOR shall bear the costs of repair or replacement of any utility damaged.

Where concrete is used for backfill or for structures which would result in embedment, or partial embedment, of a metallic utility installation; or where the coating, bedding or other cathodic protection system is exposed or damaged by the CONTRACTOR's operations, the CONTRACTOR shall notify the Engineer and arrange to secure the advice of the affected utility owner regarding the procedures required to maintain or restore the integrity of the system.

5-3 REMOVAL. Unless otherwise specified, the CONTRACTOR shall remove all interfering portions of utilities shown on the Plans or indicated in the Bid documents as "abandoned" or "to be abandoned in place". Before starting removal operations, the CONTRACTOR shall ascertain from the AGENCY whether the abandonment is complete, and the costs involved in the removal and disposal shall be included in the Bid for the items of work necessitating such removals.

5-4 RELOCATION. When feasible, the owners responsible for utilities within the area affected by the Work will complete their necessary installations, relocations, repairs, or replacements before commencement of work by the CONTRACTOR. When the Plans or Specifications indicate that a utility installation is to be relocated, altered, or constructed by others, the AGENCY will conduct all negotiations with the owners and work will be done at no cost to the CONTRACTOR, except as provided in 301-1.6. Utilities which are relocated in order to avoid interference shall be protected in their position and the cost of such protection shall be included in the Bid for the items of work necessitating such relocation.

After award of the Contract, portions of utilities which are found to interfere with the Work will be relocated, altered or reconstructed by the owners, or the Engineer may order changes in the Work to avoid interference. Such changes will be paid for in accordance with 3-2.

When the Plans of Specifications provide for the CONTRACTOR to alter, relocate, or reconstruct a utility, all costs for such work shall be included in the Bid for the items of work necessitating such work. Temporary or permanent relocation or alteration of utilities requested by the CONTRACTOR for its convenience shall be its responsibility and it shall make all arrangements and bear all costs.

The utility owner will relocate service connections as necessary within the limits of the Work or within temporary construction or slope easements. When not otherwise required by the plans and specifications and when directed by the Engineer, the CONTRACTOR shall arrange for the relocation of service connections as necessary between the meter and property line, or between the meter and limits of construction. The relocation of such service connections will be paid for in accordance with provisions of 3-3. Payment will include the restoration of all existing improvements which may be affected thereby. The CONTRACTOR may agree with the owner of any utility to disconnect and reconnect interfering service connections. The AGENCY will not be involved in any such agreement.

5-5 DELAYS. The CONTRACTOR shall notify the Engineer of its construction schedule insofar as it affects the protection, removal, or relocation of utilities. Said notification shall be included as a part of the construction schedule required in 6-1. The CONTRACTOR shall notify the Engineer in writing of any

subsequent changes in the construction schedule which will affect the time available for protection, removal, or relocation of utilities.

The CONTRACTOR will not be entitled to damages or additional payment for delays attributable to utility relocations or alterations if correctly located, noted, and completed in accordance with 5-1.

The CONTRACTOR may be given an extension of time for unforeseen delays attributable to unreasonably protracted interference by utilities in performing work correctly shown on the Plans.

The AGENCY will assume responsibility for the timely removal, relocation, or protection of existing main or trunk line utility facilities within the area affected by the Work if such utilities are not identified in Contract Documents. The CONTRACTOR will not be assessed liquidated damages for any delay caused by failure of AGENCY to provide for the timely removal, relocation, or protection of such existing facilities.

5-6 COOPERATION. When necessary, the CONTRACTOR shall so conduct its operations as to permit access to the Work site and provide time for utility work to be accomplished during the progress of the Work.

SECTION 6 – PROSECUTION, PROGRESS, AND ACCEPTANCE OF THE WORK

6-1 CONSTRUCTION SCHEDULE AND COMMENCEMENT OF WORK.

6-1.1 Pre-Construction Meeting and Submittal. A pre-construction meeting will be conducted by the City prior to commencement of construction at a time and place designated by the City. Those attending the meeting shall include, but not be limited to, the following:

- a. The CONTRACTORs representative(s)
- b. Sub-CONTRACTORs representative(s), if needed
- c. City of Lakeport Director of Public Works
- d. City of Lakeport Project Manager
- e. The Design Engineers
- f. The Construction Engineers
- g. The affected utility companies representatives
- h. City of Lakeport Public Works Inspectors
- i. Caltrans' inspector and/or representative(s) if applicable

One week prior to this meeting the CONTRACTOR shall submit the following:

1. Construction Schedule
2. Traffic Control Plan
3. Emergency Contact List
4. List of Subcontractors
5. Storm Water Pollution Prevention Plan (SWPPP)

6-1.2 CONSTRUCTION SCHEDULE. After notification of award and prior to start of any work, the CONTRACTOR shall submit its proposed construction schedule to the Engineer for approval. The construction schedule shall be in the form of a tabulation, chart, or graph and shall be in sufficient detail to

show chronological relationship of all activities of the project. The schedule shall adhere to the overall project schedule noted in Section 700 of these specifications. These include, but are not limited to: estimated starting and completion dates of various activities, submittal of shop drawings to the Engineer for approval, procurement of materials and scheduling of equipment. The construction schedule shall recognize the requirements of 5-5 and reflect completion of all work under the Contract within the specified time and in accordance with the Specifications.

Unless otherwise provided, the Contract time shall commence upon the date of issuance of a notice to proceed. The Work shall start within 15 days thereafter, and be diligently prosecuted to completion within the time provided in the Specifications.

If the CONTRACTOR desires to make a major change in the method of operations after commencing construction, or if the schedule fails to reflect the actual progress, the CONTRACTOR shall submit to the Engineer a revised construction schedule in advance of beginning revised operations.

The Engineer may waive these requirements for work constructed under permit.

Prior to issuing the Notice to Proceed, the Engineer will schedule and conduct a pre-construction meeting with the CONTRACTOR to review the proposed construction schedule and delivery dates, arrange utility coordination, discuss construction methods, and clarify inspection procedures.

6-1.3 Emergency Contact List. The CONTRACTOR shall provide the following information in writing and submit it with the signed contract, contract bonds and certificates of insurance. Failure to comply may result in delays in the processing of the contract documents.

1. Name of authorized representative at the job site.
2. Address and telephone number where the above person can be reached 24 hours a day.
3. Address of the nearest office of the CONTRACTOR, if any, and the name and telephone number of a person at that office who is familiar with the project.
4. Address and telephone number of the CONTRACTOR's main office and the name and telephone number of the person at that office familiar with the project.

6-2 PROSECUTION OF WORK. To minimize public inconvenience and possible hazard and to restore street and other work areas to their original condition and state of usefulness as soon as practicable, the CONTRACTOR shall diligently prosecute the Work to completion. If the Engineer determines that the CONTRACTOR is failing to prosecute the Work to the proper extent, the CONTRACTOR shall, upon orders from the Engineer, immediately take steps to remedy the situation. All costs of prosecuting the Work as described herein shall be included in the CONTRACTOR's Bid. Should the CONTRACTOR fail to take the necessary steps to fully accomplish said purposes, after orders of the Engineer to do so, the AGENCY may suspend the work in whole or in part, until the CONTRACTOR takes said steps at no cost to the AGENCY.

As soon as possible under the provisions of the Specifications, the CONTRACTOR shall backfill all excavations and restore to usefulness all improvements existing prior to the start of the Work.

If Work is suspended through no fault of the AGENCY, all expenses and losses incurred by the CONTRACTOR during such suspensions shall be borne by the CONTRACTOR. If the CONTRACTOR fails to properly provide for public safety, traffic, and protection of the Work during periods of suspension, the AGENCY may elect to do so, and deduct the cost thereof from monies due the CONTRACTOR. Such actions will not relieve the CONTRACTOR from liability.

The CONTRACTOR shall submit monthly progress reports to the Engineer by the tenth day of each month. The report shall include an updated construction schedule. Any deviations from the original schedule shall be explained. Progress payments will be withheld pending receipt of any outstanding reports.

6-3 SUSPENSION OF WORK.

6-3.1 General. The Work may be suspended in whole or in part when determined by the Engineer that the suspension is necessary in the interest of the AGENCY. The CONTRACTOR shall comply immediately with any written order of the Engineer. Such suspension shall be without liability to the CONTRACTOR on the part of the AGENCY except as otherwise specified in 6-6.3.

6-3.2 Archaeological and Paleontological Discoveries. If discovery is made of items of archaeological or paleontological interest, the CONTRACTOR shall immediately cease excavation in the area of discovery and shall not continue until ordered by the Engineer. When resumed, excavation operations within the area of discovery shall be as directed by the Engineer.

Discoveries which may be encountered may include, but not be limited to, dwelling sites, stone implements or other artifacts, animal bones, human bones, and fossils.

The CONTRACTOR shall be entitled to an extension of time and compensation in accordance with the provisions of 6-6.

6-4 DEFAULT BY CONTRACTOR. If the CONTRACTOR fails to begin delivery of material and equipment, to commence the Work within the time specified, to maintain the rate of delivery of material, to execute the Work in the manner and at such locations as specified, or fails to maintain the Work schedule which will insure the AGENCY's interest, or, if the CONTRACTOR is not carrying out the intent of the Contract, the AGENCY may serve written notice upon the CONTRACTOR and the Surety on its Faithful Performance Bond demanding satisfactory compliance with the Contract.

The Contract may be canceled by the City Council without liability for damage, when in the City Council's opinion the CONTRACTOR is not complying in good faith, has become insolvent, or has assigned or subcontracted any part of the Work without the City Council's consent. In the event of such cancellation, the CONTRACTOR will be paid the actual amount due based on Contract Unit Prices or lump sums bid and the quantity of the Work completed at the time of cancellation, less damages caused to the AGENCY by acts of the CONTRACTOR. The CONTRACTOR, in having tendered a Bid, shall be deemed to have waived any and all claims for damages because of cancellation of Contract for any such reason. If the AGENCY declares the Contract canceled for any of the above reasons, written notice to that effect shall be served upon the Surety. The Surety shall, within 5 days, assume control and perform the Work as successor to the CONTRACTOR.

If the Surety assumes any part of the Work, it shall take the CONTRACTOR's place in all respects for that part, and shall be paid by the AGENCY for all work performed by it in accordance with the Contract. If the Surety assumes the entire Contract, all money due the CONTRACTOR at the time of its default shall be payable to the Surety as the Work progresses, subject to the terms of the Contract.

If the Surety does not assume control and perform the Work within 5 days after receiving a notice of cancellation, or fails to continue to comply, the AGENCY may exclude the Surety from the premises. The AGENCY may then take possession of all material and equipment and complete the Work by AGENCY forces, by letting the unfinished Work to another CONTRACTOR, or by a combination of such methods. In any event, the cost of completing the Work shall be charged against the CONTRACTOR and its Surety and may be deducted from any money due or becoming due from the AGENCY. If the sums due under the Contract are insufficient for completion, the CONTRACTOR or Surety shall pay to the AGENCY within 5 days after the completion, all costs in excess of the sums due.

The provisions of this subsection shall be in addition to all other rights and remedies available to the AGENCY under law.

6-5 TERMINATION OF THE CONTRACT. The City Council may terminate the Contract at its own discretion or when conditions encountered during the Work make it impossible or impracticable to proceed,

or when the AGENCY is prevented from proceeding with the Contract by act of God, by law, or by official action of a public authority.

6-6 DELAYS AND EXTENSIONS OF TIME.

6-6.1 General. If delays are caused by unforeseen events beyond the control of the CONTRACTOR, such delays will entitle the CONTRACTOR to an extension of time as provided herein, but the CONTRACTOR will not be entitled to damages or additional payment due to such delays, except as provided in 6-6.3. Such unforeseen events may include: war, government regulations, labor disputes, strikes, fires, floods, adverse weather or elements necessitating cessation of work, inability to obtain materials, labor or equipment, required extra work, or other specific events as may be further described in the Specifications.

No extension of time will be granted for a delay caused by the CONTRACTOR's inability to obtain materials unless the CONTRACTOR furnishes to the Engineer documentary proof. The proof must be provided in a timely manner in accordance with the sequence of the CONTRACTOR's operations and the approved construction schedule.

If delays beyond the CONTRACTOR's control are caused by events other than those mentioned above, the Engineer may deem an extension of time to be in the best interests of the AGENCY. The CONTRACTOR will not be entitled to damages or additional payment due to such delays, except as provided in 6-6.3.

If delays beyond the CONTRACTOR's control are caused solely by action or inaction by the AGENCY, such delays will entitle the CONTRACTOR to an extension of time as provided in 6-6.2.

6-6.1.1 Notice of Delays. Whenever the CONTRACTOR foresees any delay in the prosecution of the work, and in any event immediately upon the occurrence of any delay which the CONTRACTOR regards as unavoidable, he/she shall notify the Engineer in writing of the probability of the occurrence of such delay and its cause so that the Engineer may take immediate steps to prevent, if possible, the occurrence or continuance of the delay, or, if prevention is not possible, may determine whether the delay is to be considered avoidable or unavoidable, how long it continues, and to what extent it will delay the prosecution and completion of the work. It will be concluded that any and all delays which have occurred in the prosecution and completion of the work have been avoidable delays, except such delays as shall have been called to the attention of the Engineer at the time of their occurrence and found by him/her to have been unavoidable. The CONTRACTOR shall make no claims for any delay not called to the attention of the Engineer at the time of its occurrence as an unavoidable delay.

6-6.1.2 Avoidable Delays. Avoidable delays in the prosecution or completion of the work shall include all delays which in the opinion of the Engineer would have been avoided by the exercise of care, prudence, foresight, and diligence on the part of the CONTRACTOR of his/her subcontractors. The following shall be considered avoidable delays within the meaning of the contract: 1) Delays in the prosecution of parts of the work which may in themselves be unavoidable but do not necessarily prevent or delay the prosecution of other parts of the work or the completion of the whole work within the time herein specified; 2) Reasonable loss of time resulting from the necessity of submitting samples of materials and drawings to the Engineer for approval and from performing tests of materials, measurements, and inspections; 3) Reasonable interference of other CONTRACTORS employed by the AGENCY and/or other CONTRACTORS working in the area which do not necessarily prevent the completion of the whole work within the time agreed upon; 4) Delays resulting from inaccurate or incomplete shop drawing submittals; and 5) Interference of other CONTRACTORS performing concurrent work.

6-6.1.3 Extension of Time. In case the work is not completed in the time specified, including such extensions of time as may have been granted for unavoidable delays, the CONTRACTOR will be assessed damages for delay in accordance with Paragraph 6-9.1. The AGENCY, however, shall have the right to grant an extension of time for avoidable delay if it is deemed in his/her best interest to do so. During such extension of time, the CONTRACTOR will be charged for engineering and inspection services and other costs as provided in Paragraph 6-6.2.1 but will not be assessed damages pursuant to Paragraph 6-9.

6-6.2 Extensions of Time. Extensions of time, when granted, will be based upon the effect of delays to the Work, They will not be granted for non-controlling delays to minor portions of the Work unless it can be shown that such delays did or will delay the progress of the Work.

6-6.2.1 Compensation to AGENCY for Extension of Time. Compensation for extension of time for avoidable delay granted pursuant to Paragraph 6-6.1.3 shall be the actual cost to the AGENCY for engineering, inspection, general supervision, and overhead expenses which are directly chargeable to the work and which accrue during the period of such extension, except that the cost of final inspection and preparation of the final estimate shall not be included.

6-6.3 Payment for Delays to CONTRACTOR. The CONTRACTOR will be compensated for damages incurred due to delays for which the AGENCY is responsible. Such actual costs will be determined by the Engineer. The AGENCY will not be liable for damages which the CONTRACTOR could have avoided by any reasonable means, such as judicious handling of forces or equipment. The determination of what damages the CONTRACTOR could have avoided will be made by the Engineer.

Requests for an extension of time must be delivered to the AGENCY within ten (10) consecutive calendar days following the date of the occurrence that caused the delay. The request must be submitted in writing and must state the cause of the delay, the date of the occurrence causing the delay, and the amount of additional time requested. This shall be included as part of a revised construction schedule required in Section 6-1. Requests for extensions of time shall be supported by all evidence reasonably available or known to the CONTRACTOR, which would support the extension of time requested. Requests for extensions of time, which are not received within the time specified above, shall result in the forfeiture of the CONTRACTOR's right to receive any extension of time requested.

If the CONTRACTOR is requesting an extension of time because of weather, he/she shall supply daily written reports to the AGENCY's representative describing such weather, and the work that could not be performed that day because of such weather or conditions resulting therefrom and that he/she otherwise would have performed.

6-7 TIME OF COMPLETION

6-7.1 General. The CONTRACTOR shall complete the Work within the time set forth in the Contract. The CONTRACTOR shall complete each portion of the Work within such time as set forth in the Contract for such portion. Unless otherwise specified, the time of completion of the Contract shall be expressed in working days.

6-7.2 Working Day. A working day is any day within the period between the start of the Contract time as defined in 6-1 and the date provided for completion, or upon field acceptance by the Engineer for all work provided for in the Contract, whichever occurs first, other than:

1. Saturday,
2. Sunday, prior to 6 PM
3. any day designated as a holiday by the AGENCY,
4. any other day designated as a holiday in a Master Labor Agreement entered into by the CONTRACTOR or on behalf of the CONTRACTOR as an eligible member of a CONTRACTOR association,
5. any day the CONTRACTOR is prevented from working at the beginning of the workday for cause as defined in 6-6.1,
6. any day the CONTRACTOR is prevented from working during the first 5 hours with at least 60 percent of the normal work force for cause as defined in 6-6.1.

The CONTRACTOR's activities involving work which requires street closure, detours, and barricades shall be confined to the hours between 6:00 p.m. and 6:00 p.m. Sunday night through Thursday night. In addition, the CONTRACTOR shall not perform any Work on Saturday, Sunday, or on AGENCY-designated holidays. AGENCY-designated holidays are listed in **TABLE 1 – AGENCY-DESIGNATED HOLIDAYS** below. Deviation from these hours will be permitted upon approval of the Engineer, except in emergencies involving immediate hazard to persons or property.

Deviations from these hours will not be permitted without the prior consent of the Engineer, except in emergencies involving immediate hazard to persons or property. In the event of either a requested or emergency deviation, inspection service fees will be charged against the CONTRACTOR. Service fees will be calculated at overtime rates including benefits, overhead, and travel time; and will be deducted from the amounts due the CONTRACTOR.

Failure of the CONTRACTOR to adhere to working day requirements will result in damages being sustained by the City. Such damages are, and will continue to be, impracticable and extremely difficult to determine. For each OCCURRENCE of a working day or hours violation, as provided herein, the CONTRACTOR shall pay to the AGENCY, or have withheld from monies due to it, the sum of \$1,000.00.

TABLE 1 – AGENCY-DESIGNATED HOLIDAYS

- New Year's Day
- Martin Luther King, Jr. Day
- Lincoln's Birthday
- President's Day
- Memorial Day
- Independence Day, July 1 through July 9
- Labor Day
- Veteran's Day
- Thanksgiving Day
- Day after Thanksgiving
- Christmas Eve
- Christmas Day
- New Year's Eve

EXECUTION OF THE CONTRACT SHALL CONSTITUTE AGREEMENT BY THE AGENCY AND CONTRACTOR THAT \$1,000 PER VIOLATION IS THE MINIMUM VALUE OF THE COST AND ACTUAL DAMAGED CAUSED BY FAILURE OF THE CONTRACTOR TO LIMIT PERFORMANCE OF THE WORK BETWEEN THE ALLOTTED TIMES, THAT SUCH SUM SHALL NOT BE CONSTRUED AS A PENALTY, AND THAT SUCH SUM MAY BE DEDUCTED FROM PAYMENTS DUE THE CONTRACTOR IF SUCH DELAY OCCURS.

6-7.3 Contract Time Accounting. The Engineer will make a daily determination of each working day to be charged against the Contract time. These determinations will be discussed and the CONTRACTOR will be furnished a periodic statement showing allowable number of working days of Contract time, as adjusted, at the beginning of the reporting period. The statement will also indicate the number of working days charged during the reporting period and the number of working days of Contract time remaining. If the

CONTRACTOR does not agree with the statement, it shall file a written protest within 15 days after receipt, setting forth the facts of the protest. Otherwise, the statement will be deemed to have been accepted.

6-8 COMPLETION, ACCEPTANCE, AND WARRANTY. The Work will be inspected by the Engineer for acceptance upon receipt of the CONTRACTOR's written assertion that the Work has been completed.

If, in the Engineer's judgment, the Work has been completed and is ready for acceptance, it will so certify to the City Council, which may accept the completed Work. The Engineer will, in its certification to the City Council, give the date when the Work was completed. This will be the date when the CONTRACTOR is relieved from responsibility to protect the Work.

All work shall be warranted by the CONTRACTOR against defective workmanship and materials for a period of 1 year from the date the Work was completed. The CONTRACTOR shall replace or repair any such defective work in a manner satisfactory to the Engineer, after notice to do so from the Engineer, and within the time specified in the notice. If the CONTRACTOR fails to make such replacement or repairs within the time specified in the notice, the AGENCY may perform this work and the CONTRACTOR's sureties shall be liable for the cost thereof.

6-8.1 General Guaranty. The CONTRACTOR shall remedy any defects in the Work and pay for any damage to other work resulting therefrom, which shall appear within a period of one year from the date of final acceptance of the Work unless a longer period is specified. The AGENCY will give notice of observed defects with reasonable promptness.

6-9 FORFEITURE DUE TO DELAY. The CONTRACTOR shall complete all or any designated portion of the Work called for under the Contract within the time set forth in Section C (Proposal) of these Specifications.

In accordance with Government Code 53069.85, and all other applicable law, the CONTRACTOR agrees to forfeit and pay the AGENCY the amount of **Three Thousand Dollars (\$3,000.00)** per day for each and every day of unauthorized delay beyond the completion date, which shall be deducted from any monies due the CONTRACTOR. This payment shall be considered liquidated damages. CONTRACTOR agrees that such liquidated damages are reasonable under the circumstances existing at the time of execution of the contract, that such liquidated damages are to compensate AGENCY for losses that are difficult to measure and that such damages are not a penalty.

Failure of the CONTRACTOR to perform any covenant or condition contained in the Contract Documents within the time period specified shall constitute a material breach of this Contract entitling the AGENCY to terminate the Contract unless the CONTRACTOR applies for, and receives, an extension of time in accordance with the procedures set forth in Section 5-5.

Failure of the AGENCY to insist upon the performance of any covenant or conditions within the time period specified in the Contract Documents shall not constitute a waiver of the CONTRACTOR's duty to complete performance within the designated periods unless the AGENCY has executed a waiver in writing.

The AGENCY's agreement to waive a specific time provision or to extend the time for performance shall not constitute a waiver of any other time provision contained in the Contract Documents.

Failure of the CONTRACTOR to complete performance promptly within the additional time authorized in a waiver or extension of time agreement shall constitute a material breach of this Contract entitling the AGENCY to terminate this agreement.

The CONTRACTOR shall not be deemed in breach of this Contract and no forfeiture due to delay shall be made because of any delays in the completion of the Work due to unforeseeable causes beyond the control and without the fault or negligence of the CONTRACTOR provided the CONTRACTOR requests an extension of time in accordance with the procedures set forth in Section 5-5. Unforeseeable causes of delay beyond the control of the CONTRACTOR shall include acts of God, acts of a public enemy, acts of the government, acts of the AGENCY, or acts of another CONTRACTOR in the performance of a contract

with the AGENCY, fires, floods, epidemics, quarantine restrictions, strikes, freight embargoes, and weather, or delays of subcontractors due to such causes, or delays caused by failure of the owner of a utility to provide for removal or relocation of existing utility facilities. Delays caused by actions or neglect of CONTRACTOR or his/her agents, servants, employees, officers, subcontractors, directors, or of any party contracting to perform part of all of the Work or to supply any equipment or materials shall not be excusable delays. Excusable delays (those beyond the CONTRACTOR's control) shall not entitle the CONTRACTOR to any additional compensation. The sole recourse of the CONTRACTOR shall be to seek an extension of time.

6-10 USE OF IMPROVEMENT DURING CONSTRUCTION. The AGENCY reserves the right to take over and utilize all or part of any completed facility or appurtenance. The CONTRACTOR will be notified in writing in advance of such action. Such action by the AGENCY will relieve the CONTRACTOR of responsibility for injury or damage to said completed portions of the improvement resulting from use by public traffic or from the action of the elements or from any other cause, except CONTRACTOR operations or negligence. The CONTRACTOR will not be required to re-clean such portions of the improvement before field acceptance, except for cleanup made necessary by its operations. Nothing in this section shall be construed as relieving the CONTRACTOR from full responsibility for correcting defective work or materials.

In the event the AGENCY exercises its right to place into service and utilize all or part of any completed facility or appurtenance, the AGENCY will assume the responsibility and liability for injury to persons or property resulting from the utilization of the facility or appurtenance so placed into service, except for any such injury to persons or property caused by any willful or negligent act or omission by the CONTRACTOR, Subcontractor, their officers, employees, or agents.

6-11 GUARANTEE. The CONTRACTOR shall warrant and guarantee the entire Work and all parts thereof, including that performed and constructed by subcontractors, and others employed directly or indirectly on the Work, against faulty or defective materials, equipment or workmanship for the maximum period provided by law. In addition thereto, for a period of one (1) year commencing on the date of acceptance of the Work, the CONTRACTOR shall, upon the receipt of notice in writing from the AGENCY, promptly make all repairs arising out of defective materials, workmanship or equipment and bear the cost thereof. The AGENCY is hereby authorized to make such repairs and the CONTRACTOR and Surety shall bear the cost thereof if, ten (10) days after the giving of such notice to the CONTRACTOR, the CONTRACTOR has failed to make or undertake with due diligence the repairs; provided, however, that, in the case of an emergency where, in the opinion of the AGENCY, delay could cause serious loss or damage, repairs may be made without notice being sent to the CONTRACTOR or Surety, and all expense in connection therewith shall be charged to the CONTRACTOR and Surety.

For the purpose of this article "Acceptance of the Work" shall mean the acceptance of the Work by the AGENCY in accordance with Subsection 6-8 but not for the purpose of extinguishing any covenant or agreement or agreement on the part of the CONTRACTOR to be performed or fulfilled under this Contract, which has not in fact been performed or fulfilled at the time of such acceptance all of such covenants and agreements, shall continue to be binding on the CONTRACTOR until they have been fulfilled.

The effective date of Acceptance of the Work and commencement of the Guarantee shall be the date of acceptance of the Notice of Completion by the City Council.

6-12 DISPUTES AND CLAIMS

6-12.1 General. Any and all decisions made on appeal pursuant to this Subsection 6-12 shall be in writing. Any "decision" purportedly made pursuant to this Subsection 6-12 that is not in writing shall not be binding upon the AGENCY and should not be relied upon by the CONTRACTOR.

Nothing in this subsection shall be considered as relieving the CONTRACTOR from his/her duty to file the notice required under Subsection 6-13 or other duties required by the Contract Documents.

6-12.2 Administrative Review. Request for review made to the Construction Inspector or Project Engineer may be either oral or written. Request for review made to the City Engineer shall be made in writing with supporting evidence attached.

The CONTRACTOR shall submit each request for review within twenty-one (21) calendar days of receipt of the decision that he/she is requesting.

Prior to demand for arbitration, the CONTRACTOR shall exhaust his/her administrative remedies by attempting to resolve his/her dispute or claim with AGENCY's staff in the following sequence:

1. Project Engineer
2. City Engineer

Should the Project Engineer fail to address the CONTRACTOR's request for review of a disputed decision within fourteen (14) calendar days after receiving such request, the CONTRACTOR may proceed directly to the City Engineer. At the option of the AGENCY, the person to whom the request for review is directed may elect to take such request to a higher level and the CONTRACTOR's request shall be deemed to be properly submitted to such higher level.

The City Engineer shall address disputes or claims within twenty eight (28) calendar days after receiving such request and all necessary supporting data. The City Engineer's decision on the dispute or claim shall be the AGENCY's final decision.

6-12.3 Arbitration. Claims and disputes arising under or related to the performance of the contract, except for claims that have been released by execution of the "Release on Contract" as provided in Subsection 9-4, shall be resolved in arbitration unless the AGENCY and the CONTRACTOR agree in writing, after the claim or dispute has arisen, to waive arbitration and to have the claim or dispute litigated in court of competent jurisdiction. Arbitration shall be conducted, to the extent feasible, pursuant to Chapter 3 (Sections 301-393, inclusive) of Division 2 of Title 1 of the California Code of Regulations except that references therein to the "State Contract Act" shall be construed to mean "applicable law" and "Public Agency", or "Department" shall be construed to mean "AGENCY" as defined in Subsection 1.2. The arbitration decision shall be decided under and in accordance with California law, supported by substantial evidence, and in writing, contain the basis for the decision, findings of fact, and conclusions of law.

Arbitration shall be initiated by a Demand for Arbitration. The CONTRACTOR shall request a Demand for Arbitration not later than ninety (90) calendar days after the date of the final written decision of the AGENCY on the claim or dispute.

All contracts valued at more than \$15,000 between the CONTRACTOR and his/her Subcontractors and Suppliers shall include a provision that the Subcontractors and Suppliers shall be bound to the CONTRACTOR to the same extent that the CONTRACTOR is bound to the AGENCY by all terms and provisions of the Contract, including these arbitration provisions.

6-13 NOTICE OF POTENTIAL CLAIM. The CONTRACTOR shall not be entitled to the payment of any additional compensation for any cause, including any act, or failure to act, by the Engineer, or the happening of any event, thing or occurrence, unless the CONTRACTOR shall have given the Engineer due notice in writing, of the potential claim as hereinafter specified, provided, however, that compliance with this Subsection 6-12 shall not be a prerequisite as to any claim that is based on differences in measurements or errors of computation as to the Contract quantities.

Additionally, this Subsection 6-13 shall not supersede the specific notice and protest requirements of Subsection 3-4 "Changed Conditions" and Subsection 6-7.3 "Contract Time Accounting" respectively.

A written notice of potential claim shall set forth the reasons the CONTRACTOR believes additional compensation will or may be due, the nature of the costs involved, and, insofar as possible, the amount of the potential claim. A notice as above required must have been given to the Engineer prior to the time that

the CONTRACTOR shall have performed the Work giving rise to the potential claim for additional compensation, if based on an act or failure to act by the Engineer, or in all other cases within fifteen (15) days after the happening of the event, thing or occurrence giving rise to the potential claim.

It is the intention of this Subsection 6-13 that differences between the parties arising under and by the virtue of the Contract be brought to the attention of the Engineer at the earliest possible time in order that such matters may be settled, if possible, or other appropriate action promptly taken. The CONTRACTOR hereby agrees that he/she shall have no right to additional compensation for any claim that may be based on any such act, failure to act, event, thing or occurrence for which no written notice of potential claim as herein required was filed.

SECTION 7 – RESPONSIBILITIES OF THE CONTRACTOR

7-1 CONTRACTOR'S EQUIPMENT AND FACILITIES. The CONTRACTOR shall furnish and maintain in good condition all equipment and facilities as required for the proper execution and inspection of the Work. Such equipment and facilities shall meet all requirements of applicable ordinances and laws.

A noise level limit of 85 dba at a distance of fifty (50) feet shall apply to all construction equipment on or related to the job, whether owned by the CONTRACTOR or not. The use of excessively loud warning signals shall be avoided except in those cases where required for the protection of personnel. Contractor's equipment and noise shall be subject to the other provisions indicated herein.

The CONTRACTOR shall arrange and maintain a secure storage site for all equipment and materials. All equipment and unused materials shall be returned to this site at the end of each work day. The Owner has made a portion of the corporation yard available for the Contractor use, but the contractor is responsible for confirming that the area is adequate and is responsible for coordinating with the Owner's staff. At all times, the Owner's staff and equipment have the primary right regarding use of the yard.

7-2 LABOR.

7-2.1 General. Only competent workers shall be employed on the Work. Any person employed who is found to be incompetent, intemperate, troublesome, disorderly, or otherwise objectionable, or who fails or refuses to perform work properly and acceptably, shall be immediately removed from the Work by the CONTRACTOR and not be reemployed on the Work.

7-2.2 Laws. The CONTRACTOR, its agents and employees shall be bound by and comply with applicable provisions of the Labor Code and Federal, State and local laws related to labor.

The CONTRACTOR shall strictly adhere to the provisions of the Labor Code regarding minimum wages; the 8-hour day and 40-hour week; overtime; Saturday, Sunday, and holiday work; and nondiscrimination because of race, color, national origin, sex, or religion. Failure to file any report due under said orders will result in suspension of periodic progress payments.

In accordance with the Labor Code, the City Council has on file and will publish a schedule of prevailing wage rates for the types of work to be done under the Contract. The CONTRACTOR shall not pay less than these rates.

Each worker shall be paid subsistence and travel as required by the collective bargaining agreements on file with the State of California Department of Industrial Relations.

The CONTRACTOR's attention is directed to Section 1776 of the Labor Code which imposes responsibility upon the CONTRACTOR for the maintenance, certification, and availability for inspection of such records for all persons employed by the CONTRACTOR or Subcontractor in connection with the project. The CONTRACTOR shall agree through the Contract to comply with this Section and the remaining provisions of the Labor Code.

The CONTRACTOR shall ensure unlimited access to the job site for all Equal Opportunity Compliance officers.

Every CONTRACTOR and Subcontractor shall keep an accurate record showing the name, occupation, and the actual per diem wages paid to each worker employed by him/her in connection with the public work. The record shall be kept open at all reasonable hours to the inspection of the body awarding the Contract and to the Division of Labor Law Enforcement.

7-2.2.1 Overtime and Shift Work.

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The CONTRACTOR may establish overtime and shift work as a regular procedure only with the written permission of the Engineer. Such permission may be revoked at any time. No work other than overtime and shift work established as a regular procedure shall be done outside the hours described in Section 6-7.2, nor on Saturdays, Sundays or legal holidays, except such work as is necessary for the proper care and protection of the work already performed or except in case of an emergency.

All costs for overtime inspection, except those occurring as a result of overtime and shift work established as a regular procedure, shall be paid by the CONTRACTOR. Overtime inspection shall include inspection required during holidays observed by the AGC and Trade Unions, Saturdays, Sundays, and any weekday outside the hours described in Section 6-7.2. Such costs will include but will not necessarily be limited to engineering, inspection, general supervision and other overhead expenses that are directly chargeable to the overtime work. The AGENCY shall deduct all such charges from payments due the CONTRACTOR.

7-3 LIABILITY INSURANCE.

7-3.1 General. CONTRACTOR and AGENCY agree that AGENCY, its employees, agents and officials should, to the extent permitted by law, be fully protected from any loss, injury, damage, claim, lawsuit, cost, expense, attorney's fees, litigation costs, defense costs, court costs or any other cost arising out of or in any way related to the performance of this Agreement. Accordingly, the provisions of this indemnity provision are intended by the parties to be interpreted and construed to provide the fullest protection possible under the law to the AGENCY. CONTRACTOR acknowledges that AGENCY would not have entered into this Agreement in the absence of the commitment of CONTRACTOR to indemnify and protect AGENCY as set forth here.

7-3.2 To the full extent permitted by law, CONTRACTOR shall defend, indemnify and hold harmless AGENCY, its employees, agents and officials, from any liability, claims, suits, actions, arbitration proceedings, administrative proceedings, regulatory proceedings, losses, expenses or costs of any kind, whether actual, alleged, or threatened, actual attorney's fees incurred by AGENCY, court costs, interest, defense costs including expert witness fees and any other costs or expenses of any kind whatsoever without restriction or limitation incurred in relation to, as a consequence of, arising out of or in any way attributable actually, allegedly or impliedly, in whole or in part to the performance of this Agreement. All obligations under this provision are to be paid by CONTRACTOR as they are incurred by the AGENCY.

7-3.3 Without affecting the rights of AGENCY under any provision of this agreement or this section, CONTRACTOR shall not be required to indemnify and hold harmless AGENCY as set forth above for liability attributable to the sole fault of AGENCY, provided such sole fault is determined by agreement between the parties or the findings of a court of competent jurisdiction.

This exception will apply only in instances where the AGENCY is shown to have been solely at fault and not in instances where CONTRACTOR is solely or partially at fault or in instances where AGENCY's fault accounts for only a percentage of the liability involved. In those instances, the obligation of CONTRACTOR will be all-inclusive and AGENCY will be indemnified for all liability incurred, even though a percentage of the liability is attributable to the conduct of the AGENCY.

7-3.4 CONTRACTOR acknowledges that its obligation pursuant to this section extends to liability attributable to AGENCY, if that liability is less than the sole fault of AGENCY. CONTRACTOR has no obligation under this Agreement for liability proven in a court of competent jurisdiction or by written agreement between the parties to be the sole fault of AGENCY.

7-3.5 The obligations of CONTRACTOR under this or any other provision of this Agreement will not be limited by the provisions of any workers compensation act or similar act. CONTRACTOR expressly waives its statutory immunity under such statutes or laws as to AGENCY, its employees, agents and officials.

7-3.6 CONTRACTOR agrees to obtain executed indemnity agreements with provisions identical to those as set forth here in this section from each and every subcontractor, sub-tier CONTRACTOR or any other person or entity involved by, for, with or on behalf of CONTRACTOR in the performance or subject matter of this Agreement. In the event CONTRACTOR fails to obtain such indemnity obligations from others as required here, CONTRACTOR agrees to be fully responsible according to the terms of this section.

7-3.7 Failure of AGENCY to monitor compliance with these requirements imposes no additional obligations on AGENCY and will in no way act as a waiver of any rights hereunder. This obligation to indemnify and defend AGENCY as set forth herein is binding on the successors, assigns or heirs of CONTRACTOR and shall survive the termination of this Agreement or this section.

7-3.8 CONTRACTOR agrees to provide insurance in accordance with the requirements as set forth here. If CONTRACTOR uses existing coverage to comply with these requirements and that coverage does not meet the requirements set forth herein, CONTRACTOR agrees to amend, supplement or endorse the existing coverage to do so. The following coverages will be provided by CONTRACTOR and maintained on behalf of AGENCY and in accordance with the requirements set forth herein.

7-3.9 Commercial General Liability/Umbrella Insurance. Primary insurance shall be provided on ISO-CGL form No. CG 00 01 11 85 or 88. Total limits shall be not less than two million dollars (\$2,000,000.00) per occurrence for all coverages and two million dollars (\$2,000,000.00) general aggregate. AGENCY and its officers, agents and employees shall be named as additional insureds using ISO additional insureds endorsement form CG 20 10 11 85 (in no event will AGENCY accept an endorsement form with an edition date later than 1990). Coverage shall apply on a primary non-contributing basis in relation to any other insurance or self-insurance, primary or excess, available to AGENCY or any employee or agent of AGENCY. Coverage shall not be limited to the vicarious liability or supervisory role of any additional insured. Umbrella Liability Insurance (over primary) shall apply to bodily injury/property damage, personal injury/advertising injury, at a minimum, and shall include a "drop down" provision providing primary coverage above a maximum of \$25,000.00 self-insured retention for liability not covered by primary policies but covered by the umbrella policy. Coverage shall be following form to any underlying coverage. Coverage shall be provided on a "pay on behalf" basis, with defense costs payable in addition to policy limits. There shall be no cross-liability exclusion. Policies shall have concurrent starting and ending dates.

Each policy of insurance shall contain a clause prohibiting cancellation, modification or lapse without thirty (30) days prior written notice having been given to the City. All insurance policies shall be subject to approval by the City Attorney and certificates evidencing such policies shall be provided to the City concurrently with the filing of all required bonds.

7-3.10 Business Auto/Umbrella Liability Insurance. Primary coverage shall be written on ISO Business Auto Coverage form CA 00 01 06 92 including symbol 1 (Any Auto). Limits shall be no less than two million dollars (\$2,000,000.00) per accident. Starting and ending dates shall be concurrent. If CONTRACTOR owns no autos, a non-owned auto endorsement to the General Liability policy drafted above is acceptable.

7-4 WORKERS' COMPENSATION INSURANCE.

7-4.1 Workers' Compensation/Employers' Liability shall be written on a policy form providing workers' compensation statutory benefits as required by law. Employers' liability limits shall be no less than one million dollars per accident or disease. Employers' liability coverage shall be scheduled under any umbrella policy described above. Unless otherwise agreed, this policy shall be endorsed to waive any right of subrogation as respects the AGENCY, its officers, agents or employees.

7-4.2 CONTRACTOR and AGENCY further agree as follows:

7-4.2.1 This Section supersedes all other sections and provisions of this Agreement to the extent that any other section or provision conflicts with or impairs the provisions of this Section.

7-4.2.2 Nothing contained in this Section is to be construed as affecting or altering the legal status of the parties to this Agreement. The insurance requirements set forth in this Section are intended to be separate and distinct from any other provision in this Agreement and shall be interpreted as such.

7-4.2.3 All insurance coverage and limits provided pursuant to this Agreement shall apply to the full extent of the policies involved, available, or applicable. Nothing contained in this Agreement or any other agreement relating to the AGENCY or its operations limits the application of each insurance coverage.

7-4.2.4 Requirements of specific coverage features or limits contained in this Section are not intended as a limitation on coverage, limits or other requirements, or a waiver of any coverage normally provided by any insurance. Specific reference to a given coverage feature is for purposes of clarification only and is not intended by any party to be all-inclusive, or to the exclusion of other coverage, or a waiver of any type.

7-4.2.5 For purposes of insurance coverage only, this Agreement shall be deemed to have been executed immediately upon any party hereto taking any steps that can be deemed to be in furtherance of or towards performance of this Agreement.

7-4.2.6 All general or auto liability insurance coverage provided pursuant to this Agreement, or any other agreements pertaining to the performance of this Agreement, shall not prohibit CONTRACTOR, and CONTRACTOR's agents, officers or employees from waiving the right of subrogation prior to a loss. CONTRACTOR hereby waives all rights of subrogation against AGENCY.

7-4.2.7 Unless otherwise approved by AGENCY, CONTRACTOR's insurance shall be written by insurers authorized to do business in the State of California and with a minimum "Best's" Insurance Guide rating of "A:VII." Self-insurance will not be considered to comply with these insurance specifications.

7-4.2.8 In the event any policy of insurance required by this Agreement does not comply with these requirements or is canceled and not replaced, AGENCY has the right but not the duty to obtain the insurance it deems necessary and any premium paid by AGENCY will be promptly reimbursed by CONTRACTOR. Upon CONTRACTOR's failure to make such reimbursement within 30 days of written demand, AGENCY may deduct that sum from any monies due CONTRACTOR hereunder or otherwise.

7-4.2.9 CONTRACTOR agrees to provide evidence of the insurance required herein, satisfactory to AGENCY, consisting of certificate(s) of insurance evidencing all of the coverages required and an additional insured endorsement to CONTRACTOR's general liability and umbrella liability policy (if any) using ISO form CG 20 10 11 85. Certificate(s) are to reflect that the insurer will provide 30 days' notice of any cancellation of coverage. CONTRACTOR agrees to require its insurer to modify such certificates to delete any exculpatory wording stating that failure of insurer to mail written notice of cancellation imposes no obligation, and to delete the word "endeavor" with regard to any notice provisions. CONTRACTOR agrees to provide complete copies of policies to AGENCY upon request.

7-4.2.10 CONTRACTOR shall provide proof that policies of insurance required herein expiring during the term of this Agreement have been renewed or replaced with other policies providing at least the same coverage. Such proof shall be furnished within 72 hours of the expiration of the coverages.

7-4.2.11 Any actual or alleged failure on the part of AGENCY or any other additional insured under these requirements to obtain proof of insurance required under this Agreement in no way waives any right or remedy of AGENCY or any additional insured, in this or any other regard.

7-4.2.12 CONTRACTOR agrees to require all subcontractors or other parties hired for this project to provide general liability insurance naming as additional insureds all parties to this Agreement. CONTRACTOR agrees to obtain certificates evidencing such coverage and make reasonable efforts to ensure that such coverage is provided as required here. CONTRACTOR agrees to require that no contract used by any subcontractor, or contracts CONTRACTOR enters into on behalf of AGENCY, will reserve the right to charge back to AGENCY the cost of insurance required by this Agreement. CONTRACTOR agrees that upon request, all agreements with subcontractors or others with whom CONTRACTOR contracts on behalf of AGENCY will be submitted to AGENCY for review. Failure of AGENCY to request copies of such agreement will not impose any liability on AGENCY, its officers, agents, or employees.

7-4.2.13 If CONTRACTOR is a Limited Liability Company, general liability coverage must be amended so that the Limited Liability Company and its Managers, Affiliates, employees, agents and other persons necessary or incidental to its operations are insureds.

7-4.2.14 CONTRACTOR agrees to provide immediate notice to AGENCY of any claim or loss against CONTRACTOR that includes AGENCY as a defendant. AGENCY assumes no obligation or liability by such notice, but has the right (but not the duty) to monitor the handling of any such claim or claims.

7-5 PERMITS. Prior to the start of any work, the CONTRACTOR shall apply for and receive any applicable City, County, State, and Federal permits.

The CONTRACTOR shall pay all business taxes or license fees that are required for the work.

All costs associated with these permits are responsibility of CONTRACTOR. If applicable, CONTRACTOR is required to obtain a no fee City Encroachment permit for this project and comply with all permit conditions.

7-6 THE CONTRACTOR'S REPRESENTATIVE. Before starting work, the CONTRACTOR shall designate in writing a representative who shall have complete authority to act for it. An alternative representative may be designated as well. The representative or alternate shall be present at the Work site whenever work is in progress or whenever actions of the elements necessitate its presence to take measures necessary to protect the Work, persons, or property. Any order or communication given to this representative shall be deemed delivered to the CONTRACTOR. A joint venture shall designate only one representative and alternate. In the absence of the CONTRACTOR or its representative, instructions or directions may be given by the Engineer to the superintendent or person in charge of the specific work to which the order applies. Such order shall be complied with promptly and referred to the CONTRACTOR or its representative.

In order to communicate with the AGENCY, the CONTRACTOR's representative, superintendent, or person in charge of specific work shall be able to speak, read, and write the English language.

7-7 COOPERATION AND COLLATERAL WORK. The CONTRACTOR shall be responsible for ascertaining the nature and extent of any simultaneous, collateral, and essential work by others. The AGENCY, its workers and CONTRACTORS and others, shall have the right to operate within or adjacent to the Work site during the performance of such work.

The AGENCY, the CONTRACTOR, and each of such workers, CONTRACTORS and others, shall coordinate their operations and cooperate to minimize interference.

The CONTRACTOR shall include in its Bid all costs involved as a result of coordinating its work with others. The CONTRACTOR will not be entitled to additional compensation from the AGENCY for damages resulting from such simultaneous, collateral, and essential work. If necessary to avoid or minimize such damage or delay, the CONTRACTOR shall redeploy its work force to other parts of the Work.

Should the CONTRACTOR be delayed by the AGENCY, and such delay could not have been reasonably foreseen or prevented by the CONTRACTOR, the Engineer will determine the extent of the delay, the effect on this project, and any extension of time.

CONTRACTOR shall coordinate his/her work so as to minimize disruption to ongoing or scheduled private development projects in the project area.

7-8 PROJECT SITE MAINTENANCE.

7-8.1 Cleanup and Dust Control. Throughout all phases of construction, including suspension of work, and until the final acceptance, the CONTRACTOR shall keep the site clean and free from rubbish and debris. The CONTRACTOR shall also abate dust nuisance by cleaning, sweeping and sprinkling with water, or other means as necessary. The use of water resulting in mud on public streets will not be permitted as a substitute for sweeping or other methods.

When required by the Plans or Specifications, the CONTRACTOR shall furnish and operate a self-loading motor sweeper with spray nozzles at least once each working day for the purpose of keeping paved areas acceptably clean wherever construction, including restoration, is incomplete.

Materials and equipment shall be removed from the site as soon as they are no longer necessary. Before the final inspection, the site shall be cleared of equipment, unused materials, and rubbish so as to present a satisfactory clean and neat appearance. All cleanup costs shall be included in the CONTRACTOR's Bid.

Care shall be taken to prevent spillage on haul routes. Any such spillage shall be removed immediately and the area cleaned.

Excess excavated material from catch basins or similar structures shall be removed from the site immediately. Sufficient material may remain for use as backfill if permitted by the Specifications. Forms and form lumber shall be removed from the site as soon as practicable after stripping.

Failure of the CONTRACTOR to comply with the Engineer's cleanup orders may result in an order to suspend work until the condition is corrected. No additional compensation will be allowed as a result of such suspension.

7-8.1.2 Work Area Appearance

The CONTRACTOR shall maintain a neat appearance to the Work at all times.

All unsuitable construction materials and rubbish and debris shall be regularly removed from the job site, be transported to a suitable location, and be disposed of in a proper and legal manner. Materials which are to be disposed of shall not be stored at the project sites but shall be removed before the end of the each working day.

In any area visible to the public, the following shall apply:

1. Broken concrete and debris developed during clearing and grubbing shall be disposed of weekly.
2. The CONTRACTOR shall furnish trash bins for all debris from structure construction. All debris shall be placed in trash bins daily.
3. Forms or false work that are to be re-used shall be neatly stacked concurrent with their removal.
4. Forms and false work that are not to be re-used shall be disposed of with their removal.
5. Wash down from concrete trucks shall be at one location. Concrete from wash down procedures shall be removed from the site weekly.

7-8.2 Air Pollution Control. The CONTRACTOR shall not discharge smoke, dust, or any other air contaminants into the atmosphere in such quantity as will violate the regulations of any legally constituted authority.

7-8.3 Vermin Control. At the time of acceptance, structures entirely constructed under the Contract shall be free of rodents, insects, vermin, and pests. Necessary extermination work shall be arranged and paid for by the CONTRACTOR as part of the Work within the Contract time, and shall be performed by a licensed exterminator in accordance with requirements of governing authorities. The CONTRACTOR shall be liable for injury to persons or property and responsible for the elimination of offensive odors resulting from extermination operations.

7-8.4 Sanitation. The CONTRACTOR shall provide and maintain enclosed toilets for the use of employees engaged in the Work. These accommodations shall be maintained in a neat and sanitary condition. They shall also comply with all applicable laws, ordinances, and regulations pertaining to public health and sanitation of dwellings and camps.

Wastewater shall not be interrupted. Should the CONTRACTOR disrupt existing sewer facilities, sewage shall be conveyed in closed conduits and disposed of in a sanitary sewer system. Sewage shall not be permitted to flow in trenches or be covered by backfill.

7-8.5 Temporary Light, Power, and Water. The CONTRACTOR shall furnish, install, maintain, and remove all temporary light, power, and water at its own expense. These include piping, wiring, lamps, and other equipment necessary for the Work. The CONTRACTOR shall not draw water from any fire hydrant (except to extinguish a fire), without obtaining permission from the water agency concerned.

7-8.6 Water Pollution Control. The CONTRACTOR shall exercise every reasonable precaution to protect channels, storm drains, and bodies of water from pollution. It shall conduct and schedule operations so as to minimize or avoid muddying and silting of said channels, drains, and waters. Water pollution control work shall consist of constructing those facilities which may be required to provide prevention, control, and abatement of water pollution.

7-8.6.1 General. This item shall consist of preparation, implementation and compliance with a storm water pollution prevention plan (SWPPP) for the project, if applicable.

7-8.6.2 Storm Water Pollution Prevention Plan (SWPPP) Preparation. CONTRACTOR shall submit to the engineer a completed and signed SWPPP at the preconstruction conference. The plan may utilize the practices recommended in the latest edition of the *California Storm Water Best Management Practices Handbook - Construction*, available from California Stormwater Quality Association (CASQA), and online at <http://www.cabmphandbooks.net/> . The plan shall be consistent with the construction General Permit, issued by the State Water Resources, Control City Council, through submittal of the Notice of Intent (NOI).

If construction will occur between October 15 and April 15 (considered as the rainy season per City Ordinance), a wet weather erosion control plan must be submitted. Additionally, Best Management Practices (BMPs) implemented during the AGENCY's rainy season shall include but not be limited to those appropriate for wet weather conditions.

7-8.6.3 Storm Water Pollution Prevention Measures. All storm water pollution prevention measures shall be in accordance with the submitted SWPPP. In the event circumstances during the course of construction require changes to the original SWPPP, a revised plan shall be promptly submitted to the AGENCY's representative in each instance. No responsibility shall accrue to the AGENCY as a result of the plan or as a result of knowledge of the plan. All work installed by the CONTRACTOR in connection with the SWPPP but not specified to become a permanent part of the project shall be removed and the site restored in so far as practical to its original condition prior to completion of construction or when directed by the AGENCY's representative.

7-8.6.4 Storm Water Pollution Prevention – Measurement And Payment. Unless otherwise indicated in the Special Provisions, measurement and payment for all Storm Water Pollution Prevention Measures, as described herein, including preparation of the SWPPP, shall be included in the items of Work requiring storm water pollution prevention measures as indicated in the project Special Provisions. Such payment shall be considered full compensation for all labor, materials, tools, and equipment for completion, and implementation and compliance with the SWPPP.

7-8.7 Drainage Control. The CONTRACTOR shall maintain drainage within and through the work areas. Earth dams will not be permitted in paved areas. Temporary dams of sandbags, asphaltic concrete, or other acceptable material will be permitted when necessary. Such dams shall be removed from the site as soon as their use is no longer necessary.

7-9 PROTECTION AND RESTORATION OF EXISTING IMPROVEMENTS. The CONTRACTOR shall be responsible for the protection of public and private property adjacent to the Work and shall exercise due caution to avoid damage to such property.

The CONTRACTOR shall relocate, repair, replace or reestablish all existing improvements within the project limits (e.g., curbs, sidewalks, catch basins, catch basin screens, driveways, fences, walls, sprinkler systems, signs, utility installations, traffic loops, pavements, structures, survey monuments, landscaping, etc.) that are damaged or removed as a result of the CONTRACTOR's operations or as required by the plans and specifications.

All existing improvements, either within the right-of-way or not, including irrigation lines that are damaged by actions of the CONTRACTOR, shall be restored by the CONTRACTOR to their original or better condition at the CONTRACTOR's expense.

The CONTRACTOR shall mark, as approved by the Engineer, all survey monuments, manholes, valves, substructures, or other items that are visible on the surface and will be covered by his operations. This shall be completed prior to the start of that operation and approved by the Engineer.

Existing traffic striping, pavement markings, centerline reflective markers, and curb markings shall also be considered as existing improvements and the CONTRACTOR shall repaint or replace, at the CONTRACTOR's expense, such striping or markings (except for traffic striping and pavement markings within the limits of the Work) if damaged or if their reflectivity is reduced due to construction operations.

All restoration of existing improvements must occur within the construction completion date, unless directed otherwise by the City Engineer.

Maintenance of street and traffic signal systems that are damaged, temporarily removed or relocated shall be done in conformance with 307-1.5.

Trees, lawns, and shrubbery that are not to be removed shall be protected from damage or injury. If damaged or removed due to CONTRACTOR's operations, they shall be restored or replaced in as nearly the original condition and location as is reasonably possible. Lawns shall be reseeded and covered with suitable mulch.

The CONTRACTOR shall give reasonable notice to occupants or owners of adjacent property to permit them to salvage or relocate plants, trees, fences, sprinklers, and other improvements, within the right-of-way which are designated for removal and would be destroyed because of the Work.

All costs to the CONTRACTOR for protecting, removing, restoring, relocating, repairing, replacing, or reestablishing existing improvements shall be the responsibility of the CONTRACTOR.

7-10 PUBLIC CONVENIENCE AND SAFETY. One week prior to pre-construction meeting, the CONTRACTOR shall submit his/her complete construction schedule to the Engineer for approval. The CONTRACTOR shall submit requests for changes in the schedule to the Engineer for approval at least forty eight (48) hours prior to the scheduled Work. Any modification in schedule shall be addresses as required in Section 6-1.2 and 6.2

7-10.1 Traffic and Access. The CONTRACTOR's operations shall cause no unnecessary inconvenience. The access rights of the public shall be considered at all times. Unless otherwise authorized, traffic shall be permitted to pass through the Work, or an approved detour shall be provided.

Safe and adequate pedestrian and vehicular access shall be provided and maintained to: fire hydrants; commercial and industrial establishments; churches, schools and parking lots; service stations and motels; hospitals; police and fire stations; and establishments of similar nature. Access to these facilities shall be continuous and unobstructed unless otherwise approved by the Engineer.

Safe and adequate pedestrian zones and public transportation stops, as well as pedestrian crossings of the Work at intervals not exceeding 90 m (300 feet), shall be maintained unless otherwise approved by the Engineer.

Vehicular access to residential driveways shall be maintained to the property line except when necessary construction precludes such access for reasonable periods of time. If backfill has been completed to the extent that safe access may be provided, and the street is opened to local traffic, the CONTRACTOR shall immediately clear the street and driveways and provide and maintain access.

The CONTRACTOR shall cooperate with the various parties involved in the delivery of mail and the collection and removal of trash and garbage to maintain existing schedules for these services.

Grading operations, roadway excavation and fill construction shall be conducted by the CONTRACTOR in a manner to provide a reasonably satisfactory surface for traffic. When rough grading is completed, the roadbed surface shall be brought to a smooth, even condition satisfactory for traffic.

Any work performed during the hours of 6:00 AM to 6:00 PM must be authorized at least 24 hours in advance by the City. If such work is authorized, work shall be performed in only one-half of the roadway at one time. One half shall be kept open and unobstructed until the opposite side is ready for use. If one-half a street only is being improved, the other half shall be conditioned and maintained as a detour. The immediate area of work may be closed off from pedestrian and vehicular traffic between 6:00 PM to 6:00 AM in accordance section 7.10-3.

The CONTRACTOR will be required to maintain at least one lane of traffic in each direction through the project area during the hours of 6:00 AM to 6:00 PM in a manner satisfactory to the Engineer in the form of an engineered traffic control plan.

The engineered traffic control plans must be in general conformance with the Preliminary Traffic and Pedestrian Control Plans and must be signed by a California registered Civil and/or Traffic engineer. The plan is a required submittal for review one week prior to the pre-construction meeting.

If traffic control on the project shall be implemented by a sub-contractor, such subcontractor must specialize in Traffic Control and be approved by the City Engineer.

The CONTRACTOR shall include in its Bid all costs for the above requirements.

7-10.1.1 General. One week prior to pre-construction meeting, the CONTRACTOR shall submit his/her complete construction schedule to the Engineer for approval. The CONTRACTOR shall submit requests for changes in the schedule to the Engineer for approval at least forty eight (48) hours prior to the scheduled Work.

7-10.1.2 Parking Restrictions and Posting for Tow Away. No Parking signs, posted by the Contractor, shall be of heavy card stock and not less than 1.75 square feet of surface area on the face. Background color shall be white and letters shall be printed in red water resistant ink except day, date, and time of restriction may be printed in black water resistant ink. The signs shall be printed with the words "Tow Away" and "No Parking" with a character height of not less than 2.75 inches and a stroke width of not less than 0.5 inches. The day, dated, and time of the particular restriction shall be printed or attached below the above mentioned wording in characters of not less than 2.0 inches in height and 0.4 inches in stroke width. The

day of the week shall be written out or properly abbreviated with three to four letters; date or dates or restriction shall be listed completely; the beginning and ending times shall be clearly listed on the sign.

Signs shall be mounted such that the wording "No Parking" are at an elevation at least three feet above the adjacent flowline. Signs may be fixed to an existing sign post or street light post in a manner approved by the engineer and maintained in good working order. Trees and power poles may not be used. Alternatively, signs may be mounted to stakes or barricades as provided by the Contractor. The signs shall be placed as needed to control the parking of cars within the construction zone; signs shall be placed at intervals of 75 feet or less along each side of the roadway.

Signs shall be posted and maintained by the Contractor for a period of 72 hours prior to the restrictions becoming effective. The Contractor may only post parking restrictions that are effective for the duration of the Work. Upon completion of the Work, the Contractor shall promptly and completely remove and dispose all signs, stakes, and barricades. The Contractor shall promptly reset or replace all damaged or defective signs.

The Contractor shall be fully responsible for the adequate removal of all parked cars. The Contractor shall coordinate the removal of all vehicles with the City of Lakeport Police Department. The Contractor shall notify the City of Lakeport Police Department upon posting of the parking restrictions for a particular street. For removal of parked vehicles, the Contractor shall notify the City of Lakeport Police Department not less than two hours prior to the needed removal, stating the address nearest the parked vehicle, make, model, color and license number. The City shall not be responsible for any delay or additional costs associated with the removal of parked cars that obstruct the construction operation.

If a vehicle owner successfully contests a towing citation in court, and their citation is dismissed for causes related to the Contractor's failure to perform the requirements of this section, the Contractor shall reimburse the City for the cost of any claims associated with the towing citation.

DEVIATIONS FROM THE REQUIREMENTS OF THIS SUBSECTION WILL BE PERMITTED ONLY ON PRIOR CONSENT OF THE ENGINEER. FAILURE OF THE CONTRACTOR TO ADHERE TO THE REQUIREMENTS OF THIS SUBSECTION, OR FAILURE OF THE CONTRACTOR TO COMPLETE HIS DAILY SCHEDULE ONCE "TEMPORARY NO PARKING" SIGNS HAVE BEEN POSTED, WILL RESULT IN DAMAGES BEING SUSTAINED BY THE CITY. SUCH DAMAGES ARE, AND WILL CONTINUE TO BE, IMPRACTICABLE AND EXTREMELY DIFFICULT TO DETERMINE. FOR EACH OCCURRENCE OF A VIOLATION, AS PROVIDED HEREIN, THE CONTRACTOR SHALL PAY TO THE AGENCY, OR HAVE WITHHELD FROM MONIES DUE TO IT, THE SUM OF \$1,000.00.

EXECUTION OF THE CONTRACT SHALL CONSTITUTE AGREEMENT BY THE AGENCY AND CONTRACTOR THAT \$1,000.00 PER VIOLATION IS THE MINIMUM VALUE OF THE COST AND ACTUAL DAMAGE CAUSED, THAT SUCH SUM SHALL NOT BE CONSTRUED AS A PENALTY, AND THAT SUCH SUM MAY BE DEDUCTED FROM PAYMENTS DUE THE CONTRACTOR.

7-10.1.3 Notification to the Public Agencies. The CONTRACTOR shall notify the following Agencies 48 hours prior to working in the area within the City of Lakeport unless otherwise noted:

None

7-10.2 Storage of Equipment and Materials in Public Streets. Construction materials shall not be stored in streets, roads, or highways. See plan for location of City provided Contractor yard. All costs associated with utilizing the City provided yard including securing, cleaning, maintenance and restoration shall be paid by the Contractor.

Excavated material shall be transported to the designed disposal site on a daily basis. A maximum of 20 cubic yards of material may be stored at the construction yard site for a maximum of 48 hours.

7-10.3 Street Closures, Detours, Barricades. The CONTRACTOR shall comply with all applicable State, County and City requirements for closure of streets. The CONTRACTOR shall provide barriers, guards, lights, signs, temporary bridges, flag persons, and watchpersons. The CONTRACTOR shall be responsible for compliance with additional public safety requirements which may arise. The CONTRACTOR shall furnish and install signs and warning devices and promptly remove them upon completion of the Work.

The plans provide a Preliminary Traffic and Pedestrian Control Plan (PTPCP) including custom signage. The Contractor shall provide a final Traffic Control and Pedestrian Plan (TPCP) which is signed and stamped by a Licensed Civil Engineer. The CONTRACTOR is fully responsible for the work zone safety, including all traffic and pedestrian safety and compliance with CalOSHA. The work area may be completely closed between 6 pm and 6 am except as provided for pedestrian access, as noted in the PTPCP and for emergency vehicles. Pedestrian access shall be provided during the hours of 6:00 PM to 3:00 AM to all businesses that are typically open after 6:00 PM for late night food and beverages.

Additional personnel requirements are also indicated on the plans. The plan provides for closing the 1st Street intersection only when work is occurring within the intersection and no traffic can be accommodated. The street shall be completely opened for the entire street to allow use of the center turn area and all parking with the exception of the one block-one side area which can have parking eliminated during the construction of the new curb, gutter and sidewalk.

At least 48 hours in advance of closing, partially closing or reopening, any street, alley, or other public thoroughfare, the CONTRACTOR shall notify the Police, Fire, and Public Works Departments, and comply with their requirements. Deviations must first be approved in writing by the Engineer. Street closures shall be noted on the schedule submitted to the City for distribution to the businesses.

During the hours of 6:00 AM to 6:00 PM, all businesses shall be provided safe access to all their door entries, as required by Fire Codes. All traffic control barricades, signs and devices used by the CONTRACTOR shall, as a minimum, conform to the latest edition of the "California Manual on Uniform Traffic Control Devices" ("MUTCD"). Channelization devices shall be spaced in accordance with the MUTCD. The CONTRACTOR shall take additional precautions as he/she may find necessary under the circumstances.

Should the CONTRACTOR fail to provide adequate traffic control or safety barricades, and in the event a responsible individual cannot be located or refuses to perform, the AGENCY will at its option place needed devices or engage a private firm to place and maintain said barricades, which will be charged to the CONTRACTOR directly.

All costs involved shall be included in the Bid.

7-10.4 Safety.

7-10.4.1. Safety Orders. The CONTRACTOR shall have at the Work site, copies of suitable extracts of: Construction Safety Orders, Tunnel Safety Orders and General Industry Safety Orders issued by the State Division of Industrial Safety. The CONTRACTOR shall comply with provisions of these and all other applicable laws, ordinances, and regulations.

Before excavating any trench 1.5 m (5 feet) or more in depth, the CONTRACTOR shall submit a detailed plan to the AGENCY showing the design of shoring, bracing, sloping, or other provisions to be made for the workers' protection from the hazard of caving ground during the excavation of such trench. If the plan varies from the shoring system standards, the plan shall be prepared by a registered Civil Engineer. No excavation shall start until the Engineer has accepted the plan and the CONTRACTOR has obtained a permit from the State Division of Industrial Safety. A copy of the permit shall be submitted to the Engineer.

Payment for performing all work necessary to provide safety measures shall be included in the prices bid for other items of work except where separate bid items for excavation safety are provided, or required by law.

7-10.4.2 Use of Explosives. Explosive may be used only when authorized in writing by the Engineer, or as otherwise stated in the Specifications. Explosives shall be handled, used, and stored in accordance with all applicable regulations.

The Engineer's approval of the use of explosives shall not relieve the CONTRACTOR from liability for claims caused by blasting operations.

7-10.4.3 Special Hazardous Substances and Processes. Materials that contain hazardous substances or mixtures may be required on the Work. A Material Safety Data Sheet as described in Section 5194 of the California Code of Regulations shall be requested by the CONTRACTOR from the manufacturer of any hazardous products used.

Material usage shall be accomplished with strict adherence to California Division of Industrial Safety requirements and all manufacturer warnings and application instructions listed on the Material Safety Data Sheet and on the product container label.

The CONTRACTOR shall notify the Engineer if a specified product cannot be used under safe conditions.

7-10.4.4 Confined Spaces.

(a) Confined Space Entry Program. The CONTRACTOR shall be responsible for implementing, administering and maintaining a confined space entry program (CSEP) in accordance with Sections 5156, 5157 and 5158, Title 8, and CCR.

Prior to starting the Work, the CONTRACTOR shall prepare and submit its comprehensive CSEP to the Engineer. The CSEP shall address all potential physical and environmental hazards and contain procedures for safe entry into confined spaces, including, but not limited to the following:

1. Training of personnel
2. Purging and cleaning of materials and residue
3. Potential isolation and control of energy and material inflow
4. Controlled access to the space.
5. Atmospheric testing of the space
6. Ventilation of the space
7. Special hazards consideration
8. Personal protective equipment
9. Rescue plan provisions

The CONTRACTOR's submittal shall include the names of its personnel, including subcontractor personnel, assigned to the project who will have CSEP responsibilities, their CSEP training, and their specific assignment and responsibility in carrying out the CSEP.

(b) Permit-Required Confined Spaces. Entry into permit-required confined spaces as defined in Section 5157, Title 8, and CCR may be required as a part of the Work. All manholes, tanks, vaults, pipelines, excavations, or other enclosed or partially enclosed spaces shall be considered permit-required confined spaces until the pre-entry procedures demonstrate otherwise. The CONTRACTOR shall implement a permit space program prior to performing any work in a permit-required confined space. A copy of the permit shall be available at all times for review by CONTRACTOR and AGENCY personnel at the Work site.

(c) Payment. Payment for implementing, administering, and providing all equipment and personnel to perform the CSEP shall be included in the bid items for which the CSEP is required.

7-11 PATENT FEES OR ROYALTIES. The CONTRACTOR shall absorb in its Bid the patent fees or royalties on any patented article or process furnished or used in the Work. The CONTRACTOR shall indemnify and hold the AGENCY harmless from any legal action that may be brought for infringement of patents.

7-12 ADVERTISING. The names, addresses and specialties of CONTRACTORS, Subcontractors, architects, or engineers may be displayed on removable signs. The size and location shall be subject to the Engineer's approval.

Commercial advertising matter shall not be attached to or painted on the surfaces of buildings, fences, canopies, or barricades.

7-13 LAWS TO BE OBSERVED. The CONTRACTOR shall keep fully informed of State and National laws and County and Municipal ordinances and regulations which in any manner affect those employed in the Work or the materials used in the Work or in any way affect the conduct of the Work. The CONTRACTOR shall at all times observe and comply with such laws, ordinances, and regulations.

7-14 ANTITRUST CLAIMS. Section 7103.5 of the Public Contract Code provides:

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

7-15 DAILY REPORT. The CONTRACTOR shall complete a Daily Report indicating manpower, work performed, major equipment used and on standby (itemized separately), subcontractors, and similar items involved in the performance of the Work. The Daily Report shall be completed on forms prepared by the CONTRACTOR and acceptable to the Engineer, and shall be submitted to the City Inspector weekly.

Each piece of equipment used on the project shall be marked with a unique identifier consisting of numbers and letters. The Contractor shall provide a complete list of this equipment prior to beginning work or utilizing new piece of equipment. The Contractor shall also provide the Caltrans Rental Rate from the Caltrans Labor Surcharge and Equipment Rental Rates dated April 1, 2016. Subcontractor equipment information conforming to these requirements shall also be provided.

The Contractor and each subcontractor shall provide a list of personnel, their worker classification and their applicable wage

The CONTRACTOR shall submit as requested Certified Payroll Statements for each employee involved with the Work including subcontractors. Submission of certified payroll does not relieve the CONTRACTOR of his responsibility to pay prevailing wage.

SECTION 8 – FACILITIES FOR AGENCY PERSONNEL

Not Used

SECTION 9 – MEASUREMENT AND PAYMENT

9-1 MEASUREMENT OF QUANTITIES FOR UNIT PRICE WORK.

9-1.1 General. Unless otherwise specified, quantities of work shall be determined from measurements or dimensions in horizontal planes. However, linear quantities of pipe, piling, fencing and timber shall be considered as being the true length measured along longitudinal axis.

Unless otherwise provided in Specifications, volumetric quantities shall be the product of the mean area of vertical or horizontal sections and the intervening horizontal or vertical dimension. The planimeter shall be considered an instrument of precision adapted to measurement of all areas.

9-1.2 Methods of Measurement. Materials and items of work which are to be paid for on basis of measurement shall be measured in accordance with methods stipulated in the particular sections involved. Where it is noted that measurement shall be based on Plans, no additional measurements will be made unless substantial changes are made to the plans. In these cases, only the modified areas will be measured and adjustments made.

9-1.3 Certified Weights. When payment is to be made on the basis of weight, the weighing shall be done on certified platform scales or, when approved by the Engineer, on a completely automated weighing and recording system. The CONTRACTOR shall furnish the Engineer with duplicate licensed weighmaster's certificates showing actual net weights. The AGENCY will accept the certificates as evidence of weights delivered.

9-1.4 Units of Measurement. Measurements shall be in accordance with 1-4.1 and 1-4.2. a metric ton or "tonne" is equal to 1000 kilograms and the unit of liquid measure is a Liter (in U.S. Standard Measures, a pound is an avoirdupois pound; a ton is 2000 pounds avoirdupois; and the unit of liquid measure is a gallon).

9-2 LUMP SUM WORK. Items for which quantities are indicated "Lump Sum", "L.S.", or "Job", shall be paid for at the price indicated in the Bid. Such payment shall be full compensation for the items of work and all work appurtenant thereto.

When required by the Specifications or requested by the Engineer, the CONTRACTOR shall submit to the Engineer within 15 days after award of Contract, a detailed schedule in triplicate, to be used only as a basis for determining progress payments on a lump sum contract or designated lump sum bid item. This schedule shall equal the lump sum bid and shall be such form and sufficiently detailed as to satisfy the Engineer that it correctly represents a reasonable apportionment of the lump sum.

9-3 PAYMENT

9-3.1 General. The quantities listed in the Bid schedule will not govern final payment. Payment to the CONTRACTOR will be made only for actual quantities of Contract items constructed in accordance with the Plans and Specifications. Upon completion of construction, if the actual quantities show either an increase or decrease from the quantities given the Bid schedule, the Contract Unit Prices will prevail subject to the provisions of 3-2.2.1.

The unit and lump sum prices to be paid shall be full compensation for the items of work and all appurtenant work, including furnishing all materials, labor, equipment, tools, and incidentals.

Payment will not be made for materials wasted or disposed of in a manner not called for under the Contract. This includes rejected materials not unloaded from vehicles, material rejected after it has been placed, and material placed outside of the Plan lines. No compensation will be allowed for disposing of rejected or excess material.

Whenever any portion of the Work is performed by the AGENCY at the CONTRACTOR's request, the cost thereof shall be charged against the CONTRACTOR, and may be deducted from any amount due or becoming due from the AGENCY.

Whenever immediate action is required to prevent injury, death, or property damage, and precautions which are the CONTRACTOR's responsibility have not been taken and are not reasonably expected to be taken,

the AGENCY may, after reasonable attempt to notify the CONTRACTOR, cause such precautions to be taken and shall charge the cost thereof against the CONTRACTOR, or may deduct such costs from any amount due or becoming due from the AGENCY. AGENCY action or inaction under such circumstances shall not be construed as relieving the CONTRACTOR or its Surety from liability.

Payment shall not relieve the CONTRACTOR from its obligations under the Contract; nor shall such payment be construed to be acceptance of any of the Work. Payment shall not be construed as the transfer of ownership of any equipment or materials to the AGENCY. Responsibility of ownership shall remain with the CONTRACTOR who shall be obligated to store any fully or partially completed work or structure for which payment has been made; or replace any materials or equipment required to be provided under the Contract which may be damaged, lost, stolen or otherwise degraded in any way prior to acceptance of the Work, except as provided in 6-10.

Warranty periods shall not be affected by any payment, but shall commence on the date equipment or material is placed into service at the direction of the AGENCY. In the event such items are not placed into service prior to partial or final acceptance of the project, warranty periods will commence on the date of such acceptance.

If, within the time fixed by law, a property executed notice to stop payment is filed with the AGENCY, due to the CONTRACTOR's failure to pay for labor or materials used in the Work, all money due for such labor or materials will be withheld from payment to the CONTRACTOR in accordance with applicable laws.

At the expiration of 35 calendar days from the date of acceptance of the Work by the City Council, or as prescribed by law, the amount deducted from the final estimate and retained by the AGENCY will be paid to the CONTRACTOR except such amounts as are required by law to be withheld by properly executed and filed notices to stop payment, or as may be authorized by the Contract to be further retained.

9-3.2 Partial and Final Payment. The Engineer will, after award of Contract, establish a closure date for the purposes of making monthly progress payments. The CONTRACTOR may request in writing that such monthly closure date be changed. The Engineer may approve such request when it is compatible with the AGENCY's payment procedure.

From each progress estimate, 5 percent will be deducted and retained by the AGENCY, and the remainder less the amount of all previous payments will be paid. After 50 percent of the Work has been completed and if progress on the Work is satisfactory, the deduction to be made from remaining progress estimates and from the final estimate may be limited to \$500 or 5 percent of the first half of total Contract amount, whichever is greater.

No progress payment made to the CONTRACTOR or its sureties will constitute a waiver of the liquidated damages under 6-9.

On not later than the fifth day of every month, the Contractor shall present to the Director of Public Works and invoice covering the total quantities under each item of work that have been completed, from the start of the job up to and including the last day of the preceding month, and the value of the work so completed determined in accordance with the schedule of unit prices for such items together with such supporting evidence as may be required by the Director of Public Works. This invoice shall also include an allowance for the cost of such material required in the permanent work as has been delivered to the site but not as yet incorporated in the work.

On not later than the thirtieth of the month, the City shall, after deducting previous payments made, pay to the Contractor ninety (90) percent of the amount of the invoice. No such estimate or payment shall be required to be made, when, in the judgment of the Director of Public Works, the work is not proceeding in accordance with the provisions of the contract, or when in his or her judgment the total value of the work done since the last estimate amounts to less than three hundred dollars (\$300). However, payments will be

withheld pending receipt of any outstanding reports required by the Contract Documents. In addition, the final progress payment will not be released until the Contractor returns the control set of plans and specifications showing the as-built conditions.

However, payments will be withheld pending receipt of any outstanding reports required by the Contract Documents. In addition, the final progress payment will not be released until the CONTRACTOR returns the control set of plans and specifications showing the as-built conditions.

The full five (5) percent retention will be deducted from all payments. The final retention will be authorized for payment thirty five (35) days after the date of recordation of the Notice of Completion.

The CONTRACTOR may substitute securities for any monies withheld by the AGENCY to ensure performance under the Contract as provided in Public Contract Code Sections 10263 and 22300.

When provided for in the Specifications, and subject to the limitation and conditions therein, the cost of materials and equipment delivered but not incorporated into the Work will be included in the progress estimate.

9-3.3 Delivered Materials. Materials and equipment delivered but not incorporated into the Work shall not be submitted for payment and shall not be included in the estimate for progress payment

9-3.4 Mobilization. When a bid item is include in the Proposal form for mobilization and subject to the conditions and limitations in the Specifications, the costs of work in advance of construction operations and not directly attributable to any specific bid item will be included in the progress estimate. When no such bid item is provided, payment for such costs will be considered to be included in the other items of work.

**SECTION F
DOWNTOWN IMPROVEMENT PROJECT – PHASE II, BID NO. 16-01
IN THE CITY OF LAKEPORT, CALIFORNIA**

SPECIAL PROVISIONS - 700 SERIES

**SPECIAL PROVISIONS
DOWNTOWN IMPROVEMENT PROJECT – PHASE II, BID NO. 16-01**

700 RESPONSIBILITIES OF THE CONTRACTOR

700-1 STAFFING AND RESOURCES

1. The Contractor commits to providing the manpower and equipment necessary to accomplish the work in the designated contract schedule and time frame. Unless it can be demonstrated prior to starting work that the Contractor can accomplish the work in fewer work hours, the Contractor’s workforce shall work a minimum 10 hour day between Sunday night and Thursday night. Work shifts up to 12 hours (6 AM) are permitted.
2. If the Contractor falls behind in the work schedule accomplishment, additional resources shall be provided to return the work to schedule.

700-2 PROJECT SCHEDULE

The following dates/milestones shall be incorporated into the CONTRACTOR’S schedule.

Activity	Tentative Date
Potholing and Preparation Work	April 20-April 28
West Side – 2 nd to 3 rd Street	May 1-May 12
West Side – 3 rd to End of Project past 4 th	May 15-May 27
East Side – End of Project past 4 th to 3 rd	May 30-June 9(Except Memorial Day – i.e. Sunday Night)
East Side – 3 rd to 2 nd	June 12-June 24
East Side – 2 nd to End of Project past 1 st	June 26-June 30 & July 5 – July 8
West Side – End of Project past 1 st to 2 nd	June 19 through June 30
July 4 th Break – No Work	July 3 through July 8th
Paving Work	July 10 through July 17
Tree Planting and Irrigation	July 10 through July 28
Pavement Markings	July 29 through August
Project Completion	August 8

Contractor shall provide a work schedule to the ENGINEER, in accordance with Section 6-1.2, demonstrating how they will accomplish this schedule.

700-3 EMERGENCY INFORMATION

The Contractor shall provide the following information in writing and submit it with the signed contract, contract bonds and certificates of insurance. Failure to comply may result in delays in the processing of the contract documents.

1. Name of authorized representative at the job site.
2. Address and telephone number where the above person can be reached 24 hours a day.
3. Address of the nearest office of the Contractor and the name and telephone number of a person at that office who is familiar with the project.
4. Address and telephone number of the Contractor’s main office and the name and telephone number of the person at that office familiar with the project.

700-3 SUBMITTALS

The Contractor shall provide the following submittals prior to the preconstruction meeting.

Traffic Control Plan
Emergency Contact List
Project Superintendent
Project Manager
Daytime Project Monitor
Night Time Public Safety Person
SWPPP
Subcontractor Request List
Contractor's Equipment List
Submittals included in Technical Sections

700-4 ORDER OF WORK

The Contractor shall phase the Work according to the following:

1. GENERAL
 - a. The purpose of the order of work is to provide a predictable sequence of construction to the community and business owners in or near the project area.
 - b. Unless unknown conditions arise which prevents compliance with the order of work and designated project phasing, the order of work shall be followed as outlined.
2. CONCRETE TEST PANEL
 - a. Construct concrete test panel in accordance with 704-1.4.G
3. POTHOLING OF BUILDING SEWER AND WATER SERVICES and OTHER UTILITIES
 - a. The existing water service and sewer laterals shall be located at the building walls as the first priority of work. Location information shall include horizontal and vertical information.
 - b. Building service and other potholing information shall immediately be recorded on a set of Record Drawing in red pen to be kept continuously at the project site and available to City staff.
 - c. No demolition work for concrete replacement shall occur on any block until all of the building services on that block are located.
 - d. All of the building service locations shall be completed 7 calendar days prior to demolition and be completed for all phases within 30 working days.
4. SIDEWALK DEMOLITION AND REPLACEMENT
 - a. The new curb, gutter and sidewalk shall be demolished and replaced in the following phasing sequence;
 - i. West Side – 2nd to 3rd Street
 - ii. West Side – 3rd to End of Project past 4th
 - iii. East Side – End of Project past 4th to 3rd
 - iv. East Side – 3rd to 2nd
 - v. East Side – 2nd to End of Project past 1st
 - vi. West Side – End of Project past 1st to 2nd
 - b. Parking within the project limits shall be eliminated and pedestrian access provided from the nearest parking spaces to the business while each phase is in progress, from demolition of concrete until the sidewalks are complete and open to foot traffic.
 - c. Sidewalk opened to foot traffic shall be protected with a cardboard product such

as RAM board if the time between placement and opening is less than 72 hours. The open sidewalk along the buildings may be limited to a 5 foot width until 72 hours after placement.

5. UTILITY WORK

- a. Utility Work under the new curb, gutter and sidewalk shall be completed prior to or in conjunction with demolition and replacement of the sidewalk.
- b. All building service replacement shall be coordinated with the property owner, tenant and City staff at least 24 hours prior to disconnection of sewer or water service.
- c. All building services shall be operational between 8 AM and 6 PM each day. If necessary, the Contractor shall provide temporary services acceptable to the business tenants and the City. The restaurants and bars will need service later, up to 2 AM.
- d. Utility work is not constrained by the concrete work phasing. Work may occur anywhere within the project limits provided the required traffic control is in place.

6. IRRIGATION SYSTEM

- a. The existing irrigation may be shut off until the entirety of the new irrigation system is tested and commissioned.

7. STREET LIGHTS

- a. The existing street light system shall be maintained in operation as provided herein.
- b. While the contractor has working lighting in place at night, the street lights maybe turned off.
- c. One block on one side may be turned off during nights when no work is to be performed (Friday, Saturday and Holiday nights).
- d. If the required lighting is not available, the Contractor shall provide temporary lighting.

8. COLD PLANING AND PAVING

- a. The cold planing shall not occur until all of the concrete and utility work is complete.
- b. Additional pavement removals shall be marked after the cold planning is complete. Markings shall not be performed until the next day after grinding is complete.
- c. Additional milled areas shall be repaved the same night as removed.

9. TREE PLANTING

- a. If trees are planted after paving, both the surrounding concrete and paving shall be protected from mechanical damage and staining by covering with a physical barrier sufficient to protect from damage. Damaged concrete shall be replaced.

700-5 BID ITEM DESCRIPTIONS

700-5.1 BID ITEM 1 – MOBILIZATION

- A. Scope of Work
 - 1. Costs associated to mobilize crew and equipment
 - 2. Set up storage yard, fencing, security, etc.
 - 3. Provide Construction Water
 - 4. Other initial costs not covered by other items
- B. Payment
 - 1. Lump Sum
 - 2. If lump sum bid item is less than 5% of the total bid:

- a. 75% paid on first progress payment
- b. 25% on second pay estimate
- 3. If lump sum bid item is more than 5% of total bid:
 - a. 3.75% of bid paid on first pay estimate
 - b. 1.25% on second pay estimate
 - c. Remainder at final payment

700-5.2

BID ITEM 2 – TRAFFIC & PEDESTRIAN CONTROL (TPCP)

A. Scope of Work

1. Preparation of Traffic & Pedestrian Control Plan by Civil Engineer based on conceptual drawings included in plans.
2. Installation and maintenance of TPCP
3. **Night Time** - Full-time dedicated “Public Safety” person during work shift to perform the following tasks:
 - a. Assure that all features of the TPCP are in place and working at all times during work.
 - b. Monitor pedestrian traffic, particularly business on Main Street while open during work hours. Assist pedestrian safe access from businesses to out of work area.
 - c. Provide guidance and assistances to any emergency vehicles or personnel.
 - d. Person shall wear a reflective vest or coat with both the Contractor logo and “Public Safety” on back and first name on front at all times.
 - e. Have authority and capacity to make any correction deemed necessary immediately.
4. **Day Time** – Full time person on or around work site on each day after a night shift where work performed or site changed for any reason. The following shall be minimum responsibilities:
 - a. Assure safe access of pedestrians to stores within project area from parking or side streets. This includes assuring that any obstruction in the sidewalk area are clearly and safely delineated. Also assure minimum 5 foot walkway maintained on all sidewalks where replacement work is either completed or yet not started. Assure that plywood covers over trenches are secured.
 - b. Assure that street is open and safe for traffic. This includes temporary signage, plating over uncompleted trenches.
 - c. Take daily photographs and prepare a daily report to document site conditions during non-working hours.
 - d. Coordinate with night shift safety person to rectify any problems noted or changes which need to be made.
 - e. Coordinate work schedule daily with business owners to be affected by work.
 - f. Coordinate with City staff regarding any issues encountered during previous work shift and requests for assistance, information necessary for upcoming work shift.
 - g. Person shall wear a reflective vest or coat with both the Contractor logo and “Public Information” on back and first name on front at all times.
 - h. Have authority and capacity to immediately correct any problems with public safety or access.
 - i. Person may have other duties which do not interfere with completion of the above tasks.
5. The Main Streets and Armstrong through 5th streets shall be swept after the completion of the work shift and prior to 8 AM each day after a shift

is worked. All streets shall be swept to at least a block past project limits. If any spillage is noted, all spillage shall be immediately swept and removed.

6. Immediately remove from street or sidewalk unused or no longer required.
7. Signs and barricades used to close off work area may be stored on sidewalk or in a parking stall at each closure location as designated by the City.

B. Payment

1. Lump Sum
2. 20% of item on first pay estimate not to exceed \$15,000
3. Remainder based percentage of completion by contract time.
4. If time extensions granted, prorated daily amount will be added from traffic control to cover additional traffic control costs.

705-5.3

BID ITEM 3 - POTHOLE EXISTING UTILITIES

A. Scope of Work

1. Locate existing sewer laterals and water services at each building wall to determine necessary tie-in work.
2. Obtain details of City potholing prior to performing work.
3. Pothole other utility work as necessary to assure that work can be completed as designed or to reveal conflicts.

B. Payment

1. Lump Sum
2. Payment based on percentage work completed on a block by block basis.

705-5.4

BID ITEM 4 - EROSION CONTROL AND SWPPP

A. Scope of Work

1. Prepare SWPPP by QSD
2. Implement by QSP
3. Provide monitoring reports on a weekly basis
4. Removal of BMP's at catchbasins shall be under City supervision

B. Payment

1. Lump Sum
2. 15% on Implementation
3. Remainder based percentage of completion by contract time.

705-5.5

BID ITEM 5 - CONSTRUCTION STAKING

A. Scope of Work

1. All surveying as outlined in these Special Provisions
2. Copy of all cut sheets to be provided to City prior to work
3. Maintain/Restore as necessary.
4. Provide restoration of all permanent survey markers as required by California Law.

B. Payment

1. Lump Sum
2. 75% on Initial Completion of Staking
3. 25% upon completion of all Concrete Work

705-5.6

BID ITEM 6 - SHEETING, SHORING AND BRACING

A. Scope of Work

1. Provide trench safety plan for all excavations exceeding 5 foot in depth in accordance with applicable laws and requirements
2. Implement trench safety plan
3. Provide safe access for inspection personnel at all times.

B. Payment

1. Lump Sum

- 2 Prorated based on percentage of completion of work with 5 feet or greater depth.

705-5.7 BID ITEM 7 - REMOVE, SALVAGE, STORE AND REPLACE BUS SHELTER

A. Scope of Work

1. Remove, salvage, store and replace bus shelter as indicated on the plans
2. Remove immediately prior to concrete replacement work in front of Museum Park.
3. Replace upon completion of concrete replacement in front of Museum Park.

B. Payment

1. Paid for by unit price per each
2. 100% upon reinstallation.

705-5.8 BID ITEM 8 – REMOVE, SALVAGE, STORE AND REPLACE MEMORIAL PLAQUES

A. Scope of Work

1. Remove, salvage, clean and store plaques by light poles. See demolition plan
2. Reinstall plaque near original location adjacent to light pole with concrete sidewalk replacement. Clean.

B. Payment

1. Paid for by unit price per each
2. Paid on reinstallation.

705-5.9 BID ITEM 9 - REMOVE AND SALVAGE SIGNS AND STREET FURNITURE

A. Scope of Work

1. Remove and salvage all street furniture including benches and trash receptacles.
2. Clean and remove all concrete from Furniture.
3. Transport and unload at City Corporation Yard as directed by City staff.

B. Payment

1. Lump Sum
2. Payment on completion

705-5.10 BID ITEM 10 – ALL OTHER DEMOLITION

A. Scope of Work

1. Excludes all demolition activities related to existing concrete or pavement removal necessary for reconstruction of new concrete facilities.
2. Excludes all demolition relating to other pavement removal items including cold planning.
3. Includes all other demolition work not included in the above items of work.
4. Includes protection of existing buildings and facilities during demolition work.

B. Payment

1. Lump Sum
2. Same limitations as Bid Item 1 – Section 705-5.1.B

705-5.11 BID ITEM 11 – CONCRETE SIDEWALK – STANDARD GREY

A. Scope of Work

1. Includes demolition of existing sidewalk, curb and gutter and other facilities within the sidewalk including utility boxes, etc., except for PGE facilities.

2. Includes protection of existing facilities to remain in place, underground utilities and adjacent buildings.
3. Includes removal of existing concrete entrances to adjacent buildings entry ways where applicable.
4. Includes trimming existing wooden trim and concrete as necessary to complete the work in place.
5. Includes placement of expansion joint and caulking as indicated on the plans.
6. Includes all ramping and sloping of sidewalk at curb ramps.
7. Excludes curb and gutter fronting streets.
8. Excludes providing or installing truncated domes.
9. Includes adjustment of utility boxes to grade, except for PGE.
10. Includes excavation necessary to provide a minimum of 4 inches of aggregate base under the sidewalk.
11. Includes protecting existing building finishes as provided in the special provisions.
12. Includes protecting finish with RAM board or other suitable covering immediately after finishing to provide access to businesses for a minimum of 3 days.
13. Area includes all sidewalk areas including ADA ramps, etc.
14. Excludes 6 inch curb face of either curb or curb and gutter.
15. Excludes surface area of PG&E vaults
16. Includes areas of miscellaneous boxes such as water meter, PRV boxes, monument plaques, etc.
17. Includes installation of flagpole inserts. Flag insert acquisition in other item.
18. Excludes area of raised sidewalk to doorway landings and adjacent doorway landing areas.
- 19.

B. Payment

1. Paid by square foot unit price, based on plan dimensions.
2. Includes all necessary incidental work to complete in place.

705-5.12 BID ITEM 12 – STAMPED AND COLORED CONCRETE

A. Scope of Work

1. Any applicable demolition.
2. Submittal of colored and stamped concrete in place.
3. Preparation of subgrade and installation of aggregate base
4. Installation of colored and stamped concrete
5. Protection of surrounding concrete and pavement from staining.
6. Protection of completed sidewalk after placement for 7 calendar days using RAM board or suitable covering.
7. Installation and maintenance of plywood pedestrian walkway surface in time between standard sidewalk and colored concrete.
8. Includes all necessary incidental work to complete in place.

B. Payment

1. Paid by the square foot unit price, based on plan dimensions.
2. Includes all incidental work

705-5.13 BIND ITEM 13 – RAISED CONCRETE SIDEWALK

A. Scope of Work

1. Placement of raised concrete sidewalk to building entrances per plan.
2. Any applicable demolition.
3. Forming and finishing (integral) exposed curb face.

4. Includes sidewalk edge warning inserts where applicable
 5. Includes handrail inserts where applicable
 6. Includes steps where applicable (1 location) Includes protecting finish with RAM board or other suitable covering immediately after finishing to provide access to businesses for a minimum of 3 days.
 7. Includes adjacent doorway entries where shown to be replaced.
 8. Joint and finish at buildings
 9. Excludes vent boxes.
 10. Excludes handrails
- B. Payment
1. Paid by the horizontal square foot unit price, based on plan dimensions.
 2. Includes all incidentals necessary to complete in place.

705-5.14 BID ITEM 14 – TRUNCATED DOMES

- A. Scope of Work
1. Providing and installing truncated domes
- B. Payment
1. Paid by the square foot unit price, measured in place.
 2. Includes all incidentals necessary to complete in place.

705-5.15 BID ITEM 15 – CONCRETE VERTICAL CURB – TYPE A1-6”

- A. Scope of Work
1. Associated demolition work
 2. Preparing subgrade and aggregate base beneath curb.
 3. Joint and finish at buildings
 4. Forming, placement and finishing of concrete vertical curb
 5. Backfill of CLSM between new curb and existing pavement.
- B. Payment
1. Paid by the lineal foot unit price measured at curb face, as dimensioned in plans.
 2. Includes all incidentals necessary to complete in place.

705-5.16 BID ITEM 16 – CONCRETE CURB AND GUTTER– TYPE A2-18”

- B. Scope of Work
1. Associated demolition work
 2. Preparing subgrade and aggregate base.
 3. Forming, placement and finishing of concrete curb and gutter
 4. Backfill of CLSM between new gutter and existing pavement.
- B. Payment
1. Paid by the lineal foot unit price measured at curb face, as dimensioned in plans.
 2. Includes all incidentals necessary to complete in place.

705-5.17 BID ITEM 17 – SIDEWALK DRAIN

- A. Scope of Work
1. Install sidewalk drain per plans including attachment at building.
 2. Includes all work to modify/attach the building drainage facility to the new sidewalk drain.
- B. Payment
1. Paid for by unit price per each
 2. Includes all incidentals necessary to complete in place.

705-5.18 BID ITEM 18 – 3” COLD PLANE

- A. Scope of Work

1. Includes cost of providing surveying/grade checking necessary to provide painted cuts prior to cold planning below finished grade
 2. Cold plane to grade to an average depth not to exceed 3 inches
 3. Transport grinding to City storage site as indicated on the plans.
- B. Payment
1. Paid by the square foot of cold plane, at unit price, as dimensioned on plan.
 2. Includes all incidentals necessary to complete in place.

705-5.19 BID ITEM 19 – 6” REMOVE AND REPLACE HMA IN TRAVEL LANES

- A. Scope of Work
1. Removal of existing pavement and subgrade
 2. Transporting to City storage site as indicate on the plans
 3. Provide and install HMA per plans and special provisions
- B. Payment
1. Paid by square foot of surface area, as measured in field, at unit price.
 2. Includes all work including cold planning and HMA placement

705-5.20 BID ITEM 20 – 6” REMOVE AND REPLACE HMA IN TRENCH PATCHES

- B. Scope of Work
1. Removal of existing pavement and subgrade only in area of existing full depth HMA.
 2. Transporting to City storage site as indicate on the plans
 3. Provide and install HMA per plans and special provisions
 4. At trenches parallel to the travel way which encroach into full depth HMA, the minimum width for payment shall be 4 feet. This may require special grinder or sawcutting and mechanical removal.
- B. Payment
1. Paid by the square foot of surface area, based on dimensions on plan, at unit price.
 2. Payment for this item is limited to 6” beyond the planned limits of the trenching and no additional compensation will be provided.
 2. Includes all work including cold planning and HMA placement

705-5.21 BID ITEM 21 – 3” REMOVE AND REPLACE HMA IN MISCELLANEOUS LOCATIONS

- A. Scope of Work
1. Removal of existing pavement and subgrade only in area of existing full depth HMA.
 2. Transporting to City storage site as indicate on the plans
 3. Provide and install HMA per plans and special provisions
- B. Payment
1. Paid by the square foot of surface area at unit price
 2. Includes all work including cold planning and HMA placement

705-5.22 BID ITEM 22 – NO. 4 HMA (leveling)

- A. Scope of Work
1. Includes cost of providing surveying/grade checking necessary to provide painted cuts prior to and after placement of leveling course.
 2. Placement of leveling course to grade
 3. Correction of leveling course surface if necessary
- B. Payment
1. Paid at the unit cost per ton installed.
 2. Paid on delivery tickets turned over at end of shift
 3. Deduction based on estimated unused material

705-5.23 BID ITEM 23 – ½” HMA (surface)

- A. Scope of Work
 - 1. Placement of surface course per plans and specifications
- B. Payment
 - 1. Paid at the unit cost per ton installed.
 - 2. Paid on delivery tickets turned over at end of shift
 - 3. Deduction based on estimated unused material

705-5.24 BID ITEM 24 – PAVEMENT INTERLAYER

- A. Scope of Work
 - 1. Tack Coat
 - 2. Pavement Interlayer per plans and specification
- B. Payment
 - 1. Paid by the square foot of installed area at unit price.
 - 2. No payment for required joints or overlaps or replacement if required.

705-5.25 BID ITEM 25 – STREET PRINT HMA STAMP AND COLOR

- A. Scope of Work
 - 1. Install Street Print per plans and specifications
 - 2. Includes sample submittal(s).
- B. Payment
 - 1. Paid by the square foot of installed area at unit price.
 - 2. Includes all incidentals necessary to complete in place.

705-5.26 BID ITEM 26 – CONSTRUCT SIDEWALK VENT BOX

- A. Scope of Work
 - 1. Provide box, extension and grate per plans
 - 2. Install and fit into place and connect to existing opening.
 - 3. Work includes all incidental work necessary to complete in place.
 - 4. Includes any associated demolition.
- B. Payment
 - 1. Paid for by unit price per each
 - 2. Includes all incidentals necessary to complete in place.

705-2.27 BID ITEM 27 – TREE FRAME AND GRATE

- A. Scope of Work
 - 1. Provide and Install Tree Frame and Grate
 - 2. Includes connections to sidewalk, curb and gutter and modified sidewalk edge.
 - 3. Includes any associated demolition
- B. Payment
 - 1. Paid for by unit price per each
 - 2. Includes all incidentals necessary to complete in place.

705-2.28 BID ITEM 28 – PROVIDE FLAGPOLE MOUNT

- A. Scope of Work
 - 1. Fabricate and provide flag pole insert
 - 2. Install included under sidewalk item
- B. Payment
 - 1. Paid for by unit price per each
 - 2. Includes all incidentals necessary to complete in place.

705-5.29 BID ITEM 29 – REMOVE, SALVAGE, STORE AND RESET TRASH RECEPTACLE

- A. Scope of Work
 - 1. Purchase new trash receptacles
 - 2. Transport and Install New Trash Receptacle
 - 3. Includes installing receptacle in accordance with manufacturer's instruction in the new sidewalk, in locations shown on plans.
- B. Payment
 - 1. Paid for by unit price per each
 - 2. Includes all incidentals necessary to complete in place.

705-5.30 BID ITEM 30 – INSTALL TRASH RECEPTACLE

- A. Scope of Work
 - 1. Transport and Install New Trash Receptacle
 - 2. Includes removal, cleaning, restoring and replacing receptacle in accordance with manufacturer's instruction in the new sidewalk, in locations shown on plans.
- B. Payment
 - 1. Paid for by unit price per each
 - 2. Includes all incidentals necessary to complete in place.

705-5.31 BID ITEM 31 – HANDRAIL

- A. Scope of Work
 - 1. Manufacture and install handrails in accordance with the Plans and these specifications in raised walk areas.
 - 2. Inserts covered under raised walks.
- B. Payment
 - 1. Paid for by unit price per lineal foot, measured in place.
 - 2. Includes all incidentals necessary to complete in place.

705-5.32 BID ITEM 32 – THERMOPLASTIC TRAFFIC STRIPE (4")

- A. Scope of Work
 - 1. Install thermoplastic traffic stripe (4") as shown on plans.
 - 2. Includes any removal of existing stripe where necessary.
 - 3. Does not include any pavement markings, only stripe.
- B. Payment
 - 1. Paid for by unit price per lineal foot, measured in place.
 - 2. Measurement does not include gaps in striping.
 - 3. Includes all incidentals necessary to complete in place.

705-5.33 BID ITEM 33– THERMOPLASTIC PAVEMENT MARKINGS.

- A. Scope of Work
 - 1. Install thermoplastic traffic stripe (4") as shown on plans.
 - 2. Includes any removal of existing stripe where necessary.
- B. Payment
 - 1. Paid for by unit price per square foot, measurement based on square footage of the item as noted in the standard plans for all but stop bars and cross walks which will be measured in place.
 - 2. Includes all incidentals necessary to complete in place.

705-5.34 BID ITEM 34– New Single Post Sign with Panel

- A. Scope of Work
 - 1. Install new sign post, sign panel and all footing and hardware necessary to install in accordance with plans and specifications.
 - 2. Includes any associated demolition not included elsewhere.
- B. Payment
 - 1. Paid for by unit price per each.

2. Includes all incidentals necessary to complete in place.

705-5.35 BID ITEM 35– 72” Storm Drain Manhole

A. Scope of Work

1. Install concentric storm drain manhole in accordance with City Standards and Specifications.
2. Includes frame and grate
3. Includes connections to storm drains where not covered in other items.
4. Excludes demolition of Manhole covered in other items.
5. Includes all other associated demolition not included elsewhere.

B. Payment

1. Paid for by unit price per each.
2. Includes all incidentals necessary to complete in place.

705-5.36 BID ITEM 36– Curb Inlet, Type GOL-10 DI

A. Scope of Work

1. Install Curb Inlet, Type GOL-10 DI in accordance with Plans and Caltrans Standard Plans and Specifications.
2. Includes frame and grate
3. Includes associated Gutter Depressions in conformance with Caltrans Standard Plan D78A
4. Includes connections to storm drains where not covered in other items.
5. Includes demolition of existing storm drain inlet and associated gutter pan.
6. Includes all other associated demolition not included elsewhere.

B. Scope of Work

1. Paid for by the unit price per each.
2. Includes all incidentals necessary to complete in place.

705-5.37 BID ITEM 37– Curb Inlet, Type GO DI

A. Scope of Work

1. Install Curb Inlet, Type GO DI in accordance with Plans and Caltrans Standard Plans and Specifications.
2. Includes frame and grate
3. Includes associated Gutter Depressions in conformance with Caltrans Standard Plan D78A
4. Includes connections to storm drains where not covered in other items.
5. Includes demolition of existing storm drain inlet and associated gutter pan.
6. Includes all other associated demolition not included elsewhere.

B. Payment

1. Paid for by the unit price per each.
2. Includes all incidentals necessary to complete in place.

705-5.38 BID ITEM 37– 36” x 36” Junction Box

A. Scope of Work

1. Install 36” x 36” Junction Box in accordance with Plans and Caltrans Standard Plans and Specifications.
2. Includes frame and grate
3. Includes all other associated demolition not included elsewhere.

B. Payment

1. Paid for by the unit price per each.
2. Includes all incidentals necessary to complete in place.

- 705-5.39 BID ITEM 39– 23” x 14” Class 5 Elliptical RCP
- A. Scope of Work
1. Install 23” x 14” Class 5 Elliptical RCP in accordance with Plans and Caltrans Standard Plans and Specifications.
 2. Excludes connections to manholes, covered
 3. Includes all associated demolition of existing storm drains to and in the existing manholes.
 4. Includes connections to storm drain manholes and all modifications to connect to manhole.
 5. Includes all other associated demolition not included elsewhere.
- B. Payment
1. Paid for by the unit price per lineal foot, field measured.
 2. Includes all incidentals necessary to complete in place.
- 705-5.40 BID ITEM 40– Modify Storm Drain Manhole/Drainage Inlet (DI)
- A. Scope of Work
1. Modify Storm Drain Manhole/Drainage Inlets in accordance with Plans and Caltrans Standard Plans and Specifications.
 2. Includes repair to existing manholes at existing connections that are being removed. Connections of new storm drain facilities to manholes are covered under Bid Item 39.
 3. Excludes resetting of manhole frame and grates, covered under Bid Item 42.
 4. Includes all other associated demolition not included elsewhere.
- B. Payment
1. Unit price per each, field measured.
- 705-5.41 BID ITEM 41– 6” Sanitary Sewer Drop Connection
- A. Scope of Work
1. Install 6” Sanitary Storm Drop Connections in conformance with City Standards.
 2. Includes drilling into existing manholes and all other associated grouting and modifications to existing manhole.
 3. Excludes resetting of manhole frame and grates, covered under Bid Item 42.
 4. Includes all other associated demolition not included elsewhere.
- B. Payment
1. Paid for by the unit price per each.
 2. Includes all incidentals necessary to complete in place.
- 705-5.42 BID ITEM 42– Reset Manhole Frame and Grate
- A. Scope of Work
1. Install 6” Sanitary Storm Drop Connections in conformance with the plans, City Standards and Plans.
 2. Includes drilling into existing manholes and all other associated grouting and modifications to existing manhole.
 3. Excludes resetting of manhole frame and grates, covered under Bid Item 42.
 4. Includes all other associated demolition not included elsewhere.
- B. Payment
1. Paid for by the unit price per each.
 2. Includes all incidentals necessary to complete in place.
- 705-5.43 BID ITEM 43– Reset 6” Sanitary Sewer Rodding Inlet
- A. Scope of Work

1. Reset Sanitary Sewer Rodding Inlet in conformance with the plans, City Standards and Plans.
 2. Includes all other associated demolition not included elsewhere.
- B. Payment
1. Paid for by the unit price per each.
 2. Includes all incidentals necessary to complete in place.

705-5.44 BID ITEM 44– 6” PVC Sanitary Sewer Main

- A. Scope of Work
1. Install 6” Sanitary Sewer Main in conformance with the plans, City Standards and Plans.
 2. Includes all other associated demolition of existing mains and other appurtenant items required and not included elsewhere.
- B. Payment
1. Paid for by the unit price per Lineal Foot, as measured.
 2. Includes all incidentals necessary to complete in place.

705-5.45 BID ITEM 45– Red Curb Markings

- A. Scope of Work
1. Prepare and apply red paint curb markings
- B. Payment
1. Paid for by the unit price per Lineal Foot, as measured.
 2. Includes all incidentals necessary to complete in place

705-5.46 BID ITEM 46– Remove 48” Sanitary Sewer Manhole

- A. Scope of Work
1. Remove and dispose 48” Sanitary Sewer Manhole
 2. Backfill full depth with CLSM.
 3. Includes all other associated demolition not included elsewhere.
- B. Payment
1. Paid for by the unit price per each.
 2. Includes all incidentals necessary to complete in place.

705-5.47 BID ITEM 47– 4” Sanitary Sewer Lateral (Shallow), Cleanout & Box

- A. Scope of Work
1. Remove and dispose of existing sanitary sewer lateral from main to building.
 2. Reconstruct new 4” sanitary sewer lateral in conformance with the plans, City Standards and Plans.
 3. These connections are from existing 6” sewer mains to existing services at building face.
 4. Includes all system parts from main to building, including any repairs to existing main at existing lateral and new cleanout box.
 5. Includes reconnecting to existing service at building face.
 6. Backfill all excavations full depth with CLSM.
 7. Includes all other associated demolition not included elsewhere.
- B. Payment
1. Paid for by the unit price per each.
 2. Includes all incidentals necessary to complete in place.

705-5.48 BID ITEM 48– 4” Sanitary Sewer Lateral (Deep), Cleanout & Box

- A. Scope of Work
1. Remove and dispose of existing sanitary sewer lateral from main to building.

2. Reconstruct new 4" sanitary sewer lateral in conformance with the plans, City Standards and Plans. These connections are from existing 12" sewer mains to existing services at building face.
 3. These connections are from existing sewer mains to existing services at building face.
 4. Includes all system parts from main to building, including any repairs to existing main at existing lateral and new cleanout box.
 5. Includes reconnecting to existing service at building face.
 6. Backfill all excavations full depth with CLSM.
 7. Includes all other associated demolition not included elsewhere.
- B. Payment
1. Paid for by the unit price per each.
 2. Includes all incidentals necessary to complete in place.

705-5.49

BID ITEM 49– 4" Sanitary Sewer Service Stubs, Cleanout & Box

A. Scope of Work

1. Reconstruct new 4" sanitary sewer service stub in conformance with the plans, City Standards and Plans. These connections are from existing 12" and 6" sanitary sewer mains to a new connection to and through the building foundation.
2. Includes all system parts from main to and through building foundation, including and new cleanout box.
3. Includes coring through existing foundation and capping.
4. Backfill all excavations full depth with CLSM.
5. Includes all other associated demolition not included elsewhere.

B. Payment

1. Paid for by the unit price per each.
2. Includes all incidentals necessary to complete in place.

705-5.50

BID ITEM 50– 2" Gate Valve & Box

A. Scope of Work

1. Construct 2" gate valve in conformance with the plans and City Standards and plans.
2. Includes all system parts from main to gate valve lid, including new gate valve and box with lid.
3. Backfill all excavations full depth with CLSM.
4. Includes all other associated demolition not included elsewhere.

B. Payment

1. Paid for by the unit price per each.
2. Includes all incidentals necessary to complete in place.

705-5.51

BID ITEM 51– 4" Gate Valve & Box

A. Scope of Work

1. Construct 4" gate valve in conformance with the plans and City Standards and plans.
2. Includes all system parts from main to gate valve lid, including new gate valve and box with lid.
3. Backfill all excavations full depth with CLSM.
4. Includes all other associated demolition not included elsewhere.

B. Payment

1. Paid for by the unit price per each.
2. Includes all incidentals necessary to complete in place.

705-5.52

BID ITEM 52– 6" Gate Valve & Box

A. Scope of Work

1. Construct 4" gate valve in conformance with the plans and City Standards and plans.
 2. Includes all system parts from main to gate valve lid, including new gate valve and box with lid.
 3. Backfill all excavations full depth with CLSM.
 4. Includes all other associated demolition not included elsewhere.
- B. Payment
1. Paid for by the unit price per each.
 2. Includes all incidentals necessary to complete in place.

705-5.53 BID ITEM 53– 8" Gate Valve & Box

- A. Scope of Work
1. Construct 4" gate valve in conformance with the plans and City Standards and plans.
 2. Includes all system parts from main to gate valve lid, including new gate valve and box with lid.
 3. Backfill all excavations full depth with CLSM.
 4. Includes all other associated demolition not included elsewhere.
- B. Payment
1. Paid for by the unit price per each.
 2. Includes all incidentals necessary to complete in place.

705-5.54 BID ITEM 54– 1" Water Service (single) & Box

- A. Scope of Work
1. Remove and dispose of existing water service lateral from main to building.
 2. Reconstruct new 1" water service lateral in conformance with the plans, City Standards and Plans. These connections are from existing water mains to existing services at building face.
 3. Includes resetting of new or salvaged water meters.
 4. Includes all new system parts from main to building (except salvaged water meter).
 5. Includes any repairs to existing main at existing lateral.
 6. Includes reconnecting to existing service at building face.
 7. Backfill all excavations full depth with CLSM.
 8. Includes all other associated demolition not included elsewhere.
- B. Payment
1. Paid for by the unit price per each.
 2. Includes all incidentals necessary to complete in place.

705-5.55 BID ITEM 55– 2" Water Service (single) & Box

- A. Scope of Work
1. Remove and dispose of existing water service lateral from main to building.
 2. Reconstruct new 2" water service lateral in conformance with the plans, City Standards and Plans. These connections are from existing water mains to existing services at building face.
 3. Includes resetting of new or salvaged water meters.
 4. Includes all new system parts from main to building (except salvaged water meter).
 5. Includes any repairs to existing main at existing lateral.
 6. Includes reconnecting to existing service at building face.
 7. Backfill all excavations full depth with CLSM.
 8. Includes all other associated demolition not included elsewhere.
- B. Payment

1. Paid for by the unit price per each.
2. Includes all incidentals necessary to complete in place.

705-5.56 BID ITEM 56– 2” Water Service (double) & Box

A. Scope of Work

1. Remove and dispose of existing associated water service lateral(s) from main to building.
1. Reconstruct new 2” water service lateral in conformance with the plans, City Standards and Plans. These connections are from existing water mains to existing services at building face.
2. Includes resetting two meters in a B24 Box and constructing and connecting separate 1” water laterals to existing services (2 total).
3. Includes resetting of 2 (new or salvaged) water meters.
4. Includes all new system parts from main to building (except salvaged water meter).
5. Includes any repairs to existing main at existing lateral.
6. Includes reconnecting to existing service at building face.
7. Backfill all excavations full depth with CLSM.
8. Includes all other associated demolition not included elsewhere.

B. Payment

1. Paid for by the unit price per each.
2. Includes all incidentals necessary to complete in place.

705-5.57 BID ITEM 57– 1” Pressure Reducing Valve & Box

A. Scope of Work

1. Remove and dispose of existing associated pressure reducing valve and boxes.
2. Reconstruct new 1” pressure reducing valve in conformance with the plans, City Standards and Plans.
3. Includes installing new B9 Box and connecting with the newly constructed laterals.
4. Excludes laterals outside of box, except for connection.
5. Includes all other associated demolition not included elsewhere.

B. Payment

1. Paid for by the unit price per each.
2. Includes all incidentals necessary to complete in place.

705-5.58 BID ITEM 58– Reset Fire Hydrant

A. Scope of Work

1. Reset Fire Hydrant in same plan location.
2. Includes all system parts necessary to raise fire hydrant and reconnect to main.
3. Backfill all excavations full depth with CLSM.
4. Includes all other associated demolition not included elsewhere.

B. Payment

1. Paid for by the unit price per each.
2. Includes all incidentals necessary to complete in place.

705-5.59 BID ITEM 59– Quad 1” Water Services with 2” lateral and 2 boxes

A. Scope of Work

1. Remove and dispose of existing associated water service lateral(s) from main to building.
2. Reconstruct a new 2” water service lateral from main to a manifold, and

installing two new double (B24) boxes with two meters (salvaged or new) in each box (total of four meters) and constructing four each 1" water service laterals to four existing services at building face. Work to be done in conformance with the plans, City Standards and Plans from Main to Box.

3. Where 3 meters are specified, the third meter shall be installed in a B9 box.
4. These connections are from existing water mains to existing services at building face.
5. Includes resetting of 2 (new or salvaged) water meters.
6. Includes all new system parts from main to building (except salvaged water meter).
7. Includes any repairs to existing main at existing lateral.
8. Includes reconnecting to existing service at building face.
9. Backfill all excavations full depth with CLSM.
10. Includes all other associated demolition not included elsewhere.

B. Payment

1. Paid for by the unit price per each.
2. Payment includes all service installations (3 or 4) as one unit price.
3. Includes all incidentals necessary to complete in place.

705-5.60

BID ITEM 60– Double 1" Pressure Reducing Valve & Box

A. Scope of Work

1. Remove and dispose of existing associated pressure reducing valve(s) and boxes.
2. Reconstruct double 1" pressure reducing valve in conformance with the plans, City Standards and Plans.
3. Includes installing a new B9 Box and connecting with the newly constructed laterals.
4. Excludes laterals outside of box, except for connection.
5. Includes all other associated demolition not included elsewhere.

B. Payment

1. Paid for by the unit price per each.
2. Includes all incidentals necessary to complete in place.
- 3.

705-5.61

BID ITEM 61– 1" Water Service Stubs & Box

B. Scope of Work

6. Reconstruct new 1" water service stub in conformance with the plans, City Standards and Plans. These connections are from existing 8" water mains to and through the building foundation. End to be capped. Location of connection as shown on plans.
7. Includes all system parts from main to and through building foundation, including and new cleanout box.
8. Includes coring through existing foundation and capping.
9. Backfill all excavations full depth with CLSM.
10. Includes all other associated demolition not included elsewhere.

B. Payment

3. Paid for by the unit price per each.
4. Includes all incidentals necessary to complete in place.

705-5.62

BID ITEM 62– Reconstruct Fire Hydrant

A. Scope of Work

1. Reconstruct Fire Hydrant at location shown on plans and in conformance with plans and City Standards and Plans.

2. Includes all system parts necessary to reconstruct firehydrant and reconnect to main.
 3. Fire Hydrant shall be salvaged and reused.
 4. Excludes gate valve paid for in separate item.
 5. Backfill all excavations full depth with CLSM.
 6. Includes all other associated demolition not included elsewhere.
 7. Includes salvaging fire hydrant and removing existing hydrant lateral and repairing main.
- B. Payment
1. Paid for by the unit price per each.
 2. Includes all incidentals necessary to complete in place.

705-5.63 BID ITEM 63 – RELOCATE STREET LIGHS & INSTALL NEW BASES AND PULL BOXES

- A. Scope of Work
1. Remove, Salvage, Protect Existing Street Lights
 5. Install new light pole base per plan details
 6. Demolish top off existing light pole base. The upper portion of the light pole base shall be removed to a depth a minimum of 12” below the proposed sidewalk finished grade, or where otherwise in conflict with proposed improvements.
 7. Remove existing pull box and install new pull box as shown on drawings
 8. Install new conduit and conductors from new pull box to relocated street light.
 9. Revise irrigation system to serve new street light location
 10. Reinstall light after completion of sidewalk work
 11. Reinstall and energize street lights
 12. Reinstall plumbing to baskets in light poles
- B. Payment
- C.
1. Unit price of per location including all work as described above and all other incidental work to assure operational street light with basket irrigation

705-5.64 BID ITEM 64 – MODIFY/EXTEND STREET LIGHT CONDUIT & INSTALL NEW CONDUCTORS

- A. Scope of Work
1. Stage Work on a block by block basis to correspond with concrete work
 2. Modify/extend existing conduits and install conductors
 - a. Remove existing conductors
 - b. Remove existing pull boxes and splice in new conduits
 - c. Place new conduit into new pull boxes supplied under the relocated street light or new street light items.
 - d. Pull new conductors and energize system
 - e. Includes connecting to new PG&E service
- B. Payment
1. Lump Sum
 1. Includes all work necessary to connect and energize relocated and new street lights and street light beyond new sidewalk and paving to the North as shown.
 - 2.

705-5.65 BID ITEM 65—NEW SERVICE, PANELS, AND CONTROLS

- A. Scope of Work

1. Remove existing service equipment, conduits and conductors not to be reused
2. Install equipment and enclosure as shown on the Service Riser Diagram
3. Install related conduit and wiring as shown
4. Arrange and schedule with PG&E for timely power transfer to assure continuous service to street lights at night.
5. Connect to PG&E service vault
6. Perform all work in accordance with plans and specifications and all applicable codes and ordinances.

B. Payment

1. Lump sum

705-5.66

BID ITEM 66—INSTALL NEW STREET LIGHTS, BASES AND PULL BOXES

A. Scope of Work

1. Install new light pole base per plan details
2. Install new pull box as shown on drawings
3. Install new conduit and conductors from new pull box to new street light

B. Payment

1. Unit price per location including all work as describe above and all other incidental work to assure operational street light with basket irrigation.

705-5.67

BID ITEM 67 –CONDUIT FOR TREE RECEPTACLE

A. Scope of Work

1. Install conduit system for energizing outlets at tree well locations as shown on the plans.
2. Install conduit for irrigation control valves to tree wells with irrigation control valves as shown on irrigation plans
3. Cap conduits above grade below grate in final locations for outlets.
4. Connect conduit to associated street light pull box.

B. Payment

1. Lump Sum
2. Includes all work to provide complete conduit system for tree light outlets and general use outlets ready for service except for outlets and conductor installation.

705-5.68

BID ITEM 68 – ELECTRICAL OUTLET & PIG TAILS AT TREE WELL

A. Scope of Work

1. Furnish and install electrical outlet and furnish pigtails per plans at tree well
2. Install conductors to nearest light pole pull box
3. Energize and test system
4. Supply 7 extra sets of pigtails of both colors.

B. Payment

1. Unit price per each tree well location
2. Cost of additional pigtails shall be included in the unit price.

705-5.69

BID ITEM 69 – INSTALL CONDUCTORS FOR TREE WELL OUTLETS

A. Scope of Work

1. Provide and install all conductors necessary to energize tree well outlets as described on the plans and in the contract documents.
2. Energize and test system.

- B. Payment
 - 1. Lump Sum
 - 2. Includes all work necessary to connect and energize tree well outlets

705-5.70 BID ITEM 70 – CONTROLLER, WALL MOUNT IN VANDAL RESISTANT ENCLOSURE

- A. Scope of Work
 - 1. Remove existing service panel, conduits and conductors not to be reused.
 - 2. Install new service panel, conduits and conductors to connect to PG&E service vault.
 - 3. Arrange and schedule with PG&E for timely power transfer to assure continuous service to street lights at night.
 - 4. Perform all work in accordance with plans and specifications and all applicable codes and ordinances.
- B. Payment
 - 1. Lump Sum

705-5.71 BID ITEM 71 – INSTALL TREE INCLUDING ALL FEATURES

- A. Scope of Work
 - 1. Excavate tree well
 - 2. Install Root Barrier
 - 3. Provide and prepare planting soil
 - 4. Furnish and install tree
 - 5. Install irrigation lines and bubblers
 - 6. Mulch and otherwise finish tree
 - 7. Install grate
 - 8. All incidental work necessary to install and provide irrigation to tree
- B. Payment
 - 1. Unit price per tree

705-5.72 BID ITEM 72 – MAINTENANCE PERIOD

- A. Scope of Work
 - 1. Work with City staff to adjust irrigation system as necessary
 - 2. Prune or otherwise provide necessary tree maintenance
 - 3. Replace tree or any other non-performing items
- B. Payment
 - 1. Unit price per month of maintenance
 - 2. Item not subject to increase or decrease of 25% rule regarding adjustment of unit price.

705-5.73 BID ITEM 73 – CONTROLLER, WALL MOUNT IN VANDAL-RESISTANT ENCLOSURE

- A. Scope of Work
 - 1. Provide and install controller
 - 2. Provide power supply wiring from power service to controller panel
 - 3. Terminate control wiring
 - 4. Program and test controller
 - 5. Provide vandal resistant enclosure (color choice by city).
 - 6. All incidental work necessary to complete functional controller
- B. Payment
 - 1. Lump Sum

705-5.74 BID ITEM 74 – BACKFLOW PREVENTER

- A. Scope of Work
 - 1. Provide and install backflow preventer
 - 2. Connect to water supply and irrigation piping system
 - 3. Perform testing
 - 4. Install enclosure
 - 5. All other incidental work
- B. Payment
 - 1. Lump Sum

705-5.75 BID ITEM 75 – IRRIGATION CONTROL WIRING

- A. Scope of Work
 - 1. Provide conduit and control wiring
 - 2. Make all terminations
 - 3. Test system
- B. Payment
 - 1. Lump Sum

705-5.76 BID ITEM 76 – IRRIGATION SYSTEM PIPING

- A. Scope of Work
 - 1. Furnish and install all irrigation piping including servicing street light locations.
 - 2. Pressure test system prior to backfill and concrete installation
 - 3. Pressure test system after installation of concrete features and prior to connecting to individual irrigation features.
- B. Payment
 - 1. Lump Sum

705-5.77 BID ITEM 77 – HANGING BASKETS

- A. Scope of Work
 - 1. Provide irrigation supply lines and planting medium
 - 2. Install plantings as indicated on drawings
- B. Payment
 - 1. Paid for by the unit price per each.
 - 2. Includes all incidentals necessary to complete in place.

705-5.78 BID ITEM 78 – RESET ATT VAULT

- A. Scope of Work
 - 1. Reset ATT vault manhole lids in compliance with ATT requirements.
 - 2. Coordinate with ATT personnel..
- B. Payment
 - 3. Paid for by the unit price per each.
 - 4. Includes all incidentals necessary to complete in place.

BID ALTERNATE 1 ITEMS

705-5.81 ITEM 81 – DEDUCT – CONCRETE SIDEWALK- STAMPED AND COLORED

- A. Scope of Work
 - 1. Deduction includes all work associated with Bid Item 12.
- B. Payment
 - 1. Deduction is by the square foot unit price, based on plan dimensions.
 - 2. Includes all incidental work

- 705-5.82 **ITEM 82 – ADD – ADD-BRICK PAVERS ON SLAB (TREE WELLS)**
- A. Scope of Work
 - 1. Any applicable demolition.
 - 2. Submittal of brick pavers for approval.
 - 3. Preparation of subgrade and installation of aggregate base
 - 4. Installation of Sand setting
 - 5. Installation of all associated fiber expansion joints.
 - 6. Installation of brick pavers in accordance with plans.
 - 7. Protection of surrounding concrete and pavement from chipping.
 - 8. Installation and maintenance of plywood pedestrian walkway surface until pavers are in place.
 - 9. Includes all necessary incidental work to complete in place.
 - B. Payment
 - 1. Paid by the square foot unit price, based on plan dimensions as identified for bid item 12.
 - 2. Includes all incidental work

- 705-5.83 **ITEM 83 – ADD – CONCRETE BORDER**
- A. Scope of Work
 - 1. Any applicable demolition.
 - 2. Preparation of subgrade and installation of aggregate base
 - 3. Installation of reinforcement.
 - 4. Protection of surrounding concrete and pavement from staining.
 - 5. Protection of completed sidewalk after placement for 7 calendar days using RAM board or suitable covering.
 - 6. Installation and maintenance of plywood pedestrian walkway surface in time between standard sidewalk and colored concrete.
 - 7. Includes all necessary incidental work to complete in place.
 - B. Payment
 - 1. Paid by the lineal foot unit price, based on plan dimensions.
 - 2. Includes all incidental work

701 TRAFFIC & PESTRIAN CONTOL

A schematic traffic control plan is provided in the plans. The contractor shall review this plan and amend as necessary for CA MUTCH compliance and have it reviewed by a qualified professional. The Contractor shall be responsible for all aspects of traffic control. The Contractor shall supply, place, and maintain all necessary traffic control devices during construction in accordance with the applicable requirements of the City of Lakeport, the California Manual of Uniform Traffic Control Devices, and the traffic control plans approved by the City.

It is the intent to completely close the street to all traffic and limited pedestrian access during work. The traffic will be detoured as indicated, depending on whether there is active work in the First Street intersection.

The complete street shall be open to traffic between 6 AM and 6 PM daily and 24 hours a day on Friday and Saturday.

Advance construction warning signs shall be placed on all streets leading into the construction area before any construction is started. The signs shall remain in place from the first date of work until the punch list is complete.

The Contractor shall submit traffic control plans to the Engineer for approval five (5) working days prior to the pre-construction meeting. Traffic control plans shall conform to the requirements below.

1. The street shall be swept at the end of each work shift prior to opening. A mobile street sweeper shall be used wherever practical and dust shall be suppressed to the satisfaction of the Engineer.
2. All excavations in pavement area shall be either backfilled to the surface or covered with steel plates secured against movement. Steel plates shall have 18 inches of temporary asphalt placed at the edges to soften the transition. The entire pavement shall be available for public use during non-working hours.
3. All excavations in sidewalks shall be either backfilled to the surface or covered with plywood per plan details. A minimum unencumbered sidewalk width of 5 feet minimum and access to each business shall be provided.
4. Access shall be provided to each business each day between 8 AM and 6 PM. Access shall be provided as shown on the plans.
5. As indicated in the plans, the Contractor shall have a full time person dedicated to traffic and pedestrian safety during the night and day when working and the day time after a work shift. Any unsafe conditions or complaints by businesses shall be corrected immediately.
6. The Contractor shall stockpile sufficient materials to assure that these provisions can be executed in a timely manner.
7. There shall be no stockpiling of material on the project site. In the block where sidewalk work is progressing, formwork and other temporary work features shall be protected from public access.

Payment for Traffic and Pedestrian Control shall be made under the lump sum item for “Traffic & Pedestrian Control”. The payment for this item shall include all costs associated with providing traffic control and public safety including the night time and day time personnel as discussed above and indicated on the plans. Payment shall be made on a prorated percentage basis of the less percentage of time elapsed.

702 DEMOLITION, SITE PREPARATION AND GENERAL REQUIREMENTS

702-1 GENERAL

702.1.1 SUMMARY

- A. Includes But Not Limited To:
 1. Demolish and remove portions of existing site facilities as described in Contract Documents. Salvage as indicated on the plans. Backfill as indicated.
 - a. Street signs and poles (salvage)
 - b. Street furniture including benches and waste receptacles. (Salvage and clean)
 - c. Street lights and poles (relocate) Light Poles, Bases and Pull Boxes
 - d. Existing pavement, curb, gutter and sidewalk
 2. Protection of existing facilities
 3. Repair, cleaning and restoration

702.1.2 SUBMITTALS

- A. Utility Services at Buildings – provide a continuously updated record drawings per 704-1.3 above. Include as constructed information for installed sewer and water services as completed.
- B. Closeout - Identify abandoned utility and service lines and capping locations on record drawings.

702.1.3 SCHEDULING

- A. Include on Construction Schedule detailed sequence of individual site demolition operations including road closures.
- B. Coordinate with Owner for equipment and materials to be removed or reset by Owner or others, where necessary.

702-1.4 Test Methods

- A. Maximum Laboratory Density – either CT 216 or ASTM D1557.
- B. Nuclear Gauge – ASTM D6938

702-2 PRODUCTS

- A. Controlled Low Strength Material (CLSM) conforming to the following:
 - 1. Contains maximum of 94 lbs. of cement per yard.
 - 2. Compressive strength between 75 and 150 psi at 28 days.
 - 3. Fly ash is permitted.
 - 4. Air entrainment additives for workability
- B. All backfill in pavement areas including for storm drains; sewer lines and laterals; water lines and services; electrical lines, and in front of completed gutters shall be CLSM.
- C. Bedding - Sand bedding shall be used for all utility lines under the sidewalk. A minimum of 3 inches of sand bedding shall be used over the pipe or conduit.
- D. Class 2 Aggregate Base
 - 1. Shall conform to 2010 Caltrans Standard Specifications Section 26
 - 2. Shall have a minimum dry unit weight based on ASTM D 1557 of 135 pcf.
 - 3. Shall be used under all sidewalks, curbs and gutters per plan details.
 - 4. Shall be used in all other areas as specified.

702-3 EXECUTION

702-3.1 EXAMINATION

- A. Examine site to determine extent of work necessary to isolate work to be removed from work to remain. If separation procedure is unclear, request clarification from Owner's Agent at least 2 working days in advance of demolition.

702-3.2 PREPARATION

- A. Notify corporations, companies, individuals, and local authorities owning utilities within the project area.
- B. Disconnect electrical wires and feeds in such a manner that accidental re-energization cannot occur.
- C. Protect and maintain conduits, drains, sewers, pipes, and wires that are to remain.
- D. Contractor shall be responsible for protecting existing facilities.
- E. Protection – protect all buildings and existing features from damage.
- F. Spillage -
 - 1. Avoid spillage by covering and securing loads when hauling on or adjacent to public streets or highways.
 - 2. Remove spillage and sweep, wash, or otherwise clean project, streets, and highways.
- G. Dust Control -
 - 1. Take precautions necessary to prevent dust nuisance, both on-site and adjacent to public and private properties.
 - 2. Correct or repair damage caused by dust.
- H. Existing Plants and Features - Do not damage tops, trunks, and roots of existing trees and shrubs on site which are intended to remain. Do not use heavy equipment within branch spread. Interfering branches may be removed only with permission of Owner's Agent. Do not damage other plants and features which are to remain. Any damaged plants or features shall be replaced at the contractor's expense.
- I. If specified precautions are not taken or corrections and repairs made promptly, Owner may take such steps as may be deemed necessary and deduct costs of such from monies due to Contractor. Such action or lack of action on Owner's part does not relieve Contractor from responsibility for proper protection of the Work.
- J. Contractor shall comply with all local, state, and federal storm water protection regulations.

- K. Obtain Construction Water
 1. Obtain Water Use Permit from City of Lakeport
 2. Rent hydrant or bridge meter
 3. Pay deposits, permits, fees and invoices.
 4. Other sources other than City water may be used only as authorized by Engineer.

702-3.3 NOISE CONTROL

- A. Complete saw cutting, jackhammering and demolition hammering prior to 10 PM each evening if noise level exceeds 70 cba.
- B. Use lowest available noise equipment designed for noise control
- C. Monitor noise to assure compliance with City of Lakeport Noise ordinance for project
- D. Minimize backup alarm use.
- E.

702-3.4 PERFORMANCE

- A. Execute work in an orderly and careful manner, with due consideration for businesses and the public.
- B. Carefully remove, disassemble, or dismantle as required, existing items to be reused in completed work, and store in approved location at storage yard or City corporation yard as determined by the Engineer, Concrete and Paving Removal
- C. Concrete and Paving removal
 - Full depth saw cut joints between material to be removed and material to remain. All sawcuts shall be to nearest score mark and perpendicular to travelled way in roadway.
- D. Existing concrete site elements or pavement damaged during demolition or work shall be re-saw cut and replaced in accordance with the plans and specifications at Contractor's expense. Replacement of damaged material shall be performed in accordance with the project plans and these specifications.
- E. Disposal
 1. Separate pipes and conduits from demolition material. Dispose of legally.
 2. Concrete, Aggregates, Native Soil and Pavement
 - a. Separated materials
 - b. Transport to City site indicated on the plans during the same work period as removed.
 - c. Provide loader to push up materials daily or more often if necessary to maintain clean and orderly stockpile at disposal site.
 3. If hazardous materials are encountered refer to the General Conditions.

F. Backfill

1. Backfill holes made due to removal with CLSM
2. Alternative backfill methods may be used if approved by the Engineer in writing prior to work performance.

G. Existing Street Light Pole Bases

1. Remove concrete to allow a minimum clearance of 12 inches distance between concrete curb, gutter or sidewalk or any other improvements within 12" and top of removed base. Place Class 2 aggregate base over demolished base.
2. Cut off any bolts or reinforcement flush with top of demolished concrete.

H. Site Maintenance

1. Broom clean all remaining surfaces immediately after demolition and removal of debris. Maintain broom clean condition.
2. Maintain all storm water protection measures.

702-3.5 REPAIR/RESTORATION

- A. Adjust existing covers, boxes, and vaults to grade per plans
- B. Replace broken or damaged covers, boxes, and vaults.

- C. Site Cleaning Immediately Prior To Acceptance
 - 1. All surfaces shall be broom clean and free from any accumulation of debris.
 - 2. Clean tack coat on concrete surfaces. Tack coat within 1 inch of pavement on curbs or gutter is not required to be cleaned.
 - 3. Remove all traffic control devices, excess materials, debris and signage from site.
 - 4. Remove all debris and sediment from the existing storm drain structures.
 - 5. Replace any disturbed landscaping. Backfill planters with clean topsoil and replace surface dressing or mulch in kind.
 - 6. Remove all concrete debris and splatter.

702-4 PAYMENT

- A. All costs associated with demolition related to installation of water, sewer and storm drainage facilities shall be included in the unit price relating to that work.
- B. All costs associated with demolition of existing to installation of new curb, gutter, sidewalk, ramps, accessible ramps, etc. shall be included in the unit price for each of the work items.
- C. All costs related to cold milling of existing pavement shall be paid under those related bid items.
- D. All other remaining costs other than those outlined above shall be paid at the lump sum cost under "All Other Demolition" as outlined in the bid schedule. This includes all labor, equipment and materials necessary to complete the work in place including removal, disposal, protection, etc.

703 UTILITY WORK

703-1 STORM DRAINAGE

703-1.1 SUMMARY

- A. Includes but is not limited to;
 - 1. Demolishing existing storm drainage system to be replaced, including pipe and storm drain structures and gutter depressions.
 - 2. Installing storm drain pipe
 - 3. Installing storm drainage structures
 - 4. Installing gutter depressions
 - 5. All other relating work to construct storm drains as indicated on the plans and in these special provisions.

703-1.2 SUBMITTALS

- A. Certificates of Compliance for RCP
- B. Mix Design for cast in place concrete elements
- C. Product submittals for precast concrete structures and parts
- D. Certificates of Compliance for reinforcement

703-1.3 SCHEDUING

- A. After potholing to determine potential conflicts
- B. Prior to concrete work

703-1.2 PRODUCTS

- 703-1.2.1 Pipe
 - A. 23" x 14" inch elliptical Class 5 RCP
 - B. Complies with Section 52 and 65 of Standard Specifications
- 703-1.2.2 Structures
 - A. Precast or cast in place as indicated on the drawings
 - B. Includes gutter apron where shown
 - C. Complies with applicable sections of Section 51, 52 61, and 70 of Standard Specifications
- 703-1.2.3 Backfill
 - A. CLSM backfill for all structures
- 703-1.2.4 Under Sidewalk Drains
 - B. 3" or 4" size to match existing size
 - C. Cast Iron unless shown otherwise
 - D. No-hub fittings for cast iron
- 703-1.2.5 Pipe Grout
 - A. Non-shrink commercial grout
 - B. 3000 psi minimum strength
- 703-1.2.6 Frames and Grates & Reinforcing
 - A. Grates shall be Type 24 bicycle proof grates in conformance with Caltrans Standard Plan D77B
 - B. Frames shall be appropriate frames in accordance with Standard plan D74A, D74B or D77A.
 - C. All metal shall comply with Section 75, "Miscellaneous Metal" of the Standard Specifications.
 - D. Welded Wire Mesh or Rebar to be 10 gauge or #4, respectively and conform to Section 53 of the Standard Specifications.
- 703-1.3 EXECUTION
 - 703-1.3.1 PREPARATION
 - A. Demolish all drainage features as necessary to limits of replacement, backfill all areas in accordance with Section 19 of the Caltrans Specifications.
 - B. Modification to storm drain manholes area covered under a separate item.
 - C. Excavate to lines and grades for new drainage structures.
 - D. Prepare and compact subgrade for new structures/pipes. Compaction of subgrade for each item of work shall comply with the Section 19, "Earthwork", of the Standard Specifications.
 - E. Trenching for culverts shall comply with Caltrans Standard Plan A62D, except that all backfill shall be CLSM.
 - F. Cast in place structures shall be excavated to provide the designated wall depth. Maximum allowable over excavation shall be 3 inches. If over excavation exceeds 3 inches, exterior walls must be formed on all sides.
 - G. Holes for pipes into existing structures shall be constructed by first drilling holes space no more than 4 inches apart at the perimeter of the hole. The material to be removed shall be removed by means which do not damage existing structure. If the existing structure is damaged, it shall be repaired to the Engineer's satisfaction, up to, and potentially including replacement of the entire structure if damage is extensive.
 - 703-1.3.2 CONSTRUCTION

A. Structures

1. Construct inlets as indicated on the plans and as applicable.
2. Repair any damage to structure caused by form removal or placement
3. Backfill with CLSM
4. Pipe shall not extend into the drainage structure. Pipe may terminate a maximum of 1 -1/ 2 inches into wall. Provide even grout transition from pipe to structure.
5. All grout shall be formed neat and clean and all excess removed.

B. Pipe

1. Sawcut all pipe to length as required
2. Lay pipe in accordance with specifications
3. Grout RCP, mix and apply according to manufacturer's guidelines for consistency and water content.
4. Backfill to pavement surface with CLSM

C. Under Sidewalk Drains

1. Construct per plan detail 409.
2. Provide sheet metal fitting to provide positive connection to building drain pipe.

703-1.3 PAYMENT

- A. Payment shall be as indicated in bid schedule and Section 700-5 Bid Item Descriptions of these special provisions.

703-2. WATER MAIN AND SERVICE CONSTRUCTION

703-2.1 GENERAL

703-2.1.1 SUMMARY

A. Includes But Not Limited To:

1. Removing and replacing water main as required for connections and valve replacement.
2. Removing and replacing all gate valves and gate valve boxes.
3. Removing and reconstructing water services as indicated on the drawing (including connection at main, lateral, box, and water service to building, Salvaging water meter and marking for relocation to same service and reinstalling.
4. This work will include all other appurtenant work to reconstruct water service at location shown on plans.
5. All water mains and related appurtenances shall be constructed in accordance with the City Standard Plans and Specifications, the Plans and these Special Provisions.

705-2.1.2 SUBMITTALS

A. Provide product data sheets for the following:

1. C900 Pipe
2. Ductile Iron Fittings
3. Valves
4. Service Saddles
5. Service Piping
6. Necessary fittings to connect to existing service at building face in accordance with the Plumbing Code.

B. Shoring Plan

1. Submit Shoring Plan for excavations over 5 feet in depth at least 5 days in advance of work.

2. All bracing and shoring shall conform to Section 65-2, "Trench Bracing and Shoring" and the Division of Industrial Safety Construction Safety Orders, which are currently in use.
3. The Contractor shall take all necessary measures to protect the workers and adjacent areas and structures from the hazards of the trenching or excavation operations.

703-2.1.3 SCHEDULING

A. Water Mains and Valves

1. Schedule with Water Department staff 24 hours ahead of water main shutoff and openings. Scheduled shutoffs shall be shown on Schedule submitted to City under Section 6-1.2.
2. Only City personnel shall operate City water valves and fire hydrants.
3. Replacement of fire hydrants shall occur same day. Only one fire hydrant may be non-functional at any given time.

B. Services

1. Notify business owners at least 24 hours in advance of turning off water service.
2. Schedule with Water Department staff for support services 24 hours in advance.
3. Provide water service at the end of each work shift.

703-2.2 PRODUCTS

703-2.2.1 Pipe

A Water Main

1. Pipe
 - a. Main Line - C900 per City Standard Plans
 - b. Water Services
 - 1" - HDPE CTS 200 class or better
 - 2"- Poly pipe tubing, gold label, 200 psi
2. Ductile Iron Pipe
 - a. Encased in 8 mil (minimum) polyethylene film in tube form.
 - b. Conform to ANSI/AWWA C105/A21.5-99 or most recent issue
3. Fittings
 - a. Ductile iron mechanical joint type.
 - 1) Conform to City Standards
 - 2) Other type as approved by Engineer
 - b. Flanged Fittings
 - 1) Above ground installations
 - 2) On tees when attached to a flange by mechanical joint valve or fitting.
 - 3) As approved by the Engineer.
 - c. Restrained Joint Fittings
 - 1) Conform to City Standards
 - 2) Required on all crosses, tees and anywhere a fitting is required to make a bend in alignment of the water main.
 - 3) Unless otherwise specified or shown on the Plans
 - d. Gate Valves – City Standard 501
 - 1) Mechanical joint type
 - 2) Resilient wedge type
 - 3) America 2500 Series, Clow C509 or 515 series, US Pipe USPO Series, or equal as approved by the Engineer.
 - e. Boxes and Vaults

- 1) Water Meter Boxes
 - i. Single – Christy B9 or equivalent
 - ii. Double – Christy B24G or equivalent
 - iii. As shown on plans
- 2) Water Valve Boxes
 - i. Christy G5 Traffic Rated
- f. Fire Hydrant Assemblies
 - 1) Per City Standard 502
- g. Pressure Reducing Valves
 - 1) Watts 25 AUB, 1” or 2” as applicable
- h. Pack Joint Couplings
 - 1) Fitting shall be made of brass
 - 2) Mueller Pack Joint Coupling
 - 3) Equal approved prior to bid
 - 4) Appropriate type to match domestic water service
- i. Bolt-on Hot Tap Service Saddles
 - 1) Smith Blair Style 239 Full Circle Double Band (1” or 2”)
 - 2) Or equal approved prior to bid.
- j. Manifolds
 - 1) Manifolds shall be constructed with threaded brass pipes and fittings from the end of the service lateral to the meter connection. No plastic pipe shall be used in constructing manifolds of any kind.
 - 2) Or equal approved prior to bid.

B. Bedding

- 1. Sand bedding shall be used for all water services. Bedding shall extend a minimum of 6 inches to 12 inches maximum above the service.

C. Backfill

- 1. Backfill under pavement shall be CLSM unless otherwise allowed by Engineer. If aggregate base is used, Contractor shall provide compaction testing results.
- 2. Backfill under sidewalk shall be ¾” Class 2 aggregate base compacted to 90% relative compaction.

703-2.3 EXECUTION

703-2.3.1 PREPARATION

- A. Locate water services per Section 700-4.3
- B. Contact each water service user to coordinate work and to determine any user issues.
- C. Determine location of water meter boxes relative to concrete tooling joints.
- D. Work shall not be initiated on disrupting a water service until all of the necessary parts are on site and immediately available.
- E. Provide plan for emergency connection to service in case of emergency or unknown condition.
- F. Make a determination prior to work based on the potholing information relative to the location of service connection, either outside at building foundation wall or beneath building.
- G. Perform coring work prior to 10 PM for water services.
- H. Make arrangements to have access to buildings during work shift affecting the building.

703-2.3.2 DEMOLITION, EXCAVATION AND BACKFILL

- A. Demolition of existing sidewalk, curb, gutter and pavement shall be performed prior to 10 PM.
- B. Removal of concrete debris, excavation and backfill shall use methods and equipment which minimize noise.
- C. Only disrupt services which can be reconnected during the same working shift.
- D. Prior to backfilling, each water line shall be sanitized as required and pressure tested.
- E. Relocated hydrants shall be out of service no longer than 24 hours.
- F. The new hydrant lateral and riser shall be swabbed with chlorine prior to installation. After installation, the hydrant shall be flushed to the satisfaction of the City Engineer.
- G. Bedding shall be placed a minimum of 6 inches and no more than 12 inches over the service lateral pipe. Bedding shall be mechanically compacted to 90% relative compaction. Jetting will not be allowed.
- H. Excavations that are not backfilled shall be either have plywood placed over them on sidewalks or steel plates in the roadway. No trench shall go more than 2 work shifts without being backfilled to the surface or the roadway or to the native subgrade elevation under the sidewalk.

703-2.3.3 LAYING AND HANDLING PIPE MATERIALS:

- A. All pipe shall be laid in accordance with the City Specifications, as specified on the Plans, and in accordance with these Special Provisions.
- B. All pipe stockpiled on the job shall be stored with the ends covered to prevent the entrance of foreign matter. The engineer may reject stockpiled pipe with exposed ends. At times when pipe laying is not in progress, the open ends of installed pipe shall be closed by mechanical plug or other means approved by the Engineer.
- C. Prior to start of pipe laying, the Contractor shall expose the end(s) of existing main(s) to determine individual lines and grades. New mains shall begin eight (8) feet from and on the same line and grade as the existing main. New mains shall be installed at minimum standard cover conforming to the requirements of the City Water System Design Standards, or as shown on the Plans. Restrained fittings and ductile iron pipe shall be used to make grade transitions for tie-ins to existing mains that are at less than minimum standard cover.
- D. The Contractor shall completely expose the existing water main to verify lengths and OD's for the lowered section. The replacement water line shall be completely assembled on the surface and swabbed with chlorine before the existing line is shut down and cut. After installing the lowered section the line shall be flushed at the nearest hydrant to the satisfaction of the City Engineer.
- E. Thrust blocking shall conform the City Specifications and plans, the details on the Plans and these Special Provisions.
- F. Pipe between building and meter shall be the same piping used between the main and meter. Coupling at building shall be made using appropriate size pack joint coupling.
- G. Produce coupon from each hot tap.
- H. Supply and install 1 inch ball valve on customer side of meter.

703-2.3.4 WATER MAIN CONNECTION WORK

- A. Water main tie-ins shall conform to the City Standards and these Special Provisions.
- B. The Contractor shall schedule tie-in work with the City through the Inspector. The Contractor shall submit a separate request to the City to schedule each individual mainline shutdown required to facilitate a tie-in. The Contractor shall make shut down requests at least two working days before requested shutdown. The City will attempt to facilitate shutdowns within these timeframes; however, extenuating circumstances

may result in response times in excess of those mentioned above. Under such conditions, no claims related to tie-in delays will be considered. All shutdowns and valve turning operations shall be performed by authorized City personnel only. Authorized City personnel must be present during all tie-in operations. No tie-ins shall be performed without prior authorization by the Engineer.

- C. When a connection is required to an existing water line, the contractor shall provide all excavation, shoring, backfill and trench resurfacing in accordance with City Standards and the Plans.
- D. During the work, the Contractor shall exercise all necessary precautions to prevent the entrance of trench water or any other foreign material into the water main and shall conduct all operations in accordance with the most stringent sanitation practices. The interior of all appurtenances being installed shall be thoroughly swabbed with a strong liquid chlorine solution prior to installation.
- E. Tie-in or cut-in tee connections to cast iron, PVC, or ductile iron pipes shall be made with mechanical joint solid sleeves. Flexible connections shall only be used when connecting to asbestos cement and "over-sized" cast iron pipe.
- F. Pipe and fittings furnished for tie-ins shall be no smaller than the existing water main to which each tie-in is made.

703-2.3.5 HYDROSTATIC TEST

- A. Hydrostatic testing of the water main and appurtenances installed under this contract shall be performed in accordance with of the City Specifications and these Special Provisions. The water main shall be filled at a rate not to exceed the limits of the air release valves.
- B. Hydrostatic testing of the water services shall consist of a full pressure test for a minimum of 30 minutes. The pressurized line shall be visually inspected prior to backfilling. After hydrostatic testing, the line shall be flushed from within the building until chlorine is no longer detected.

703-2.3.6 DISCHARGE OF CHLORINATED WATER

- A. Chlorinated water used to disinfect the new water mains is the property of the Contractor and its disposal is the responsibility of the Contractor. Chlorinated water used to disinfect the new mains shall be disposed of in accordance with all laws and regulations. Discharge to the storm drain system or a waterway is not permitted without a permit from the North Coast Regional Water Quality Control Board.
- B. Discharges may be allowed to be disposed of into the sanitary sewer system, but must first meet the following requirements:
 - 1. The pH of the water must be between 6.0 and 9.5.
 - 2. The Contractor shall maintain an "air gap" from the discharge conduit to the receiving sewer manhole frame with a minimum vertical distance of twice the diameter of the discharge conduit.

703-2.3.7 LOCATING AND ADJUSTING WATER VALVE BOXES

- A. After a street has been paved, mark the location of all water valve boxes in white paint before the close of that work day. Within 72 hours of paving, adjust all water valve boxes to grade.

703-2.4 PAYMENT

- A. Water Main and Services shall be paid as a combination of unit price and lump sum prices as follows:

1. Single and Dual Water Service Laterals will be paid for at the contract price for each which includes full compensation for furnishing all labor, materials, tools, equipment and doing all work involved in connecting service laterals from the new water main to the existing water service at or under the building including coring as shown on plans, including salvaging and reinstalling meters at correct locations. For new service locations (water service stubs) without a service pipe from the meter box to the building, the cost shall include the pipe sleeve and coring into the building.
2. Cluster Water Meter Service Laterals (3 and 4) will be paid for the contract price each which includes full compensation for furnishing all labor, materials, tools, equipment and doing all work involved in connecting service laterals from the new water main to the service tie ins at the building including all of the water services as shown on plans and all necessary manifolds.
3. Remove and Relocate Existing Fire Hydrant will be paid for at the contract price for each, which price shall include full compensation for furnishing all labor, materials, tools, equipment and doing all work involved, including but not limited to: excavation and disposal of excavated materials, removal, salvage and relocation of existing hydrant, installation of riser, pipe and fittings, thrust blocking, backfill, sidewalk or other surface repair as required, and testing, as specified herein, and no additional allowance will be made therefor.
4. Water Main Installation will be paid for at the contract unit price each complete and in place. Full compensation for furnishing all labor, materials, tools, equipment, incidentals, and for doing all the work involved shall be considered as included in the contact unit price for water main lowering, regardless of size, as shown on the plans, as specified in these Special Provisions and as directed by the City, including but not limited to:
 - a. saw cutting,
 - b. excavation and disposal of excavated material, and repair of existing main where necessary to close existing connection where appropriate.
 - c. furnishing, placing and compacting all required bedding and backfill, including control density fill (where required),
 - d. furnishing and installing fittings as needed,
 - e. furnishing and installing restrained joints, thrust blocking, and harnesses as required,
 - f. furnishing and installing pipe,
 - g. testing,
 - h. chlorination,
 - i. polyethylene wrap,
 - j. connections to water mains,
 - k. dewatering trench
 - m. and any other work required for water main installation not specifically enumerated in the plans or specifications, and no additional compensation will be made therefor.

703-3. SEWER MAIN AND SERVICE LATERAL CONSTRUCTION

703-3.1 GENERAL

703-3.1.1 SUMMARY

A. Includes But Not Limited To:

1. Removing and replacing sewer main as indicated on the drawings.
2. Installing new sewer main as indicated on the drawings.
3. Installing new rodding inlets
4. Installing new drop connections into existing SSMH
3. Removing and reconstructing sewer service laterals as indicated on the drawing.
4. Connections to existing building sewer services in accordance with Building Codes.
5. Providing boxes and other appurtenant work to complete work in place.
6. All sewer mains, service laterals, and related appurtenances shall be constructed in accordance with the Standard Plans and Specifications, the City Standards, the Plans and these Special Provisions.

703-3.1.2 SUBMITTALS

A. Provide product data sheets for the following:

1. Pipe and Fittings, Covers

B. Shoring Plan

1. Submit Shoring Plan for excavations over 5 feet in depth at least 5 days in advance of work.
2. All bracing and shoring shall conform to Section 65-2, "Trench Bracing and Shoring" and the Division of Industrial Safety Construction Safety Orders, which are currently in use.
3. The Contractor shall take all necessary measures to protect the workers and adjacent areas and structures from the hazards of the trenching or excavation operations.

703-3.1.3 SCHEDULING

A. Sewer Mains and Manholes

1. Schedule with Sewer Department staff 24 hours ahead of sewer main shutoff and manhole work. Shutoffs shall be shown on the schedule as required in Section 6-1.2.

B. Services

1. Notify business owners at least 36 hours in advance of disrupting sewer service.
2. Schedule with Sewer Department staff for support services 24 hours in advance.
3. Provide sewer service at the end of each work shift.

703-3.2 PRODUCTS

A. All sewer pipe shall be PVC – SDR 26 piping

B. Fittings

1. Min. 20' Long Sweep unless otherwise approved
2. Elastomeric Fittings

C. Manholes, Frames and Grates

1. Comply with City Standards

D. Bedding

1. Sand bedding shall be used for all sewer mains and service laterals. Bedding shall extend a minimum of 6 inches to 12 inches maximum above the pipe.

E. Backfill

1. Backfill under pavement shall be CLSM unless otherwise allowed by Engineer. If aggregate base is used, Contractor shall provide compaction testing results.

2. Backfill under sidewalk shall be $\frac{3}{4}$ " Class 2 aggregate base compacted to 90% relative compaction.
- F. Sewer Cleanout Lids
 1. Cleanout lids shall be Christy F8 Box with F8D lid for non-traffic areas and F8C LID for traffic-rated areas.

703-3.3 EXECUTION

703-3.3.1 PREPARATION

- A. Locate sewer services at buildings per Section 700-4.3
- B. Contact each sewer service user to coordinate work and to determine any user issues.
- C. Determine location of water clean out boxes relative to concrete tooling marks per plan.
- D. Do not disrupt a sewer service until all of the necessary parts are on site and immediately available.
- E. Provide plan for emergency connection to sewer service in case of emergency or unknown condition.
- F. Make a determination prior to work based on the potholing information relative to the location of service lateral either outside at building foundation wall or beneath building.
- G. Perform coring work prior to 10 PM for water or sewer services.
- H. Make arrangements to have access to buildings during work shift affecting the building.

703-3.3.2 DEMOLITION, EXCAVATION AND BACKFILL

- A. Demolition of existing sidewalk, curb, gutter and pavement shall be performed prior to 10 PM.
- B. Removal of concrete debris, excavation and backfill shall use methods and equipment which minimize noise.
- C. Only disrupt services which can be reconnected during the same working shift.
- D. Bedding shall be placed a minimum of 6 inches and no more than 12 inches over the service lateral pipe. Bedding shall be mechanically compacted to 90% relative compaction. Jetting will not be allowed.
- E. Excavations that are not backfilled shall be either have plywood placed over them on sidewalks or steel plates in the roadway. No trench shall go more than 2 work shifts without being backfilled to the surface or the roadway or to the native subgrade elevation under the sidewalk.

703-3.3.3 LAYING AND HANDLING PIPE MATERIALS:

- A. All pipe shall be laid in accordance with the City Specifications, as specified on the Plans, and in accordance with these Special Provisions.
- B. All pipe stockpiled on the job shall be stored with the ends covered to prevent the entrance of foreign matter. The engineer may reject stockpiled pipe with exposed ends. At times when pipe laying is not in progress, the open ends of installed pipe shall be closed by mechanical plug or other means approved by the Engineer.
- C. Prior to start of pipe laying, the Contractor shall expose the end(s) of existing main(s) to determine individual lines and grades.
- D. Sewer flow may be stopped at upstream manholes or other locations as approved by the Engineer. All blocked flows shall be cleared by 6 AM.
- E. Pipe coupling at building shall be made using appropriate sized caulder type coupling

703-3.3.4 SEWER MAIN CONNECTION WORK

- A. Sewer main tie-ins shall conform to the City Standards and these Special Provisions.

- B. When a connection is required to an existing sewer pipe, the contractor shall provide all excavation, shoring, backfill and trench resurfacing in accordance with City Standards and the Plans.
- C. During the work, the Contractor shall exercise all necessary precautions to prevent the entrance of trench water or any other foreign material into the sewer main and shall conduct all operations in accordance with the most stringent sanitation practices. Tie-in or cut-in tee connections to cast iron, PVC, or ductile iron pipes shall be made with mechanical joint solid sleeves. Flexible connections shall only be used when connecting to asbestos cement and "over-sized" cast iron pipe.
- G. Pipe and fittings furnished for tie-ins shall be no smaller than the existing sewer main to which each tie-in is made.

703-3.3.5 TESTING

- A. After completion of the main and laterals in a block long segment, the system shall be air pressure tested at 6 psi for 30 minutes.
- B. Any main or lateral which does not pass the pressure test shall be replaced.
- C. Sewer main and lateral testing shall be completed prior to sidewalk placement.

703-3.3.7 LOCATING AND ADJUSTING MANHOLES AND CLEANOUTS

- A. After a street has been paved, mark the location of all manholes, cleanouts and rodding inlets in the pavement area prior to the close of that work day. Within 48 hours of paving, adjust all manholes, cleanouts and rodding inlets to grade.

703-3.4 PAYMENT

- A. Payment for sewer utility items shall be paid as follows:
 1. Sewer Mains shall be paid by the lineal foot.
 2. Sewer Service laterals shall be paid by the each per location. Payment includes all work associated with demolition of the existing main, installation of the lateral including connecting to the main, cleanout, connection to the building, cleanout box and any other appurtenant work necessary to complete the work in place.
 3. Manholes shall be paid by the each per location.
 4. Sewer drop connections shall be paid for by the each per location. Payment includes all work and materials associated with the installation of the connection including coring into the exiting manhole.
 5. Rodding Inlets and covers are paid for by the each per location.

703-4 UTILITY ADJUSTMENT

703-4.1 GENERAL

703-4.1.1 SUMMARY

- A. Includes But Not Limited To
 1. Adjusting Utility Covers and Boxes in Pavement Area
 2. Adjusting Utility Covers and Boxes in Sidewalk Area
 3. Lowering Utility Covers and Boxes prior to Cold Planning
- B. Work shall be governed by City of Lakeport Standard Plans

703-4.2 PRODUCTS

- A. Boxes, Valve Covers and Vaults

1. All new boxes shall be used in accordance with the applicable Special provision and project plans.
 2. All Manhole Frames and Grates shall be new
- B. Concrete
1. Concrete for adjusting utilities shall be as follows:
 - a. 7 sack mix
 - b. 1 Inch max aggregate
 - c. 1 lb. of lamp black color per cubic yard
 - d. 4 inch maximum slump
 - e. Commercially batched

703-4.3 EXECUTION

- A. Preparation
1. Prior to cold planning, all utilities will be lowered below grade including areas of additional pavement removal.
 2. Manholes and valves shall be protected with adequate coverings to prevent damage.
- B. Excavation
1. Location shall be identified at time of lowering paving.
 2. The completed cutout shall be circular in nature. The circle shall be concentric with the utility to be raised. The Contractor shall carefully layout the border of the excavation such that no residual markings will be evident after cutting.
 3. The concrete collar dimensions shall be as follows +/- 1 inch:
 - a. Manholes – 12 inches beyond edge for frame
 - b. Valve Boxes, Cleanouts and Rodding Inlets – 6 inches beyond edge of box.
 - c. All collars shall have a 12 inch depth.
 4. The variance from the surface of the completed work shall be 0.01 feet in the direction of travel and 0.02 feet traverse to the direction of travel.
 5. The completed concrete collar shall be protected until cured. If placed within 6 hours of street opening, the location shall be steel plated.
 6. Any markings, tire damage or other visual discontinuity shall be cause to have the work completely redone.
 7. During work on sewer and storm drain manholes, the manholes shall be protected from any debris entering the sewer and storm drain system by placing a false bottom made of plywood over the pipe. Over the plywood shall be placed a fabric catchment constructed such that any debris which enters the manhole may be removed with the removal of the catchment without spillage into to system.
 8. Failure to protect sewer and storm drain lines from debris will cause the City to clean the associated manholes and pipelines at the Contractor's expense. The minimum charge will be \$2,000.
- C. Collar Construction
1. The collar concrete shall be placed within 2 hours of concrete batching.
 2. The top of the collar shall be finished with a steel trowel and receive a medium broom finish. The brooming shall be circular in nature and follow the edges of the collar.
 3. Finish surface shall be within tolerances and protected per above.
 4. The interior of storm drain and sewer manholes shall have the space between the frame and cone grouted solid per Standard Details.
- D. Cleaning
1. After completion of adjusting and grouting of manholes, the protective measures required herein shall be removed.
 2. Any damaged portion of the interior of any manholes shall be repaired to the City's satisfaction.
 3. A cement, pavement or other contaminant shall be completely removed from frames, grates and lids.
 4. Water valve risers shall be cleaned such that the entire valve nut is exposed.

703-4.4 PAYMENT

- A. All manhole covers, valve boxes, rodding inlets adjusted as part of the work shall be paid at the contract unit cost per each locations. The unit cost includes the cost of lowering, adjusting, protecting and cleaning.

704 CONCRETE WORK

704-1 GENERAL

704-1.1 SUMMARY

- A. Includes But Not Limited To
 1. Removal of existing concrete and related materials.
 2. Compact subgrade for cast-in-place concrete site elements.
 3. Furnish and install base for cast-in-place concrete site elements.
 4. Provide and install inserts for flagpole and sign pole bases.
 5. Furnish and install nose tread inserts.
 6. Furnish and install handrails.
 7. Furnish and install tree frames and grates
 8. Furnish and install expansion joints and concrete joint sealant (caulking).
 9. Detectable Warning Surfaces
 10. Paint colors or handrails

704-1.2 REFERENCES

- A. 2010 Caltrans Standard Specifications
- B. Applicable ASTM Standards

704-1.3 DELIVERY, STORAGE, AND HANDLING

- A. Reinforcing steel shall be free of heavy rust scales and flakes, or other coating at time of delivery and placing. Properly protect rebar on site after delivery.

704-1.4 SUBMITTALS

- A. Concrete Mix Designs
- B. Quality Assurance/Control
 - Delivery Tickets - Require mix plant to furnish delivery ticket for each batch of concrete. Keep delivery tickets at job-site for use of Owner or representatives. Tickets shall show following:

Name of ready-mix plant
Serial number of ticket
Date and truck number
Name of Contractor
Name and location of Project
Specific class or designation of concrete in conformance with the specifications.
Class or designation shall match mix approved mix design.
Amount of concrete
Time loaded
Type, name, and amount of admixtures used.
Amount and type of cement
Total water content including water added on site
Sizes and weights of sand and aggregate
Fiber additive

C. CLSM

D. Safety Treads

E. Detectable Warning Surface

F. Colored/Textured Concrete

1. Cement color: Submit Davis color samples to City.
2. Patterns: Submit patterns to City
3. Allow 5 calendar days for submittal review of plain concrete.
4. Allow 15 calendar days for submittal review of colored concrete

G. Concrete Test Panel

1. The Contractor shall construct a minimum 10 foot by 12 foot test panel containing both stamped colored concrete (if chosen) and the normal medium broomed finish. The panel shall contain contraction joints, expansion joint, edge finishes, and intermediate tool joint.
2. The colored and stamped insert portion shall be placed no sooner than 7 calendar days after the normal concrete is placed.
3. The test panel will be constructed at a location near the project or the Contractor's storage yard as determined by the Engineer.
4. The test panel will be constructed at night in the same or similar conditions as the remainder of the concrete is to be placed.
5. The normal finish concrete will be accepted or rejected within 4 calendar days after construction. The colored concrete portion will be accepted after 14 calendar days
6. The concrete work shall be consistent in color and appearance.
7. The test panel shall set the standard of workmanship for the remainder of the project and used to judge the acceptability of the remainder of the work.

704-2 PRODUCTS

704-2.1 MATERIALS

A. Formwork

1. Material: Wood, metal or plastic
2. a. Size – as required.
 - b. Straight Runs - 2 inch nominal minimum thickness.
 - c. Curves - laminated to 3/4 inch minimum thickness.
 - d. Depth - Within 2 inches of specified depth.
3. Staking - 2 foot maximum spacing.

B. Aggregate Base -

1. 3/4 inch Class 2 Aggregate per Section 26 of Caltrans Standard Specifications.

- 2. Comply with 702-2.D
- C. Controlled Density Fill-
 - 1. Comply with 702-2.A
- D. Expansion Joints
 - 1. Manufactured commercial fiber type meeting requirements of ASTM D 1751 and 1/2 inch thick. Asphalt impregnated commercial fiber shall be provided against all buildings as noted in plans.
- E. Concrete Reinforcing Steel
 - 1. Grade 40 deformed bars.
- F. Concrete
 - 1. Type I/II Cement
 - 2. All concrete:
 - a. 1" maximum aggregate size.
 - b. 5 sack minimum.
 - c. 2,500 psi in 28 days.
 - d. 4 inch maximum slump.
- H. Safety Treads (edge warning) –
 - 1. Wooster Products Inc. Type 231 complying with latest addition of UBC for placement and color.
 - 2. Warning strip on top and bottom steps to differ in color from intermediate stair treads.
- G. Detectable Warning Surface -
 - 1. Tactile warning dots per Section 1133B.8.5 of the most recent edition of the California Building Code.
 - 2. 36” Minimum width.
 - 3. Durable, slip resistant material with a surface texture composed of raised, truncated domes in a staggered pattern with a diameter of nominal 0.9” at the base tapering to 0.45” at the top, a height of nominal 0.2”, and a center spacing of nominal 2.35”.
 - 4. Color as specified on plans. If no color is specified, color shall be Colonial Red.
 - 5. “Set-in-concrete” system required (No glued & screwed mat systems installed after finished concrete)
 - 6. Acceptable Products (in colonial red):
 - a. “Wet-Anchor Box” by Disability Devices, Inc.
http://www.disabilitydevices.com/Offset_Dome_Tactile_Warning_Mat.html
 - b. “Cast-in-Place System” by Armor-Tile.
<http://www.armor-tile.com/truncateddomes/surface-applied-systems.htm>
 - c. Approved equal by Owner’s Agent prior to bidding.
- I. Handrails
 - 1. Posts, Rails, and Handrails -1-1/4 inch (I.D.) - Sch. 40 galvanized pipe
 - 2. Sleeves – 2 inch diameter by 7 to 9 inches long galvanized steel pipe
 - 3. Mastic/Grout – Super Por-Rock Burke Stone or equal.
 - 4. Industrial Grade primer and enamel pain, color selected by City
- J. Tree Well Frames and Grates
 - 1. See Landscape Plans
- K. Joint Sealant
 - 1. Sika 2c SL Joint Sealant – Limestone Grey
 - 2. Deck of Seal Gun Grade Joint Sealant – Grey
 - 3. Or Equal approved prior to Bid

704-3 EXECUTION

704-3.1 PREPARATION

- A. Survey and stake concrete work to indicate location and elevations.
 - 1. Accurately locate tooled joint locations relative to utility box installation per concrete layout plans
 - 2. Locate handrail, sign post and flagpole sleeves.
- B. Subgrade
 - 1. Fine grade to elevations required by Contract Documents with allowances for required concrete and aggregate base thickness.
 - 3. Compact to 90 percent relative compaction at optimum moisture +/- 2 percent.
- C. Aggregate Base
 - 1. Place required thickness.
 - 2. Fine grade to elevations on drawings with allowances for required concrete thickness.
 - 3. Compact to 90 percent relative compaction at optimum moisture +/- 2 percent.
- D. Protection of Existing Facilities
 - 1. All vertical surfaces within 10 feet of the work shall be covered to a height of 3 feet with sheet plastic
 - 2. Existing hardscape surfaces shall be protected with tape and plastic sheeting.
 - 3. Any damage to adjacent finishes shall be repaired to the satisfaction of the owner. Repainting shall extend across the entire plane from corner to corner.
- E. Complete All Underground Work Prior to Sidewalk Installation
 - 1. Complete installation of all sewer laterals, water services, irrigation lines and electrical conduits.
 - 2. Test all lines as provided herein or as directed by the Engineer.

704-3.2 INSTALLATION

- A. Site Tolerances
 - 1. Vertical
 - a. Subgrade - 0.00 feet high.
 - b. Aggregate Base - 0.00 feet high.
 - c. Finish Concrete +/- 0.02 feet.
 - 2. Horizontal
 - b. General Finish Concrete - +/- 0.04 feet.
 - c. Required Widths - 0.00 to +0.04 feet.
 - 3. Layout
 - a. Horizontal dimensions shall be within +/- 0.04 feet.
 - 4. Exterior Accessible Travel Paths
 - a. Slopes shall be per plan.
 - b. Landings, Ramps, Crosswalks, Sidewalks, and other Pedestrian Travel Paths Cross slopes – As designated, generally 1.5% with 2 percent maximum.
 - c. Sidewalks – 5.0 percent or less longitudinal slope.
 - d. Ramps – As designed with maximum 8.33 percent or less longitudinal slope.
 - e. Maximum vertical distance between landings - 30 inches.
 - f. Variations in stairs

- 1) Consecutive steps-
 - Treads -1/4 inch, 11 inch minimum width.
 - Risers - 1/4 inch, 4 inch minimum, 7 inch maximum.
- 2) Flight of stairs -
 - Treads -3/8 inch.
 - Risers - 3/8 inch.
5. Landings at Doorways -
 - a. 1/4 inch maximum differential between top of threshold and surface of landing.
6. Forms
 - a. Vertical surfaces shall be formed to within 2 inches of subgrade.
 - b. Gaps between forms shall not exceed 1/4".
7. Joints
 - a. All joints shall be located per plan layout
 - b. Align joints of sidewalk and curb and gutter.
8. Expansion Joints with joint material
 - a. Spacing - as shown on plans
 - b. Full depth of sidewalk, curbs, gutters, pads, etc.
 - c. If reinforcement required, rebar to extend through expansion joint material.
 - d. Place at corner of curb and curb & gutter.
 - e. Install so top of expansion joint material is 3/8 to 1/2 inch below finished concrete surface.
 - f. No expansion joint required between curbs and walks parallel to curb.
 - g. Provide expansion joint at end of walks perpendicular to and terminating at curb.
 - h. Provide expansion joint between concrete work and buildings. Construct per plan details including preparation of existing building finishes.
 - i. Expansion joints shall be installed at conform with existing concrete surfaces.
 - j. Seal Joints in accordance with Manufacturer's application instructions.
9. Contraction Joints
 - a. Locations on indicated on plans. In not shown, per below:
 - b. Spacing -
 - 1) Sidewalks, Curbs, and Curb & Gutter - 8 feet on center.
 - 2) Mechanical Pads, Dumpster Enclosures, etc. - 8 feet on center.
 - 3) Flat Drainage Structures - 8 feet on center.
 - c. Contraction Joint Depth
 - 1) 1-1/2 inch minimum depth.
 - 2) 1/4 to 1/3 concrete thickness.
 - d. Location
 - 1) Align sidewalk and curb and/or gutter.
Place at all inside corners.
 - 2) At square utility boxes, place contraction joints at each corner.
 - 3) At round utility boxes, place joint through center to nearest edges of concrete.
 - 4) Spacing may be increased or decreased to 8 feet to accommodate utility boxes.
 - e. Type
 - 1) Tooled joint up to 6" concrete depth. Tooled joint required for all sidewalks. Saw cuts not allowed. Tooled joint may be deepened with saw cut within 24 hours of concrete placement if necessary.
 - 2) Saw cut or parting strip for concrete depths over 6 inches. All saw cuts

shall be made within 24 hours of concrete placement.

3) Quality of control joint finish evaluated as part of test panel

- f. Edge Warning, Stair Treads, etc. - Precut and place prior to concrete placement where practical in accordance with manufacturer's recommendation.
- g. Crack Repair - Cracks resulting from failure to comply with requirements will require removal and replacement of entire panel or section of concrete to adjacent contraction joints.

B. Finish

- 1. Curb, Gutter, Slabs, Mow Strips, Flat Drainage Structures, And Miscellaneous -
 - a. Light Broom finish.
 - b. Round edges including edges formed by expansion joints.
 - c. Remove edger marks.
- 2. Sidewalk
 - a. Unless specified otherwise on plans, sidewalks shall have a light broom finish with the following requirements:
 - b. Round edges including edges formed by expansion joints.
 - c. Remove edger marks.
- 3. Curb Faces -
 - a. Remove forms as soon as practical.
 - b. Fill voids with fresh concrete if necessary.
 - c. Finish face full depth with smooth steel trowel finish.
 - d. Remove any excess concrete beyond form line at bottom of curb face at time of finishing.
- 4. Walls -
 - a. Immediately after removing forms, remove joints, marks, bellies, projections, loose materials, and cut back metal ties from surfaces to be exposed.
 - b. Point up voids with cement mortar, 1:2 mix, and rub exposed surface with carborundum to smooth, even surface.
- 5. Ramps - Medium broom finish transverse to direction of travel on ramp.

C. Special Requirements

- 1. Form vertical surfaces full depth. Do not allow concrete to flow out from under forms in any degree. Remove any excess concrete beyond form face immediately after forms removed.
- 2. Sidewalks, Exterior Stairs, and Landings -
 - a. Slope to drain.
 - 1) Slope sidewalks with cross slope of 1 percent minimum to 2 percent maximum in direction of intended drainage.
 - 2) Slope sidewalks away from building one percent minimum.
 - 3) Dusting with cement not permitted.
 - 4) Adding water during finish not permitted.
- 3. At Channel Iron over Rain leaders -
 - a. Grout space between pipe and channel iron at curb face and sidewalk edge.
 - b. Grind 1/4 inch bevel on saw cut edge if applicable prior to concrete placement.
Round over concrete edge of fresh concrete.

D. Colored and Textured Concrete

- 1. Place all colored and textured concrete on each side of each block at the same time
- 2. Provide solid barricades to surround the work area for a minimum of 3 days after placement. As an alternative, cover with cardboard (RAM or equal).

E. Detectable Warning Surfaces -

- 1. 36 inch minimum width, length per plan.
- 2. Surface flush with adjacent concrete.

3. Construct with no significant voids under insert
4. Install warning surface in accordance with manufacturer's recommendations.
5. Assure compliant ADA slopes on panel and adjacent concrete.

704-3.3 FIELD QUALITY CONTROL

- A. Inspection - Do not place concrete unless inspection has been made of formwork and inspector is present.

704-4 PAYMENT

- A. Detectable Warning Surface – measured and paid for on a square foot.
- B. Stair Treads – included in the bid price for raised landing and no separate payment will be made.
- C. All other items of site work concrete to be measured and paid for as listed in the bid schedule and shall be considered full compensation for all labor, equipment, and materials required to perform the work as described herein.
- D. If sample panel(s) is required it shall be included in the unit cost of the work.

705 COLD PLANING

705-1 GENERAL

705-1.1 SUMMARY

- A. Includes But Not Limited To
 1. Cold planning existing asphalt concrete for transitions and conforms.
 2. Removal of dig outs and repair areas.
 3. Removing CLSM backfill in trenches crossing the full depth HMA in travel lanes
 4. Reducing the thickness of existing asphalt concrete pavements.
 5. The pavement to be cold planed may contain pavement fabric.
- B. Scope of Cold Planing
 1. The entire pavement will be cold planed to grades provided by the designer in a digital surface model.
 2. The Contractor shall have the experience and capacity to use the establish cut and fill grades on the existing pavement prior to cold milling.
 3. A minimum of 2 working days shall be provided to the Engineer to review the cut and fill grades after they are marked on the pavement prior to cold planning.
 4. The average mill depth will not exceed 3 inches average.
 5. Additional pavement removal areas will be marked by the Engineer after the cold milling is completed. The locations shall be marked by the Engineer during the day after the cold milling is complete to facilitate the following night.
 6. Utility trench crossing removal areas will be marked by the Engineer at the same time as the pavement removal areas. Utility removal areas will be limited to 6 inches on either side of the trench.

705-1.2 PROJECT CONDITIONS

- A. Project Environmental Requirements
 1. Do not cold plane when precipitation is imminent.

705-2 PRODUCTS - NOT USED

705-3 EXECUTION

705-3.1 EXAMINATION

- A. Contractor shall visit the site to:
 - 1. Identify all utility surface features such as utility covers are clearly visible to work crews.

705-3.2 PREPARATION

- A. Layout transitions, conforms and milling limits for Owner to review prior to proceeding with the work.
- B. Lower utility facilities prior to reducing pavement thickness by cold milling.
- C. Provide cuts and fills as described above on a minimum of 20 foot intervals longitudinally and at each grade break at the lane edges (4 locations across pavement).

705-3.3 EQUIPMENT

- A. Cold planer shall be equipped with automatic controls and sensing devices. Cold planers shall produce finished surface within 0.02 foot tolerance. The width of the cold planer shall match the smallest pavement removal area. Multiple cold planers may be used.
- B. Equipment shall be capable of cold planing concrete.
- C. Contractor shall maintain equipment by changing teeth as often as necessary to provide a smooth surface which meets the required tolerance.
- D. Cold planers shall be equipped with water spray devices to prevent the creation of dust.
- E. Cold planing equipment shall not be cleaned on site using water application unless specific measures for such cleaning have been addressed in the project SWPPP.

705-3.4 APPLICATION

- A. General
 - 1. All pavement grindings shall be trucked and stockpiled at the designated location on the plans.
 - 2. If the depth of pavement removal extends into native material, the removal shall be performed in two steps to prevent contamination of the grindings with native material.
 - 3. Prevent damage to gutter lips, curbs or other facilities while cold planing. If necessary, use hand removal methods.
- B. Transitions
 - 1. Cold plane to width and depth as indicated on project plans and details.
 - 2. For full-depth transitions, cold planing may extend below existing asphalt pavement section into underlying base material to meet depth requirement. .
- C. Pavement Repairs
 - 1. Remove pavement to the limits indicated on the plans or as marked on the pavement by the Engineer.
 - 2. If excess pavement is removed due to contractor equipment selection, excess area shall be replaced per specification without any additional expense to the City.
 - 3. The ends of the cold planed removal area need not be saw cut perpendicular with the pavement surface.
- D. Dust Control
 - 1. Cold planers and sweepers shall maintain spray application to prevent dust at all times.
 - 2. Hand work areas shall use hand sprayers or other means to control dust.
 - 3. Dust control measures shall not create ponding of applied water on the pavement or runoff into the gutters or storm drain system.
- E. Finishing
 - 1. Remove remaining material between grinding edge and concrete surface edge (gutter, swale, sidewalk, etc.). Remove high areas inaccessible to cold planer by jack hammer or other means.
 - 2. Patch gouges or low areas by tack coating and filling with hot-mix asphalt. HMA shall be compacted using hand tamps or other means prior to the surface

temperature of the patch falling below 250⁰F. Patching is not required if the area will be covered by a leveling course of HMA.

F. Temporary Transitions

1. Temporary transitions shall be placed prior to opening to traffic if the drop off exceeds 0.10 feet.
2. Temporary transitions shall be constructed of cold patch asphalt. The transitions shall be 3 foot minimum and have a slope of 20H: 1V, whichever is greater.

705-3.5 TOLERANCES

A. Cold plane to limits and depths as follows:

Vertical:	+/-0.02 feet
Horizontal:	+/- 0.2 feet
Adjacent Passes:	0.02 maximum variance
Variance from Plane: (Using String line)	0.01' high to 0.05' low

B. Correct any high areas by cold planing.

705-3.6 CLEANING

- A. Sweepers shall have dust suppression spray equipment working at all times.
- B. Remove all grindings and debris immediately.
- C. Clean pavement by power sweeping. Areas inaccessible to power brooms shall be cleaned using hand brooms or power blowers. If power blowers are used, prevent damage to vehicles, landscaping and any other facilities. Repair any damage to property owner's satisfaction.
- D. Continue daily sweeping and cleaning until pavement restored.
- E. Clean drop inlet protections at the end of completion of cold planing. Retain inlet protections in place until paving is completed.

705-4 PAYMENT

A. Unit Prices

1. The contract unit prices indicated in the bid schedule shall apply to this work.

B. Measurement and Payment

1. Contractor shall supply documentation of lineal or area measurements.

706 HOT MIX ASPHALT (HMA)

706-1 GENERAL

706-1.1 SUMMARY

A. Includes But Not Limited To

1. Prepare pavement sub-grade to receive paving.
2. Furnish and install hot-mix asphalt for pavement repairs, leveling course and surface course.
3. Complete HMA Paving as provided in Section 39 of 2010 Caltrans Standard Specifications, Section 39- 1 General, Section 39-2 Standard Construction, and Section 39-Method Construction Process and as amended herein.

706-1.2 REFERENCES

A. Abbreviations and Acronyms

1. HMA – Hot Mix Asphalt
2. JMF – Job Mix Formula
3. QA – Quality Assurance Inspection and/or testing by Owner
4. QC – Quality Control Inspection and/or testing by Contractor
5. RAP – Reclaimed Asphalt Pavement

B. Reference Standards

1. ASTM - American Society of Testing and Materials or ASTM International
2. CT – Caltrans Test
3. 2010 Caltrans Standard Specifications Section 39
4. AASHTO – American Association of State Highway and Transportation Officials

706-1.3 ADMINISTRATIVE REQUIREMENTS

- A. Pre-installation Meeting
 1. Contractor shall schedule a pre paving meeting no more than 5 working days nor less than 2 working day prior to first paving day.
 2. Attendees at the pre paving meeting shall include but not be limited to:
 - a. Owner’s Representative
 - b. Contractor’s paving foreman
 - c. Paving fabric installer (if applicable)
 - d. QA Representative
 - e. QC Representative
 - f. Other pavement users or affected parties as applicable.
- B. Sequencing
 1. Contractor shall sequence the work to minimize cold joints.
 2. Contractor shall sequence the work to prevent paving operations damaging new pavement.
 3. Contractor shall not commence paving until all Storm Water protection BMPs have been installed.
 4. Conforms at side streets shall be paved prior to Main Street.
 5. Parking areas shall be paved concurrently with through lanes
- C. Scheduling
 1. Contractor shall schedule the work after completion of all underground utilities including testing. Underground utilities shall be retested immediately prior to paving.
 2. Paving work shall not be performed until all concrete work is performed.

706-1.4 SUBMITTALS

- A. HMA JMFs
 1. Submit a JMF for each mix to be used. JMF shall be submitted on Caltrans CEM 3511 and CEM 3512 forms. If JMF is verified by Caltrans, submit CEM 3513
- B. Paving Grids/ Fabric/ Mats
 1. Provide manufacturers product information sheets of material to be used which demonstrate compliance with project specifications.
- C. Contractor QC Plan
 1. Provide QC Plan indicating compliance with requirements herein. QC Plan shall include the following as a minimum:
 - a. QC Manager and Organization Chart
 - b. AMRL and Caltrans Laboratory Certifications
 - c. Field Personnel Resumes and Certifications
 - d. Sample and Testing Log
 - e. Sample Reports and Labels
 - f. Action Plan for non-complying work or materials
 - g. Random Sampling Plan for materials testing and compaction testing
 2. Nominate Third Party Testing Laboratory

706-1.5 CLOSEOUT SUBMITTALS

- A. Delivery Tickets
 1. Submit delivery tickets for all mix used on the project at the end of each paving day. Tickets shall be organized by mix type and in sequential date order for that mix type.
- B. Testing Reports
 1. Provide test results for HMA materials and installation as required herein.

2. Manufacturers product information sheets of material to be used which demonstrate compliance with project specifications.

706-1.6 **QUALITY ASSURANCE**

A. Quality Assurance Inspection and/or Testing.

1. City may, at their option, have independent quality assurance inspection and testing.
 - a. Inspections may be made during or after the work.
 - b. QA Inspection and testing is for the sole purpose of providing the Owner a greater degree of assurance that the requirements of the contract have been met. QA inspection and testing does not relieve the Contractor of any responsibility to comply with or perform in accordance with the Contract documents.
2. All HMA testing laboratories shall be AMRL and Caltrans certified.

B. QC/QA Coordination

1. If QA compaction testing utilizing a nuclear gauge is to be used, Contractor shall coordinate gauge correlation testing with QA testing personnel during production startup on the first paving day.

C. QC/QA Sampling

1. The Contractor shall perform all sampling at both the plant and jobsite. The contractor shall provide qualified personnel for this sampling. Sample sizes shall meet the following minimums in size:

Sample Type	Sample Description	Sample Size (min)	Container
Aggregate	Hot Bin Samples	25 pounds	Bag
	Supplemental Fine Aggregate	5 pounds	Bag
	RAP Stockpile	25 pounds	Bag
	Combined Belt Sample	50 pounds	Bag
Binder		2 Quarts	Quart Metal Cans
Hot Mix		4 boxes	4'x8'x8"

2. Contractor shall split and label all samples. Label Samples with the following information:

- a. Project Name
- b. Supplier and Plant
- c. Date, Time, Tonnage Lot (if applicable) & Temperature (if applicable)
- d. Material Description (Aggregate source, binder type, mix type)
- e. Continuously maintain a sampling log which includes all of the information indicated above. Provide access to log during progress of the work and a completed copy of the sample log at the completion of work.

3. Contractor shall have QA samples transported to the jobsite or elsewhere if agreed upon by City representative.

D. Dispute Resolution

1. If the QC and QA test results differ on determining compliance, the Contractor can dispute the test results. The third parties shall use remaining test samples or determination of test results if practicable. Third party test results shall govern. Party losing dispute pays cost of third party testing.

706-1.7 **PROJECT CONDITIONS**

A. Project Environmental Requirements

1. Do not perform work during following conditions:
 - a. Ambient, base, or pavement temperature below 50 degrees F.
 - b. Presence of free surface water or damp pavement.
 - c. Unstable grade as demonstrated by proof rolling with a minimum of a 10 wheeler truck.
 - d. Over-saturated base and sub-base materials.

706-2 PRODUCTS

706-2.1 MATERIALS

A. Tack Coat

1. Tack coat on existing or new pavements shall be utilized and will be emulsified asphalt Grade RS-1, RS-1h, SS-1, or SS-1h and shall conform to Section 94, ‘Asphaltic Emulsions’, of the Standard Specifications.
2. Paving binder shall not be used as a tack coat for other than geotextile paving fabrics and or mats.
3. Tack coat for geotextile paving fabric shall be PG70-10.

B. Pavement Reinforcement Composite Grid

1. TenCate Mirafi PGM-G4, GlasGrid CG100, or equal approved prior to bid.

C. Mixes

1. The aggregate size for the HMA shall comply the sizes indicated in the contract documents. If aggregate size is not provided, comply with the following table:

Layer Type	Layer Thickness	HMA Aggregate Grading
Base Courses	1-3/4 to 2-1/2 inches 0.15 to 0.20 foot	1/2” Type A
	2-1/2 to 4 inches 0.20 to 0.33 foot	1/2” or 3/4” Type A
Full Depth Stabilization	6 inches and greater 0.50 feet and greater	3/4” Type A
Leveling Course	½ to ¾ inches 0.04 to 0.06 foot	No. 4 Type A
	¾ to 1-1/4 inches 0.06 to 0.10 foot	3/8” Type A
Surface Courses	1-3/4 to 2-1/2 inches 0.15 to 0.20 foot	1/2” Type A
	2-1/2 to 3 inches 0.20 to 0.25 foot	1/2” or 3/4” Type A

2. Current, approved and verified Job Mix Formula (JMF) for each mix supplied to the project.
3. The HMA mixes shall have the following indicated in the attached table in lieu of those indicated in Section 39-1.03B “Hot Mix Asphalt Mix Design”:

Mix Use	Property	Test Method	Value
Pathways and Pedestrian Area	Air Voids (%)	CT 367	2.5 to 3.5
	Stability	CT 366	33 minimum
Parking Areas and Residential Streets	Air Voids (%)	CT 367	3.0 to 4.0
	Stability	CT 366	35 minimum
Collectors and Arterials	Air Voids (%)	CT 367	4.0 to 5.0
	Stability	CT 366	37 minimum
Intersections and Trucking Facilities	Air Voids (%)	CT367	4.5 to 5.5
	Stability	CT 366	39 minimum

705-2.2.1 CONTRACTOR QUALITY CONTROL

706-2.2.2

A. Perform the following QC Testing:

Quality Characteristic	Frequency	Test Results Due
Aggregate Gradation	Production Startup and every 750 tons	Prior to 4 PM on the day following paving
Sand Equivalent		
Asphalt Binder Content		
HMA moisture content		
Aggregate moisture content at continuous mixing plants and RAP moisture content at Continuous mixing plants and batch mixing plants.		
Percent of maximum theoretical density (nuclear gauge per CT 375)	Per Section 3.4.B.6 below	At end of work shift
Maximum Theoretical Unit Weight	1 per day	By end of work shift
Percent of maximum theoretical density (cores)	Production Startup and as needed	Prior to 4 PM on the day following paving
Air void content	Production Startup	3 working days from sample date
Stability value		
Percent Crushed Particles		
LA Rattler		
Flat and elongated particles		
Fine aggregate angularity		
Voids filled with asphalt		
Voids in mineral aggregate		
Dust proportion		

706-3 EXECUTION

706-3.1 EXAMINATION

- A. Contractor shall visit the site to:
 - 1. Verify that all underground utilities and facilities are complete required including testing.
 - 2. Verify that underlying aggregate base and or native soil subgrade has been properly prepared and tested..
 - 3. Verify that paving subgrade is firm and unyielding.
 - 4. Verify Sub-Grade is 0.00 inches high. Measure using string line from curb to curb, gutter, flat drainage structure, or grade break.
 - 5. Verify ADA compliance at paving subgrade
 - a. All grades within ADA travel paths at the subgrade level are below 2.0% maximum slope cross slope and not greater than 5.0% in longitudinal grade.
 - b. Verify that all grades within the ADA parking and unloading zones are below 2.0% maximum slope in any direction.
- B. Examine landscaping and tree canopies for potential damage due to paving operations
 - 1. Contact City 48 hours in advance if any tree limbs need removal. City will perform work.
- C. Notify City representative of any non-compliance issues. Do not pave until issues resolved or directed in writing to proceed.

706-3.2 PREPARATION

- A. Protect existing facilities
 - 1. Existing landscaping including ground cover, shrubs and tree limbs.
 - 2. Existing buildings and structures
 - 3. Protect storm drain systems
 - 4. Do not clean or wash equipment onsite
 - 5. Place protective covers over existing pavement or paving subgrade under all motorized paving equipment.
- B. Leveling Course Layout
 - 1. Using the surface model used for cold planning, layout leveling course in the same manner and density. Allow 1 day during the day for review prior to placing leveling course.
 - 2. Verify elevations of finished leveling course using the surface model used for cold planning. Surface of leveling course should comply with grades to within +/- 0.03 feet. Correct high areas by cold planning. Correct low areas by skin patching with No. 4 HMA.

706-3.3 APPLICATION

- A. Site Tolerances
 - 1. Apply HMA paving in single lift up to 3 inches thick minimum after compaction, except where shown thicker on Drawings. Paving thicker than 3 inches may be applied in two or more lifts with a minimum lift thickness of 1-3/4 inches thick.
 - 2. Paving adjacent to cast-in-place concrete site elements shall be between 1/4 inch higher than concrete and flush with concrete.
 - 3. Thicknesses
 - a. Average pavement thickness shall equal design thickness
 - b. For total HMA thicknesses less than 4 inches in thickness, the minimum thickness shall be minus 1/4 inch from the design thickness.
 - c. For total HMA thickness 4 inches and greater, the minimum thickness shall be minus 1/2 inch from the design thickness.
- B. Tack Coat
 - 1. Tack coat shall be applied to every vertical face of concrete to be paved against, including gutters and swales.
 - 2. Protect concrete above paving line with masking or shield. Clean all tack coat on concrete more than 1 inch above pavement surface.
 - 3. Brush application allowed
 - 4. Tack coat application shall be reapplied between paving layers if tack coat application becomes damaged due to scraping by equipment or dust.
- C. Pavement Removal and Trench Patching in Full Depth HMA Areas
 - 1. All of the pavement removal areas (3 and 6 Inch depth) may be paved and compacted in a single lift.
 - 2. A self-propelled paver is not required.
- D. Pavement Reinforcement Composite Grid
 - 1. Install in accordance with manufacturer's application guide.
 - 2. Do not install more grid than can be covered with HMA paving work shift.
- E. HMA Installation
 - 1. Use self-propelled laydown machine for all surface courses. Base courses for dig outs or stabilization areas may be placed with a grader or skip loader.
 - 2. Heat joints if laid more than 3 hours previously.
 - 3. Compaction – Leveling Course
 - a. Comply with Method Construction Process requirements for passes, equipment type and temperatures
 - b. Pneumatic tired roller with full time operator required.
 - c. Only one steel wheel roller with full time operator required.

4. Compaction – Base R&R and Surface Course
 - a. Compact HMA to a lot average of 92.0% to 96.0% of Theoretical Maximum Density per ASTM D2041 or CT 309.
 - b. Compact HMA to individual locations to 91.0% to 97.0% of Theoretical Maximum Density per ASTM D2041 or CT 309.
 - c. Compact handwork areas simultaneously with breakdown rolling. Compact with hand tamps, vibraplates or other means that will provide density and a smooth surface. Failure to keep hand compaction areas concurrent with breakdown rolling shall be cause to stop paving until handwork compaction catches up to breakdown rolling.
 - d. Roll with powered equipment capable of obtaining specified density and smoothness.
 - e. Execute compaction so visibility of joints is minimized. Complete finish rolling to improve asphalt surface as soon as possible after intermediate rolling and while HMA is above 140 °F surface temperature.
5. Finish
 - a. Surface shall be uniform with no 'birdbaths'. Leave finished surfaces clean and smooth. Variations from specified grades shall not exceed 1/4 inch (0.02 feet). When tested with 10 foot straight edge, surface of complete work shall not contain irregularities in excess of 1/4 inch.
 - b. Completed surface shall match the texture of the machine laid mat. Areas worked by raking shall have coarse aggregate removed rather than pushed back onto the mat. Any areas of coarse or segregated surface shall be remedied immediately and prior to finish rolling. Failure to comply with this provision shall cause all paving to stop until mat surface corrections are performed.

706-3.4 CONTRACTOR QUALITY CONTROL

- A. Materials Quality Control Testing
- B. Contractor shall perform testing as outlined in the Contractor Quality Control Plan submitted under Section 1.5 C, “Contractors QC Plan”.
- C. Contractor shall perform all testing for materials indicated in Section 2.2 “Source Quality Control” of these specifications.
- D. Density Quality Control
 1. Divide pavement area into lots in accordance with the following guidelines
 2. Each lot not to represent more than 500 tons or 45,000 sf, whichever is less.
 3. Each lot must be homogeneous relative to placement time and methods. Different streets or separated areas shall be considered separate lots for the purposes of compaction testing.
 4. Correlate gauge using a minimum of 5 cores on first paving day. Core correlation will not be required if 1) the QC and QA gauges are within 0.5% of each other on the average of 5 locations and 2) both QC and QA gauges indicate test results within the range of 92.5% to 95.5% of Theoretical Maximum Density based on the JMF Rice Gravity.
 5. Daily Rice Gravity tests shall be used to determine compaction. If Rice Gravity results vary more than 0.03 gm/cc on a daily basis, use a moving average of 5 and recomputed density results
 6. Test each lot using randomly determined locations per CT 375 or ASTM D3665.
 - a. Minimum of 3 tests per lot
 - b. One nuclear gauge per 50 tons
 7. If nuclear gauge test results determine noncompliance, Contractor may choose to have in place density verified by cores. Cores will be taken at the rate of 1 per 100 tons. Cores will be taken by Contractor and tested by QA laboratory. Take cores in presence of Owner’s representative. Cost of coring shall be borne by Contractor and cost of core testing by Owner. For lot average determination, a minimum of three cores shall be taken. For individual sites, a single core may be taken. Reduced payment will be determined by cores if cores are taken.
- E. Quality Control Reporting

1. If QC Reports indicate non-compliance, paving may continue till the end of the day. Paving shall not be resumed until acceptable changes have been made to either the materials quality or contractor's placement and compaction operations to assure future compliance with requirements.
2. Failure to supply QC Reports as indicated will be cause for withholding payment for the work until such reports are submitted and evaluated.

706-3.5 PROTECTION

- A. Protect completed pavement from damage
 1. Equipment and material storage.
 2. Fuels or solvents of any kind
 3. Staining from landscape material storage, installation or runoff.

706-4 PAYMENT

- A. Unit Prices
 1. The contract unit prices indicated in the bid schedule shall apply to this work.
- B. Measurement and Payment
 1. If paid by tonnage, the Contractor shall supply delivery tickets for each load of HMA delivered to the jobsite at the end of each work day.
 2. If paid by the unit area of paving, Contractor shall supply documentation of area measurements.
- C. Payment for Pavement Fabric
 1. If pavement fabric is paid by the unit area measurement, the payment area is limited to the actual applied area of the fabric excluding joints and laps.
- D. Reduced Payment for HMA Density
 1. Reduced payment shall be made on HMA which does not meet the requirements of Section 2.3.C.6 "Compaction" herein. The reduced payment schedule is based on both individual test locations and lot averages. The reduced payment schedule is as follows:

Reduced Payment Factors for Percent of Maximum Theoretical Density					
Percent of Maximum Theoretical Density		Reduced Payment Factor	Maximum Theoretical Density		Reduced Payment Factor
Lot Average	Individual Test Result		Lot Average	Individual Test Result	
92.0	91.0	0.0000	96.0	97.0	0.0000
91.9	90.9	0.0125	96.1	97.1	0.0125
91.8	90.8	0.0250	96.2	97.2	0.0250
91.7	90.7	0.0375	96.3	97.3	0.0375
91.6	90.6	0.0500	96.4	97.4	0.0500
91.5	90.5	0.0625	96.5	97.5	0.0625
91.4	90.4	0.0750	96.6	97.6	0.0750
91.3	90.3	0.0875	96.7	97.7	0.0875
91.2	90.2	0.1000	96.8	97.8	0.1000
91.1	90.1	0.1125	96.9	97.9	0.1125
91.0	90.0	0.1250	97.0	98.0	0.1250
90.9	89.9	0.1375	97.1	98.1	0.1375
90.8	89.8	0.1500	97.2	98.2	0.1500
90.7	89.7	0.1625	97.3	98.3	0.1625
90.6	89.6	0.1750	97.4	98.4	0.1750
90.5	89.5	0.1875	97.5	98.5	0.1875
90.4	89.4	0.2000	97.6	98.6	0.2000
90.3	89.3	0.2125	97.7	98.7	0.2125
90.2	89.3	0.2250	97.8	98.8	0.2250
90.1	89.2	0.2375	97.9	98.9	0.2375
90.0	89.0	0.2500	98.0	99.0	0.2500
< 90.0	<89.0	Remove and Replace	> 98.0	>99.0	Remove and Replace

- E. There shall not be an adjustment of contract unit prices due to adjustments in the asphalt price index.

707 STREET LIGHTING AND ELECTRICAL

707-1 GENERAL

707-1.1 SUMMARY

The work under this section shall consist of furnishing and installing electrical conduit, wire, pull boxes, street lights, electrical outlets, and related items, including securing electrical service, obtaining permits, utility coordination, excavating, backfilling, and compacting, at the locations designated on the project plans and in accordance with the details shown on the plans and the requirements of these specifications.

707.1.2 CODES AND STANDARDS

- A. Work shall comply with the latest edition of the California Electrical Code, and other applicable state and local codes.

- B. All equipment and material shall be UL listed for its proposed use and shall be installed in accordance with the manufacturer's instructions.

707-2 MATERIALS

707-2.1 ELECTRICAL WIRE

Electrical wire shall be copper with XHHW-2 insulation, except ground wire may be bare, and shall be bare in pole base foundation. Conductors shall conform to the specifications of the NEC, UL, and other applicable industry standards. The UL label shall be present on each reel, coil or container of wire or cable. The wire shall be annealed copper and shall be uncoated unless otherwise specified. The wire shall be solid for number 10 AWG and smaller, and stranded for number 8 AWG and larger.

707-2.2 ELECTRICAL CONDUIT AND WARNING TAPE

- A. Unless otherwise specified, all conduit installed underground or in concrete structures shall be rigid Schedule 40 PVC. All exposed conduit and fittings to be installed above ground shall be the rigid metal type manufactured of galvanized steel with threaded couplings. Non-threaded couplings shall not be used. Rigid galvanized steel conduit with a 40 mil PVC exterior tape or factory applied coating shall be used for rigid steel installed underground or rising to above grade. Threads shall be coated with zinc rich paint prior to making up.
- B. Conduit warning tape shall be provided 6" to 8" below grade above all buried conduit. Warning tape shall be 4 mil (100 micrometer) inert plastic film specially formulated for prolonged use underground. All tape shall be highly resistant to alkalis, acids, and other destructive agents found in the soil. Tape shall have a continuous printed message warning of the location of underground conduits. The message shall be in permanent ink specifically formulated for prolonged underground use and shall bear the words, "CAUTION--ELECTRIC LINE BURIED BELOW" in black letters on a red background.

707-2.3 PULLBOXES

- A. Precast reinforced concrete pull boxes, covers and extensions shall be installed and located as shown on the project plans and shall be the size specified. Chipped or cracked pull boxes, covers, and extensions will not be accepted.
- B. Pullboxes shall be manufactured by Oldcastle/Christy. Boxes and covers shall be concrete and have pedestrian rated minimum vertical test load of 350 pounds per square foot. The concrete shall test to a minimum of 4,500 psi compressive strength. Boxes shall have an etched polyethylene face, anchored in concrete, with an ultraviolet inhibitor. Boxes shall be 12" deep plus a 12" extension.
- C. Lids shall be secured by two hex head bolts at corners diagonally across from each other.
- D. Lids shall be marked "City Electrical". Markings shall be clearly defined and uniform in depth and shall be placed parallel to the long side of the cover. Letters shall be one inch high.

707-2.4 SERVICE

- A. The service system shall include the service system components as shown on the Service Riser Diagram. Their installation shall conform to California Electrical Code, UL, local applicable codes, and the requirements of the utility company providing service. The contractor shall secure the necessary utility company permits, pay related fee(s) for said permit, and coordinate the installation of the required power service. Meter sockets shall be approved by the serving utility company. They shall be furnished and installed by the contractor.

- B. The contactor shall be of the mechanical armature type and shall consist of a 120 Volt operating coil, a laminated core, a laminated armature, contacts, and terminals. The contacts shall be fine silver, silver-alloy, or other superior low contact resistance metal.
- C. On-Off-Auto Switch. A three position selector switch shall be installed to control the contactor to turn the lights on or off. The switch shall be the rotary selector or toggle type having double pole, double throw contacts with the center position being the "off" position, and be rated at 10 amperes at 250 volts A.C. The switch shall be manually activated in the up or left position and shall be activated by the photocell in the down or right position.
- D. Enclosure
 - 1. Provide free standing NEMA 3R or NEMA 4 enclosure with a window for meter reading.
 - 2. Panelboards, contactor, etc. shall be enclosed in NEMA 1 enclosures within the service enclosure so that with door to service enclosure open, circuit breaker handles, contractor control switch, and irrigation controller will be accessible with system being dead front.
 - 3. Enclosure shall be fabricated from 12 or 10 gauge steel with stiffeners as needed.
 - 4. Finish shall be polyester powder inside and out over pretreated surface. Submit color samples for City selection of color.
 - 5. A white back panel mounted on studs shall be provided for mounting equipment so that no screws or bolts penetrate the back of the enclosure.
 - 6. Hardware. Hardware for a service enclosure shall include a two piece hinged door with three point latch, a padlock hasp suitable for a City lock and a utility lock. All exterior hardware such as hinge pins, bolts, screws, and locking devices shall be of 304 or 305 stainless steel. All interior screws and fittings shall be stainless steel or approved non-ferrous corrosion resistant material.
 - 7. Enclosure shall have rolled lip around three sides of door and along top of enclosure opening.
 - 8. Doors shall be sealed with poured in place polyurethane gasket.
 - 9. Enclosure shall be vandal resistant with a minimum of exterior screws and hinge pins, and those that are exterior shall be vandal resistant.
- E. Lightning Arrestor: A lightning arrestor shall be provided connected to a two pole circuit breaker in Panel N. It shall be of the silicon oxide varistor type rated for 120/240V, single phase, 3 wire service, with a maximum current of 100,000 Amps, maximum energy of 3,000 Joules, and a 10 nanosecond response time to clamp 10,000 Amps. It shall be a Delta LA302 lightning arrestor.

707-3 CONSTRUCTION DETAILS

707-3.1 CONDUIT

- A. Storing and Handling. All PVC conduit shall be stored and handled in an approved manner to minimize ultraviolet deterioration due to exposure to sunlight.
- B. Cleaning. All conduit including existing conduit to be incorporated into a new system shall be blown out with compressed air. A mandrel shall be pulled through the conduit to remove any obstructions.
- C. Size. The minimum inside diameter of each conduit shall be as shown on the plans. The contractor may, at his option and expense, use a larger size conduit than specified provided the larger size is continuous for the entire length of the run from outlet to outlet. Reducing couplings shall not be used. Changes in the location and size shown on the project plans shall be documented by the contractor and submitted to the Engineer.

- D. Cuts and Connections. The PVC conduit shall be cut square and trimmed to remove rough edges. Conduit connections shall be of the solvent weld type. Where a connection is made to steel conduit, the coupling used shall be a PVC female adapter
- E. Bends. Bends shall be factory bends or field bends. Field bends shall be done without crimping or flattening, using the longest radius practicable. The sum of the deflection angles of all bends in any conduit run shall not exceed 270 degrees between termination and/or junction points.
- F. End Treatments. Conduit ends shall be capped with conduit end cap fittings until wiring is started. When end caps are removed, non-metallic conduit shall be provided with an approved conduit end bell unless conduit is being extended. End bells shall be installed prior to the installation of the conductors. Approved insulated grounding bushings shall be used on ends of steel conduit runs. Conduits with grounding bushings shall be bonded together, bonded to a metal box and grounded. Ends of conduit runs, designated for future use, shall be capped with conduit end cap fittings.
- G. Conduit entering pull boxes shall terminate a minimum of 3 inches inside the box wall. The conduit shall be between 3 inches and 4 inches above the bottom of the pull box and shall be sloped to facilitate pulling of the cable and conductors. Conduit entering through the bottom of a pull box shall be located near the sides and ends of the pull box in order to leave the major interior portion clear. At all outlets, conduits shall enter from the direction of the run and allow for expansion and contraction.
- H. Where the depth of conduit changes the trench bottom shall be sloped 3 horizontal to 1 vertical to accommodate the depth change.
- I. If a trench is left open overnight, a minimum of 6 inches of backfill material shall be used as a protective cover to eliminate contraction of the conduit system. The backfill material shall be removed if final inspection by the Engineer has not been made.
- J. Backfill material placed within 6 inches of the conduit shall not contain frozen lumps, stones larger than 3 inches in diameter, chunks of clay, organic matter or other objectionable material.
- K. The contractor shall place warning tape in all trenches where new conduit is placed. All warning tape shall be buried at a depth of 6 to 8 inches below the finished grade.

707-3.2 PULL BOXES: Pull boxes shall be installed in accordance with the details shown on the plans. Pull boxes shall be installed flush with the finished grade and, when in concrete, shall have a 1/2 inch felt expansion joint installed around all sides of the pull box.

707-3.3 FUSES

- A. Ungrounded leads tapped from feed conductors in pull boxes shall be protected with fused in-line connectors. In-line connectors shall be fused with high-interrupting capacity fuses with a fault current rating of 100,000 amperes at 600 volts AC. The in-line connectors shall be watertight, non-locking and rated at 600 volts AC.
- B. Fuses for receptacle circuits shall be rated time delay sized for the Amp rating of the receptacle.
- C. Fuses for street light circuits shall be fast acting, rated three times the maximum current of the luminaire(s) being powered.

707-3.4 SPLICES AND TAPS

In circuits where the voltage does not exceed 240 volts AC, splices shall be made utilizing approved spring-type wire connectors. All neutral and ground wire splices shall be made using split bolt connectors. Soldered connections will not be permitted unless so specified. The insulation for the splice shall consist of two layers of electrical rubber tape, four layers of plastic electrical tape and two layers of friction tape. The tapes shall be securely applied over

the bare wire splice area and back onto the original insulation a minimum of 1 inch. A minimum of three coats of approved liquid waterproof splicing compound shall then be applied to the splice. The finished splices shall be such that their electrical and mechanical characteristics and insulation quality are equal to those of the original cable. Conductors shall be spliced only in pull boxes and terminal compartments.

707-3.5 TAGGING AND TAPING

All conductors shall be tagged to identify their circuit number or function with wire marking tags. The tag identification shall correlate with the conductor schedule shown on the project plans. Tags shall be nylon cable ties with integral marking tag. Tags shall be labeled with a permanent ink pen. The tags shall be furnished and installed by the contractor. Each tag shall be wrapped entirely around the conductor. Each wire shall be tagged to identify the panel and circuit number.

707-3.6 BONDING AND GROUNDING

All metallic enclosures including, but no limited to, cabinets, poles, and metal conduit shall be bonded to form a continuous grounded system. Nonmetallic portions of the system such as PVC conduit shall have a bare copper bond wire installed with suitable connections to form a continuous grounded system. All grounding connections shall be exposed in services, pull boxes, and pole bases. Connections shall be made with split bolt connectors or lugs of appropriate size and type. Spring type connectors will not be acceptable for grounding applications.

707-3.7 LIGHT POLES

Light Poles shall be installed plumb. Poles, luminaires, and receptacles shall be bonded to pole base grounds and the conduit ground wires.

707-3.7 TESTING

The Contractor shall perform an insulation to ground test and an insulation line to line test on all conductors prior to final acceptance. The test may be witnessed by the City's Representative who shall be given 48 hours notice. If the resistance to ground is less than 50 megohms when measured with a 1,000 volt DC meggering device corrective action shall be taken as directed by the Owner's Representative. Circuits shall be energized for 100 hours prior to final acceptance. Failures occurring during this test period shall be corrected.

707-4 METHOD OF MEASUREMENT

707-4.1 SERVICE EQUIPMENT

The new electric service shall include the work shown on the Service Riser Diagram including enclosure, meter socket, contactor, circuit breaker panels, conduit to the utility pull box and the nearest City pullbox, wire as shown in the service riser diagram, and all other components necessary to complete the work. The payment is included in the lump sum price for the appropriate items.

707-4.2 STREET LIGHT POLES

Street Light Poles, new and relocated, shall be measured as a unit including pole base, conduit and wire to pull box, fuses, lamps, and receptacle covers for outlets on poles, including relocated poles.

707-4.3 CONDUIT

- A. Conduit shall be paid for on a lump sum basis as shown in each respective item.
- C. Conduit associated with electric service and associated equipment shall be included in the unit cost for the service.
- D. Conduit associated with light poles or tree wells shall be included in the unit cost of the light poles or tree wells respectively.

707-4. CONDUCTORS

- A. Conductors shall be paid for on a lump sum basis as shown in each respective item.
- B. Conductors between tree wells and street light poles and the associated pull boxes shall be included in the unit cost for the light poles and the tree wells. No measurement or direct payment will be made for wire to light poles or tree wells, the cost being considered as included in the contract price for the pole, foundation, or tree well items.

707-4.6 PULL BOXES

- A. Payment for pull boxes is included in the unit prices of the street lights.
- B. Pull boxes shall include any excavating and backfilling necessary to complete necessary to complete the work.
- C. Pull boxes shall include conduit installed to extend existing conduit to new pull box locations.

707-4.7 OUTLETS IN TREE WELLS

Outlets in tree wells shall be measured as a unit for each tree well and shall include the outlet, box, ground fault switch, and two pigtails per outlet. For each tree well, one pigtail shall have a band of orange tape at each end. Seven (7) extra sets (14 total) of pigtails shall be provided with the cost spread in the unit cost for the remainder of the work.

707-4.8 PAYMENT

The accepted quantities measured as provided above, will be paid for at the contract unit price per unit (linear foot, each, etc.) which price shall be full compensation for the item, complete in place.

708 IRRIGATION AND STREET TREES

708-1 IRRIGATION SYSTEM

708-1 GENERAL

708-1.1 SUMMARY

- A. It is the intent of the specifications and drawings that the finished system is complete in every respect and shall be ready for operation satisfactory to the City.
- B. The work shall include all materials, labor, services, transportation, and equipment necessary to perform the work as indicated on the drawings, in these specifications, and as necessary to complete the contract.

708-1.2 CONSTRUCTION DRAWINGS

- A. Due to the scale of the drawings, it is not possible to indicate all offsets, fittings, sleeves, etc. which may be required. The Contractor shall carefully investigate the structural and finished conditions affecting all of his work and plan his work accordingly, furnishing such fittings, etc. as may be required to meet such conditions. Drawings are generally diagrammatic and indicative of the work to be installed. The work shall be installed in such a manner as to avoid conflicts between irrigation systems, planting, and architectural features.
- B. All work called for on the drawings by notes or details shall be furnished and installed whether or not specifically mentioned in the specifications. When an item is shown on the plans but not shown on the specifications or vice versa, it shall be deemed to be as shown on both. The Landscape Architect shall have final authority for clarification.

- C. The Contractor shall not willfully install the irrigation system as shown on the drawings when it is obvious in the field that obstructions, grade differences or discrepancies in area dimensions exist that might not have been considered in engineering. Such obstructions or differences should be brought to the attention of the Landscape Architect as soon as detected. In the event this notification is not performed, the Irrigation Contractor shall assume full responsibility for any revision necessary.

708-1.3 QUALITY ASSURANCE

- A. Provide at least one English speaking person who shall be present at all times during execution of this portion of the work and who shall be thoroughly familiar with the type of materials being installed and the manufacturer's recommended methods of installation and who shall direct all work performed under this section.
- B. Manufacturer's directions and detailed drawings shall be followed in all cases where the manufacturer of articles used in this contract furnish directions covering points not shown in the drawings and specifications.
- C. All local, municipal, and state laws, rules and regulations governing or relating to any portion of this work are hereby incorporated into and made a part of these specifications, and their provisions shall be carried out by the Contractor. Anything contained in these specifications shall not be construed to conflict with any of the above rules and regulations of the same. However, when these specifications and drawings call for or describe materials, workmanship, or construction of a better quality, higher standard, or larger size than is required by the above rules and regulations, the provisions of these specifications and drawings shall take precedence.
- D. All materials supplied for this project shall be new and free from any defects. All defective materials shall be replaced immediately at no additional cost to City.
- E. The Contractor shall secure the required licenses and permits including payments of charges and fees, give required notices to public authorities, verify permits secured or arrangements made by others affecting the work of this section.

708-1.4 SUBMITTALS

- A. Water Pressure Test
 1. After award of contract and before any irrigation system materials are ordered from suppliers or delivered to the job site, submit to the City a written verification of the existing water pressure on the project at each of the points of connection shown.
 2. The water pressure test shall be performed to measure the dynamic water pressure at the point of connection at the maximum flow rate of the proposed irrigation system as shown on the point of connection note. Dynamic water pressure is when water is flowing through the point of connection. Static water pressure readings, water is not flowing, are not acceptable.
 3. Written dynamic water pressure test confirmation shall be made on the contractor's letterhead and include the flow rate during the test, the recorded water pressure, the date of the test and the time of the test.
- B. Material List:
 1. After award of contract and before any irrigation system materials are ordered from suppliers or delivered to the job site, submit to the City a complete list of all irrigation system materials, or processes proposed to be furnished and installed as part of this contract.
 2. The submittals materials list shall include the following information:

- a. A title sheet with the job name, the contractor's name, contractor's address and telephone number, submittal date and submittal number.
 - b. An index sheet showing the item number (i.e. 1,2,3, etc.); an item description (i.e. sprinkler head); the manufacturer's name (i.e. Hunter Industries); the item model number (i.e. I-40-ADV/36V); and the page(s) in the submittal set that contain the catalog cuts.
 - c. The catalog cuts shall be one or two pages copied from the most recent manufacturer's catalog that indicate the product submitted. Do not submit parts lists, exploded diagrams, price lists or other extra information.
 - d. The catalog cuts shall clearly indicate the manufacturer's name and the item model number. The item model number, all specified options and specified sizes shall be circled on the catalog cuts.
 - e. Submittals for equipment indicated on the legend without manufacturer names, or "as approved", shall contain the manufacturer, Class or Schedule, ASTM numbers and/or other certifications as indicated in these specifications.
3. Submittal materials list format requirements:
- a. Submittals shall be provided as one complete package for the project. Multiple partial submittals will not be reviewed.
 - b. Submittal package shall be stapled or bound in such a way as to allow for disassembly for review processing. Submittals shall not have tabs, tab sheets, spiral binding, or any other type of binding that will interfere with automated copying of submittals.
 - c. Submittal package shall have all pages numbered in the lower right hand corner. Page numbers shall correspond with submittal index.
 - d. Re-submitted packages must be revised to include only the equipment being re-submitted. Equipment previously reviewed and accepted shall not be re-submitted in the materials list/index sheet or in the catalog cut sheet package.
- C. Substitutions: If the Irrigation Contractor wishes to substitute any equipment or materials for those equipment or materials listed on the irrigation drawings and specifications, he may do so by providing the following information to the Landscape Architect or City's authorized representative for approval.
- 1. Provide a written statement indicating the reason for making the substitution.
 - 2. Provide catalog cut sheets, technical data, and performance information for each substitute item.
 - 3. Provide in writing the difference in installed price if the item is accepted.
- D. The Landscape Architect or City's authorized representative will allow no substitutions without prior written acceptance
- E. No substitutions of pump manufacturers, distributors or assemblies will be accepted.
- F. Manufacturer's warranties shall not relieve the Contractor of his liability under the guarantee. Such warranties shall only supplement the guarantee.
- G. The Landscape Architect or City's authorized representative will not review the submittal package unless provided in the format described above.

708-1.5 EXISTING CONDITIONS

- A. The Contractor shall verify and be familiar with the locations, size and detail of points of connection provided as the source of water, and electrical supply connection to the irrigation system.
- B. Irrigation design is based on the available static water pressure shown on the drawings. Contractor shall verify static water on the project prior to the start of construction. Should a

discrepancy exist, notify the Landscape Architect and City's authorized representative prior to beginning construction.

- C. Prior to cutting into the soil, the Contractor shall locate all cables, conduits, sewer septic tanks, and other utilities as are commonly encountered underground and he shall take proper precautions not to damage or disturb such improvements. If a conflict exists between such obstacles and the proposed work, the Contractor shall promptly notify the Landscape Architect and City who will arrange for relocations. The Contractor will proceed in the same manner if a rock layer or any other such conditions are encountered.
- D. The Contractor shall protect all existing utilities and features to remain on and adjacent to the project site during construction. Contractor shall repair, at his own cost; all damage resulting from his operations or negligence.
- E. The Irrigation Contractor shall coordinate with the General Contractor for installation of required sleeving as shown on the plans prior to paving operations.
- F. The Contractor shall verify and be familiar with the existing irrigation systems in areas adjacent to and within the Project area of work.
- G. The Contractor shall protect all existing irrigation systems, in areas adjacent to and within the project area of work, from damage due to his operations.
- H. Contractor shall notify City's Representative if any existing system is temporarily shut off, capped or modified. Provide 48-hour notice, prior to turning off or modifying any existing irrigation system.
- I. The Contractor shall repair or replace all existing irrigation systems, in areas adjacent to and within the project area of work, damaged by the construction of this project. Adjacent irrigation systems shall be made completely operational and provide complete coverage of the existing landscaped areas. All repairs shall be complete to the satisfaction of the City's Representative.
- J. The contractor shall provide bore holes under any existing pavement or paving encountered for the required lateral, mainline and low voltage control wire sleeving. Bore holes under 2 inches in diameter and smaller shall be made with a BulletMole® underground boring tool as manufactured by Dimension Tools, LLC (Contact telephone number (888)-650-5554 or at www.bulletmole.com). Bore holes larger than 2 inches in diameter shall be made with an approved mechanical boring tool. No air jacking or hydraulic boring of any kind shall be allowed.

708-1.6 INSPECTIONS

- A. The Contractor shall permit the Landscape Architect and City's authorized representative to visit and inspect at all times any part of the work and shall provide safe access for such visits.
- B. Where the specifications require work to be tested by the Contractor, it shall not be covered over until accepted by the Landscape Architect, City's authorized representative, and/or governing agencies. The Contractor shall be solely responsible for notifying the Landscape Architect, City, and governing agencies, a minimum of 48 hours in advance, where and when the work is ready for testing. Should any work be covered without testing or acceptance, it shall be, if so ordered, uncovered at the Contractor's expense.
- C. Inspections will be required for the following at a minimum:
 - 1. Pre-construction meeting.

2. System layout.
 3. Pressure test of irrigation mainline and lateral lines (Four hours at 125 PSI or 120% of static water pressure, whichever is greater.) Mainline and lateral line pressure loss during test shall not exceed 2 PSI.
 4. Coverage test of irrigation system. Test shall be performed prior to any planting.
 5. Final inspection prior to start of maintenance period.
 6. Final acceptance prior to turnover.
- D. Site observations and testing will not commence without the field record drawings as prepared by the Irrigation Contractor. Record drawings must be complete and up to date for each site visit.
- E. Work that fails testing and is not accepted will be retested. Hourly rates and expenses of the Landscape Architect, City's authorized representative, and governing agencies for re-inspection or retesting will be paid by the Irrigation Contractor at no additional expense to City.

708-1.7 STORAGE AND HANDLING

- A. Use all means necessary to protect irrigation system materials before, during, and after installation and to protect the installation work and materials of all other trades. In the event of damage, immediately make all repairs and replacements necessary to the acceptance of the Landscape Architect and City and at no additional cost to the City.
- B. Exercise care in handling, loading, unloading, and storing plastic pipe and fittings under cover until ready to install. Transport plastic pipe only on a vehicle with a bed long enough to allow the pipe to lay flat to avoid undue bending and concentrated external load.

708-1.8 CLEANUP AND DISPOSAL

- A. Dispose of waste, trash, and debris in accordance with applicable laws and ordinances and as prescribed by authorities having jurisdiction. Bury no such waste material and debris on the site. Burning of trash and debris will not be permitted. The Contractor shall remove and dispose of rubbish and debris generated by his work and workmen at frequent intervals or when ordered to do so by the City's authorized representative.
- B. At the time of completion the entire site will be cleared of tools, equipment, rubbish and debris which shall be disposed of off-site in a legal disposal area.

708-1.9 TURNOVER ITEMS

- A. Record Drawings:
 1. Record accurately on one set of drawings all changes in the work constituting departures from the original contract drawings and the actual final installed locations of all required components as shown below.
 2. The record drawings shall be prepared to the satisfaction of the City. Prior to final inspection of work, submit record drawings to the Landscape Architect or City's authorized representative.
 3. All record drawings shall be prepared using AutoCAD 2016 drafting software and the original irrigation drawings as a base. No manual drafted record drawings shall be acceptable. The Contractor may obtain digital base files from the Landscape Architect or City's authorized representative.

4. If the Contractor is unable to provide the AutoCAD drafting necessary for the record drawings the irrigation designer does provide record drawing drafting as a separate service.
5. Prior to final inspection of work, submit record drawings plotted onto vellum sheets for review by the Landscape Architect or City's authorized representative. After acceptance by the Landscape Architect, City Inspector or City's authorized representative re-plot the record drawings onto reproducible Mylar sheets. The Contractor shall also provide record drawing information on a digital AutoCAD Release 2016 drawing file. All digital files shall be provided on a compact disc (CD) clearly marked with the project name, file descriptions and date.
 - a. Record drawing information and dimensions shall be collected on a day-to-day basis during the installation of the pressure mainline to fully indicate all routing locations and pipe depths. Locations for all other irrigation equipment shall be collected prior to the final inspection of the work.
 - b. Two dimensions from two permanent points of reference such as buildings, sidewalks, curbs, streetlights, hydrants, etc. shall be shown for each piece of irrigation equipment shown below. Where multiple components are installed with no reasonable reference point between the components, dimensioning may be made to the irrigation equipment. All irrigation symbols shall be clearly shown matching the irrigation legend for the drawings. All lettering on the record drawings shall be minimum 1/8 inch in size.
6. Show locations and depths of the following items:
 - a. Point of connection (including water POC, backflow devices, master control valves, flow sensors, etc.)
 - b. Routing of sprinkler pressure main lines (dimensions shown at a maximum of 100 feet along routing)
 - c. Isolation valves
 - d. Automatic remote control valves (indicate station number and size)
 - e. Quick coupling valves
 - f. Routing of control wires where separate from irrigation mainline
 - g. Irrigation controllers (indicate controller number and station count)
 - h. Related equipment (as may be directed)

B. Controller Charts:

1. Provide one controller chart for each automatic controller. Chart shall show the area covered by the particular controller. The areas covered by the individual control valves shall be indicated using colored highlighter pens. A minimum of six individual colors shall be used for the controller chart unless less than six control valves are indicated.
2. Landscape Architect or City's authorized representative must approve record drawings before controller charts are prepared.
3. The chart is to be a reduced copy of the actual "record" drawing. In the event the controller sequence is not legible when the drawing is reduced, it shall be enlarged to a readable size.
4. When completed and approved, the chart shall be hermetically sealed between two pieces of plastic, each piece being a minimum 20 mils in thickness.

C. Operation and Maintenance Manuals:

1. Two individually bound copies of operation and maintenance manuals shall be delivered to the Landscape Architect or City's authorized representative at least 10 calendar days prior to final inspection. The manuals shall describe the material installed and the proper operation of the system.
 2. Each complete, bound manual shall include the following information:
 3. Index sheet stating Contractor's address and telephone number, duration of guarantee period, list of equipment including names and addresses of local manufacturer representatives.
 4. Operating and maintenance instructions for all equipment.
 5. Spare parts lists and related manufacturer information for all equipment.
- D. Equipment:
1. Supply as a part of this contract the following items:
 - a. Two (2) wrenches for disassembly and adjustment of each type of sprinkler head used in the irrigation system.
 - b. Three 30-inch sprinkler keys for manual operation of control valves.
 - c. Two keys for each automatic controller.
 - d. Two quick coupler keys with a 3/4" bronze hose bib, bent nose type with hand wheel and two coupler lid keys.
 - e. One valve box cover key or wrench.
 - f. Six extra sprinkler heads of each size and type.
- E. The above equipment shall be turned over to City's authorized representative at the final inspection.

708-1.10 COMPLETION

- A. At the time of the pre-maintenance period inspection, the Landscape Architect, City's authorized representative, and governing agencies will inspect the work, and if not accepted, will prepare a list of items to be completed by the Contractor. Punch list to be checked off by contractor and submitted to Landscape Architect or City's authorized representative prior to any follow-up meeting. This checked off list to indicate that all punch list items have been completed. At the time of the post-maintenance period or final inspection the work will be re-inspected and final acceptance will be in writing by the Landscape Architect, City's authorized representative, and governing agencies.
- B. The City's authorized representative shall have final authority on all portions of the work.
- C. After the system has been completed, the Contractor shall instruct City's authorized representative in the operation and maintenance of the irrigation system and shall furnish a complete set of operating and maintenance instructions.
- D. Any settling of trenches which may occur during the one-year period following acceptance shall be repaired to the City's satisfaction by the Contractor without any additional expense to

the City. Repairs shall include the complete restoration of all damage to planting, paving or other improvements of any kind as a result of the work.

708-1.11 25 YEAR HDPE PIPE WARRANTY

A. AquaFuse Product Warranty

1. LIMITED WARRANTY: Seller warrants that, for a period of twenty five (25) years from the date of shipment, it will replace any section of CMF Global, AquaFuse HDPE pipe, fittings and valves product that is defective in materials or workmanship, provided that Buyer, upon discovery of a defect, promptly notifies Seller of the defect and, as instructed by Seller at such time, either returns the product to Seller for inspection or allows Seller to inspect at the place of installation. If Seller determines the product to be defective, Seller will provide new product of the same specification and same quantity as the defective product and Seller will bear the expense of freight to deliver the replacement product to the jobsite for domestic projects, and to the closest USA port for foreign projects. Seller does not warrant the installation of product. Any defects introduced after the shipment of product by Seller, whether due to handling, installation or other cause, are not covered by this warranty. This warranty does not cover labor or other costs of installing products. Buyer's sole remedy for defective product shall be to receive replacement product as provided in this Limited Warranty.
2. Other than the above limited warranty, seller makes no warranty and expressly disclaims all other warranties, express or implied, including, but not limited to, the warranties of merchantability and fitness for a particular purpose. Seller's liability arising out of or related to this contract or any product or service supplied by seller (whether such liability is alleged as a breach of contract, breach of warranty, misrepresentation, negligence, indemnification, product liability or otherwise) shall in no event exceed the original purchase price of the defective product plus applicable freight costs actually paid by buyer. Seller will not be liable for any consequential, incidental, special, indirect or punitive damages, loss of profits, loss of business opportunity or other loss even if seller knew or should have known of the possibility of such damages or losses.

B. CONTRACTOR'S WARRANTY

1. LIMITED WARRANTY: Contractor warrants that, for a period of twenty five (25) years from the date of installation, it will re-fuse or repair a fusion connection that is defective in workmanship, provided that Buyer, upon discovery of a defect, promptly notifies Contractor of the defect and, allows the Contractor to inspect at the place of installation. If it is determined the fused connection to be defective, Contractor will re-fuse or repair the connection at the jobsite. Contractor does not warrant the product itself, only the fused connection. This warranty does not cover labor or other costs, only the fused connection. Buyer's sole remedy for defective connection shall be to receive replacement fusion of the pipe or fitting as provided in this Limited Warranty.
2. Other than the above limited warranty, contractor makes no warranty and expressly disclaims all other warranties, express or implied, including, but not limited to, the warranties of merchantability and fitness for a particular purpose.
3. Contractor's liability arising out of or related to this contract or any product or service supplied by contractor (whether such liability is alleged as a breach of contract, breach of warranty, misrepresentation, negligence, indemnification, product liability or otherwise) shall in no event exceed the original purchase price of the defective connection plus

applicable freight costs actually paid by buyer. Contractor will not be liable for any consequential, incidental, special, indirect or punitive damages, loss of profits, loss of business opportunity or other loss even if contractor knew or should have known of the possibility of such damages or losses.

708-1.12 GUARANTEE

- A. The entire sprinkler system, including all work done under this contract, shall be unconditionally guaranteed against all defects and fault of material and workmanship, including settling of backfilled areas below grade, for a period of one (1) year following the filing of the Notice of Completion.
- B. Should any problem with the irrigation system be discovered within the guarantee period, it shall be corrected by the Contractor at no additional expense to City within ten (10) calendar days of receipt of written notice from City. When the nature of the repairs as determined by the City constitute an emergency (i.e. broken pressure line) the City may proceed to make repairs at the Contractor's expense. Any and all damages to existing improvement resulting either from faulty materials or workmanship, or from the necessary repairs to correct same, shall be repaired to the satisfaction of the City by the Contractor, all at no additional cost to the City.
- C. Guarantee shall be submitted on Contractors own letterhead as follows:

GUARANTEE FOR SPRINKLER IRRIGATION SYSTEM

We hereby guarantee that the sprinkler irrigation system we have furnished and installed is free from defects in materials and workmanship, and the work has been completed in accordance with the drawings and specifications, ordinary wear and tear and unusual abuse, or neglect excepted. We agree to repair or replace any defective material during the period of one year from date of filing of the Notice of Completion and also to repair or replace any damage resulting from the repairing or replacing of such defects at no additional cost to the City. We shall make such repairs or replacements within 10 calendar days following written notification by the City. In the event of our failure to make such repairs or replacements within the time specified after receipt of written notice from City, we authorize the City to proceed to have said repairs or replacements made at our expense and we will pay the costs and charges therefore upon demand.

PROJECT NAME:
PROJECT LOCATION:

CONTRACTOR NAME:
ADDRESS:

TELEPHONE:

SIGNED:

DATE:

708-2 MATERIALS

708-2.1 SUMMARY

Use only new materials of the manufacturer, size and type shown on the drawings and specifications. Materials or equipment installed or furnished that do not meet Landscape

Architect's, City's, or governing agencies standards will be rejected and shall be removed from the site at no expense to the City.

708-2.2 PIPE

- A. Backflow prevention assemblies, and all other above grade assemblies, shall be constructed of threaded brass pipe and threaded brass fittings the same size as the backflow device, unless otherwise directed.
- B. Pressure supply lines 1 1/2 inches in diameter downstream of the point of connection shall be High Density Polyethylene (HDPE), iron pipe size (IPS), PE4710, pressure rated DR 11 (200 PSI rated) conforming to ASTM F714.
- C. Non-pressure lines 1 inch in diameter and larger downstream of the remote control valve shall be High Density Polyethylene (HDPE), iron pipe size (IPS), PE4710, pressure rated DR 11 (200 PSI rated) conforming to ASTM F714.

708-2.3 METAL PIPE AND FITTINGS

- A. Brass pipe shall be 85 percent red brass, ANSI, IPS Standard 125 pounds, Schedule 40 screwed pipe.
- B. Fittings shall be medium brass, screwed 125-pound class.
- C. Copper pipe and fittings shall be Type "K" sweat soldered, or brazed as indicated on the drawings.

708-2.4 PLASTIC PIPE AND FITTINGS

- A. Pipe shall be marked continuously with manufacturer's name, nominal pipe size, schedule or class, PVC type and grade, National Sanitation Foundation approval, Commercial Standards designation, and date of extrusion.
- B. All plastic pipe shall be extruded of an improved PVC virgin pipe compound in accordance with ASTM D2672, ASTM D2241 or ASTM D1785.
- C. All solvent weld PVC fittings shall be standard weight Schedule 40 (and Schedule 80 where specified on the irrigation detail sheet, all mainline fittings shall be Schedule 80 PVC) and shall be injection molded of an improved virgin PVC fitting compound. Slip PVC fittings shall be the "deep socket" bracketed type. Threaded plastic fittings shall be injection molded. All tees and ells shall be side gated. All fittings shall conform to ASTM D2464 and ASTM D2466.
- D. All threaded nipples shall be standard weight Schedule 80 with molded threads and shall conform to ASTM D1785.
- E. All solvent cementing of plastic pipe and fittings shall be a two-step process, using primer and solvent cement applied per the manufacturer's recommendations. Cement shall be of a fluid consistency, not gel-like or ropy. Solvent cementing shall be in conformance with ASTM D2564 and ASTM D2855.
- F. When connection is plastic to metal, female adapters shall be hand tightened, plus one turn with a strap wrench. Joint compound shall be non-lead base Teflon paste, tape, or equal.

- G. All pressure mainlines installed with solvent weld PVC fittings shall be installed with concrete thrust blocking at all directional changes in the mainline routing. Concrete thrust blocking shall not be required when ductile iron fittings and mechanical restraints are specified.

708-2.5 BACKFLOW PREVENTION UNITS

- A. The backflow prevention unit shall be of the manufacturer, size, and type indicated on the drawings.
- B. The backflow prevention unit shall be installed in accordance with the requirements set forth by local codes.
- C. The backflow enclosure shall be of the manufacturer, size, and type indicated on the drawings.
- D. The backflow freeze prevention cover shall be of the manufacturer, size, and type indicated on the drawings.

708-2.6 VALVES

- E. Ball Valves:
 - 1. Ball valves shall be of the manufacturer, size, and type indicated on the drawings.
 - 2. Ball valves shall be constructed of a bronze or stainless steel body, stainless steel ball and stem. Ball valves shall have threaded connections.
 - 3. All ball valves shall have a minimum working pressure of not less than 150 PSI and shall conform to AWWA standards.
- F. Quick Coupler Valves:
 - 1. Quick coupler valves shall be of the manufacturer, size, and type indicated on the drawings.
 - 2. Quick coupler valves shall be brass with a wall thickness guaranteed to withstand normal working pressure of 150 psi without leakage. Valves shall have 3/4" female threads opening at base, with two-piece body. Valves to be operated only with a coupler key, designed for that purpose. Coupler key is inserted into valve and a positive, watertight connection shall be made between the coupler key and valve.
- G. Automatic Control Valves:
 - 1. Automatic control valves shall be of the manufacturer, size, and type indicated on the drawings.
 - 2. Automatic control valves shall be electrically operated.
 - 3. Provide Christy's valve ID tags for each remote control valve with valve number.

708-2.8 VALVE BOXES

- A. Valve boxes shall be fabricated from a durable, weather-resistant concrete material resistant to sunlight and chemical action of soils.
- B. The valve box cover shall be cast iron and secured with a hidden latch mechanism or bolts.
- C. Valve box extensions shall be by the same manufacturer as the valve box.

- D. Automatic control valve, master valve, flow sensor, and ball valve boxes shall be 17"x11"x12" 'nominal' rectangular size. Valve box covers shall be marked (brazed) "RCV" with the valve identification number, or "MV", "FS", "BV" "heat branded" onto the cover in 1-1/4 inch high letters / numbers.
- E. Quick coupler valve boxes shall be 10" circular size. Valve box covers shall be marked (brazed) with "QCV" "heat branded" onto the cover in 1-1/4 inch high letters.

708-2.9 AUTOMATIC CONTROLLER

- A. Automatic controller shall be of the manufacturer, size, and type indicated on the drawings.
- B. Controller enclosure shall be of the manufacturer, size, and type indicated on the drawings.
- C. Controller shall be grounded according to local codes using equipment of the manufacturer, size, and type indicated on the drawings; or as required by local codes and ordinances.

708-2.9 ELECTRICAL

- A. All electrical equipment shall be NEMA Type 3, waterproofed for exterior installations.
- B. All electrical work shall conform to local codes and ordinances.

708-2.10 LOW VOLTAGE CONTROL WIRING

- A. Remote control wire shall be direct-burial AWG-UF type, size as indicated on the drawings, and in no case smaller than 14 gauge.
- B. Remote control wire shall be 14 AWG solid core twisted pair, type as indicated on the irrigation drawings.
- C. Connections shall be of the manufacturer, size, and type indicated on the drawings.
- D. Common wires shall be white in color. Control wires shall be red (where two or more controllers are used, the control wires shall be a different color for each controller. These colors shall be noted on the "Record Drawings" plans located on controller door).
- E. Ground wires shall be green in color or bare copper and in no case smaller than 6 gauge.

708-2.11 IRRIGATION HEADS AND DRIP EMITTERS AND INLINE DRIP TUBING

- A. Irrigation heads and drip emitters shall be of the manufacturer, size, type, with radius of throw, operating pressure, and discharge rate indicated on the drawings.
- B. Irrigation heads and drip emitters shall be used as indicated on the drawings.

708-2.12 DRIP IRRIGATION EQUIPMENT

- C. Drip tubing equipment such as wye strainers and pressure regulators shall be of the manufacturer, size, and type indicated on the drawings.

708-2.13 MISCELLANEOUS EQUIPMENT

- A. Landscape Fabric:

1. Landscape fabric for valve box assemblies shall be 5.0- oz. weight woven polypropylene weed barrier. Landscape fabric shall have a burst strength of 225 PSI, a puncture strength of 60 lbs. and capable of water flow of 12 gallons per minute per square foot.
 2. Type: DeWitt Pro 5 Weed Barrier or approved equal.
- B. Equipment such as flow sensors, rain sensors, wye strainers, and master valves shall be of the manufacturer, size and type indicated on the drawings.

708-3 EXECUTION

708-3.1 SITE CONDITIONS

- A. Inspections:
1. Prior to all work of this section, carefully inspect the installed work of all other trades and verify that all such work is complete to the point where this installation may properly commence.
 2. Verify that irrigation system may be installed in strict accordance with all pertinent codes and regulations, the original design, the referenced standards, and the manufacturer's recommendations.
- B. Discrepancies:
1. In the event of discrepancy, immediately notify the Landscape Architect or City's authorized representative.
 2. Do not proceed with installation in areas of discrepancy until all discrepancies have been resolved.
- C. Grades:
1. Before starting work, carefully check all grades to determine that work may safely proceed, keeping within the specified material depths with respect to finish grade.
 2. Final grades shall be accepted by the Engineer before work on this section will be allowed to begin.
- D. Field Measurements:
1. Make all necessary measurements in the field to ensure precise fit of items in accordance with the original design. Contractor shall coordinate the installation of all irrigation materials with all other work.
 2. All scaled dimensions are approximate. The Contractor shall check and verify all size dimensions prior to proceeding with work under this section.
 3. Exercise extreme care in excavating and working near existing utilities. Contractor shall be responsible for damages to utilities, which are caused by his operations or neglect.
- E. Diagrammatic Intent:
1. The drawings are essentially diagrammatic. The size and location of equipment and fixtures are drawn to scale where possible. Provide offsets in piping and changes in equipment locations as necessary to conform with structures and to avoid obstructions or conflicts with other work at no additional expense to City.
- F. Layout:
1. Prior to installation, the Contractor shall stake out all pressure supply lines, routing and location of sprinkler heads, valves, backflow preventer, and automatic controller.
 2. Layout irrigation system and make minor adjustments required due to differences between site and drawings. Where piping is shown on drawings under paved areas, but running parallel and adjacent to planted areas, install the piping in the planted areas.
- G. Water Supply:

1. Connections to, or the installation of, the water supply shall be at the locations shown on the drawings. Minor changes caused by actual site conditions shall be made at no additional expense to City.

H. Electrical Service:

1. Connections to the electrical supply shall be at the locations shown on the drawings. Minor changes caused by actual site conditions shall be made at no additional expense to City.
2. Contractor shall make electrical connections to the irrigation controller. Electrical power source to controller locations shall be provided by others.
3. Contractor shall make electrical connections to the irrigation controller. 230-volt single-phase electrical power source to pump assembly location shall be provided by others per NEC codes.

708-3.2 TRENCHING

- A. Excavations shall be straight with vertical sides, even grade, and support pipe continuously on bottom of trench. Trenching excavation shall follow layout indicated on drawings to the depths below finished grade and as noted. Where lines occur under paved area, these dimensions shall be considered below subgrade.
- B. Provide minimum cover of 18 inches on pressure supply lines 2 ½ inches and smaller.
- C. Provide minimum cover of 24 inches for control wires within conduits below paving.
- D. Provide minimum cover of 36 inches on pressure supply lines under vehicular travel ways.
- E. Provide minimum cover of 24 inches for non-pressure lines.
- F. Pipes installed in a common trench shall have a 4-inch minimum space between pipes.

708-3.3 BACKFILLING

- A. Backfill material on all lines shall be the same as adjacent soil free of debris, litter, and rocks over 1/2 inches in diameter.
- B. Backfill shall be tamped in 4-inch layers under the pipe and uniformly on both sides for the full width of the trench and the full length of the pipe. Backfill materials shall be sufficiently damp to permit thorough compaction, free of voids. Backfill shall be compacted to dry density equal to adjacent undisturbed soil and shall conform to adjacent grades.
- C. Flooding in lieu of tamping is not allowed.
- D. Under no circumstances shall truck wheels be used to compact backfill.
- E. Provide sand backfill a minimum of 4 inches over and under all piping under paved areas.

708-3.4 PIPING

- A. Piping under existing pavement may be installed by jacking, boring, or hydraulic driving. No hydraulic driving is permitted under asphalt pavement.
- B. Cutting or breaking of existing pavement is not permitted.

- C. Carefully inspect all pipe and fittings before installation, removing dirt, scale, burrs, and reaming. Install pipe with all markings up for visual inspection and verification.
- D. Remove all dented and damaged pipe sections.
- E. All lines shall have a minimum clearance of 4 inches from each other and 12 inches from lines of other trades.
- F. Parallel lines shall not be installed directly over each other.
- G. In solvent welding, use only the specified primer and solvent cement and make all joints in strict accordance with the manufacturer's recommended methods including wiping all excess solvent from each weld. Allow solvent welds at least 15 minutes setup time before moving or handling and 24 hours curing time before filling.
- H. PVC pipe shall be installed in a manner, which will provide for expansion and contraction as recommended by the pipe manufacturer.
- I. Center load all plastic pipe prior to pressure testing.
- J. All threaded plastic-to-plastic connections shall be assembled using Teflon tape or Teflon paste.
- K. For plastic-to-metal connections, work the metal connections first. Use a non-hardening pipe dope on all threaded plastic-to-metal connections, except where noted otherwise. All plastic-to-metal connections shall be made with plastic male adapters.

708-3.5 CONTROLLER

- A. The exact location of the controller shall be approved by the Landscape Architect or City's authorized representative before installation. The electrical service shall be coordinated with this location.
- B. The Irrigation Contractor shall be responsible for the final electrical hook up to the irrigation controller.
- C. The irrigation system shall be programmed to operate during the periods of minimal use of the design area.

708-3.6 CONTROL WIRING

- A. Low voltage control wiring shall occupy the same trench and shall be installed along the same route as the pressure supply lines whenever possible.
- B. Where more than one wire is placed in a trench, the wiring shall be taped together in a bundle at intervals of 10 feet. Bundle shall be secured to the mainline with tape at intervals of 20 feet.
- C. All connections shall be of an approved type and shall occur in a valve box. Provide an 18-inch service loop at each connection.
- D. An expansion loop of 12 inches shall be provided at each wire connection and/or directional change, and one of 24 inches shall be provided at each remote control valve.

- E. A continuous run of wire shall be used between a controller and each remote control valve. Under no circumstances shall splices be used without prior approval.

708-3.7 VALVES

- A. Automatic control valves, quick coupler, and ball valves are to be installed in the approximate locations indicated on the drawings.
- B. Valve shall be installed in shrub areas whenever possible.
- C. Install all valves as indicated in the detail drawings.
- D. Valves to be installed in valve boxes shall be installed one valve per box.
- E. Provide valve ID tags for each remote control valve with valve number.

708-3.8 VALVE BOXES

- A. Valve boxes shall be installed in shrub areas whenever possible.
- B. Each valve box shall be installed on a foundation of 3/4 inch gravel backfill, 3 cubic feet minimum. Valve boxes shall be installed with their tops 1/2 inch above the surface of surrounding finish grade in lawn areas and 2 inches above finish grade in ground cover areas.

708-3.9 IRRIGATION HEADS DRIP EMITTERS AND INLINE DRIP TUBING

- A. Irrigation heads and drip emitters shall be installed as indicated on the drawings.
- B. Spacing of heads and inline drip tubing shall not exceed maximum indicated on the drawings.
- C. Riser nipples shall be of the same size as the riser opening in the sprinkler body.

708-3.10 BACKFLOW PREVENTION UNITS

- A. Backflow Prevention Units shall be installed as indicated on the drawings. The backflow prevention unit shall be installed in accordance with the requirements set forth by local codes.
- B. The exact location of the backflow device shall be approved by the Landscape Architect or City's authorized representative before installation.
- C. The contractor shall be responsible for the testing and certification of the backflow device for proper operation. Testing and certification shall be performed by a state qualified backflow tester.

708-3.11 MISCELLANEOUS EQUIPMENT

- A. Install all assemblies specified herein according to the respective detail drawings or specifications, using best standard practices.
- B. Quick coupler valves shall be set approximately 18 inches from walks, curbs, header boards, or paved areas where applicable.

- C. Install devices such as rain sensors, master valves, and flow sensors as indicated on the drawings and as recommended by the manufacturer.

708-3.12 FLUSHING THE SYSTEM

- A. Prior to installation of irrigation heads, the valves shall be opened and a full head of water used to flush out the lines and risers.

708-3.13 ADJUSTING THE SYSTEM

- A. Contractor shall adjust valves, align heads, and check the coverage of each system prior to coverage test.
- B. If it is determined by the Landscape Architect or City's authorized representative that additional adjustments or nozzle changes will be required to provide proper coverage, all necessary changes or adjustments shall be made prior to any planting.
- C. The entire system shall be operating properly before any planting operations commence.
- D. Automatic control valves are to be adjusted so that the irrigation heads, drip emitters, and drip tubing operate at the pressure recommended by the manufacturer.

708-3.14 TESTING AND OBSERVATION

- A. Do not allow or cause any of the work of this section to be covered up or enclosed until it has been observed, tested and accepted by the Landscape Architect, City, and governing agencies.
- B. The Contractor shall be solely responsible for notifying the Landscape Architect, City, and governing agencies, a minimum of 48 hours in advance, where and when the work is ready for testing.
- C. When the sprinkler system is completed, the Contractor shall perform a coverage test of each system in its entirety to determine if the water coverage for the planted areas is complete and adequate in the presence of the Landscape Architect.
- D. The Contractor shall furnish all materials and perform all work required to correct any inadequacies of coverage due to deviations from the plans, or where the system has been willfully installed as indicated on the drawings when it is obviously inadequate, without bringing this to the attention of the Landscape Architect. This test shall be accepted by the Landscape Architect and accomplished before starting any planting.
- E. Areas to be maintained for the formal maintenance period shall start maintenance at the same time, as directed by the Landscape Architect, City, and governing agencies. Partial areas will not be released into maintenance prior to completion of items listed in the pre-maintenance review. The maintenance period may not be phased.
- F. If, after the maintenance review, the irrigation systems are not accepted by the Landscape Architect, the contractor shall reimburse the Architect for additional site visits, or additional time required to review work. All additional time will be billed at the Architect's hourly rate and will be paid for by the contractor at no additional cost to the City.
- G. Final inspection will not commence without record drawings as prepared by the Irrigation Contractor.

708-3.15 MAINTENANCE

- A. During the maintenance period the Contractor shall adjust and maintain the irrigation system in a fully operational condition providing complete irrigation coverage to all intended plantings.

708-3.16 COMPLETION CLEANING

- A. Clean up shall be made as each portion of the work progresses. Refuse and excess dirt shall be removed from the site, all walks and paving shall be swept, and any damage sustained on the work of others shall be repaired to original conditions.

708-1.4 PAYMENT

Payment shall be made on lump sum items as outlined in Section 700-5 Bid Item Descriptions. Costs and work shall be distributed between these bid items in such a manner that no work or materials are not included in the group of bid items and that no work is duplicated between bid items.

709 LANDSCAPE SOIL PREPARATION

709-1 - GENERAL

709-1.01 SCOPE

- A. Furnish and install all landscape soil preparation as shown and specified including, but not necessarily limited to, the following: tree pit backfill placement, organic amendment and fertilizer placement, and finish grading.

709-1.02 QUALITY CONTROL

- A. Reviews: Contractor shall specifically request at least two days in advance the following reviews prior to progressing with the work:
 - 1. Finish grade
- B. Certification: Written certificates stating quantity, type, and composition, weight and origin for all amendments and chemicals shall be delivered to the Landscape Architect before the material is used on the site.
- C. Soil Samples: Contractor shall provide a one-quart sample of the native topsoil, and a one quart sample of any proposed import topsoil, to Soil and Plant Laboratory of Santa Clara, (408) 727-0330, for their testing for conformance to this specification. No material shall be delivered to the site, graded on-site, or otherwise modified until the Landscape Architect approves the material. All testing costs shall be paid by Contractor. Contractor shall allow for sufficient time for such testing prior to construction.

Contractor shall also submit a copy of this technical specification Section 02911 with the soil and amendment samples. All testing costs shall be paid by Contractor. Contractor shall allow for sufficient time for such testing prior to construction.

- D. Amendment Samples: Contractor shall provide a one-quart sample of each proposed amendment to Soil and Plant Laboratory of Santa Clara, (408) 727-0330, for their testing for conformance to this specification, together with the native topsoil sample. No material shall be delivered to the site until the Landscape Architect approves the samples. Testing costs shall be paid by the Contractor.
- E. Planting Areas: All areas to be planted, whether in seed, sod, container stock, flats, liners, or otherwise, are defined as planting areas in these documents.

709-2 – PRODUCTS

709-2.01 MATERIALS

- A. Native Topsoil: Shall be the existing surface layer of soil on site. This layer typically will be a different color and texture than the subsoil, and may be of varying thicknesses. The Contractor shall be responsible for reviewing the area limits and depths of native topsoil on site with the Landscape Architect.
- B. Import Topsoil: Shall be an homogeneous mineral soil classified as sandy loam, or fine sand. Particle size data shall be based upon standard USDA methodology. Of the material falling in the sand category, a minimum of 80% shall fall in the fine sand range .05 - 5mm. Gravel content greater than 2.0mm shall be less than 15%. Import topsoil shall not contain more silt and clay than the on-site native soil. The sum of silt plus clay shall be less than 25%, the soil shall be nonsaline as determined on the saturation extract. Salinity shall not exceed 3.0 mmhos/cm, boron shall not exceed 1.0 ppm and the sodium absorption ratio (SAR) shall not exceed 6.0. Soil reaction as determined on a saturated paste shall fall between 5.5 and 7.5. The soil shall be free of organic herbicides, or other growth-restricting chemicals.
- C. Fertilizer: Shall be determined from soils analysis results. For purposes of bidding only, assume the use of 6-20-20 commercial fertilizer, 20-10-5 planting tablets by Agriform International Chemicals, Inc., and iron sulfate.
- D. Organic Amendment: Shall be BFI Super Humus Compost, conforming to:

1. BFI Super Humus Compost conforming to

- a. Gradation: A minimum of 90% of the material by weight shall pass a 1/2" screen. Material passing the 1/2" screen shall meet the following criteria.

<u>Percent Passing</u>	<u>Sieve Designation</u>
85-100	9.51 mm (3/8")
50-80	2.38 mm (No. 8)
0-40	500 micron (No. 35)

- b. Organic Content: Minimum 50% based on dry weight and determined by ash method. Minimum 250 lbs. organic matter per cubic yard of compost.

- c. Carbon to Nitrogen Ratio: Maximum 35:1 if material is claimed to be nitrogen stabilized.
- d. Soluble Salts: Soluble nutrients typically account for most of the salinity levels but sodium should account for less than 25% of the total. To avoid a leaching requirement, the addition of the compost shall result in a final ECe of the amended soil of less than 4.0 ds/m @ 25 degrees C. as determined in a saturation extract. Use the following table to determine the maximum allowable ECe (ds/m of saturation extract) of compost at desired use rate and allowable ECe increase.
- e. Moisture Content: 35-60%.
- f. Contaminants: The compost shall be free of contaminants such as glass, metal and visible plastic.
- g. Maturity: Physical characteristics suggestive of maturity include:
 Color: dark brow to black
 Odor: acceptable = none, soil like, musty or moldy
 unacceptable = sour, ammonia or putrid
- h. Particle Characterization: identifiable wood pieces are acceptable but the balance of material should be soil-like without recognizable grass or leaves

E. Pot Mix for Hanging Baskets

- 0.5 cu. yd. Fine Sand
- 0.15 cu. yd. Spagnum Peat Moss
- 0.35 cu. yd. Raw Fir Bark
- 2 lbs. Urea Formaldehyde
- 3 lbs. Single Superphosphate
- 1 lb. Potassium Nitrate
- 10 lbs. Dolomite Lime
- 3 lbs. Gypsum

Prior to placement of this mixture, Contractor shall deliver and have tested a one quart sample to verify degree of compliance. No mix shall be installed until tested by the soils laboratory and approved for installation by the Landscape Architect.

709- 3 - EXECUTION

709-3.01 ORGANIC AMENDMENT AND FERTILIZER INCORPORATION

- A. Materials determined from the soils test shall be uniformly distributed throughout all irrigated planting areas and incorporated to a homogeneously blended soil depth of six inches. Assume per 1000 square feet:

- 6 cubic yards Nitrogen Stabilized Organic Amendment
- 30 pounds Commercial Fertilizer (6-20-20)
- 10 pounds Iron Sulfate

(Note: Iron sulfate should be applied cautiously, avoiding contact with concrete, since permanent staining may result. Any such stained concrete shall be replaced at Contractor's expense.)

709-3.02 BACKFILL

- A. Only unamended soil shall be used beneath the root ball; cultivate bottom of plant pit to improve porosity.
- B. Soil immediately below the root ball should be left undisturbed to provide support but the sides and the bottom around the side should be cultivated to improve porosity.
- C. The top of the rootball should be at or slightly above final grade.
- D. The top 12-inches of backfill around the sides of the rootball of trees and shrubs may consist of the above amended soil or may be prepared as follows:

1/3 by volume organic amendment/fertilizer mix per plant laboratory recommendations
2/3 by volume native or imported topsoil

709-3.03 PLANT TABLETS

- A. All container plants shall receive plant tablets as follows:

36 inch box trees eighteen 21-gram tablets

Space the tablets evenly around the root ball halfway up backfill touching side of root ball. Landscape Architect may require excavation of plants selected at random for conformance review.

709-3.04 POT MIX

- A. Contractor shall pre-mix and install the following mix at 85% compaction in all pots:

0.5 cu. yd. Fine Sand
0.15 cu. yd. Spagnum Peat Moss
0.35 cu. yd. Raw Fir Bark
2 lbs. Urea Formaldehyde
3 lbs. Single Superphosphate
1 lb. Potassium Nitrate
10 lbs. Dolomite Lime
3 lbs. Gypsum

Prior to placement of this mixture, Contractor shall deliver and have tested a one quart sample to verify degree of compliance. No mix shall be installed until tested by the soils laboratory and approved for installation by the Landscape Architect.

710 SECTION PLANTING and TREE GRATES

710-1 - GENERAL

710-1.01 SCOPE

- A. Furnish and install all, container plantings, root barrier, pea gravel mulch, and related work thereto.
- B. Furnish and install all tree grates.
- C. Coordinate and provide all services as required to contract grow plant material indicated in the drawings as necessary.

710-1.02 QUALITY CONTROL

- A. Reviews: The Contractor shall specifically request the following reviews prior to progressing with the work:
 - 1. Nursery Inspection: All plants shall be inspected at the nursery by the landscape architect or engineer prior to shipment. Provide 10 working day notice.
 - 2. Plant material approval at the site prior to planting
 - 3. Finish grade
 - 4. Substantial completion
 - 5. Final completion

710-1.03 SUBMITTALS

- A. Plant Material: Within 5 days after award of contract, Contractor shall submit notice to the Landscape Architect certifying the quantity and species of plant material ordered, the nursery supplying the material, any plant material unavailable at the time, and proposed plant substitutions. No plants shall be delivered prior to written acceptance by the Landscape Architect.

710-2 – PRODUCTS

710-2.01 PLANT MATERIALS

- A. Nomenclature and Labels: Plant botanical names shall conform to “Standardized Plant Names”, by Harian P. Kelsey, second edition, Fife Press; and secondly, “A Checklist of Woody Ornamental Plants of California”, Manual 32, University of California. All plants of each clone, species, and cultivar shall be delivered to the site labeled with their full botanical names. Every plant species shall be labeled with no less than one label for every ten plants of a species.

- B. Quality: Minimum quality of all plant material shall conform to prevailing published specifications of the California Association of Nurserymen and the American Association of Nurserymen 'American Standard for Nursery Stock' unless otherwise indicated. Additional specifications shall be indicated on the drawings.
- C. Quantities: the quantities, if shown on the plant list and in labels, are for the Landscape Architect's use and are not to be construed as the complete and accurate limits of the contract. Contractor shall furnish and install all plants shown schematically on the drawings. Any unlabelled plants shall be considered as the smaller size shown for that type on the drawings.
- D. Root Systems: All container-grown stock shall be grown in its container for at least six months prior to its planting. Contractor shall allow one percent of the quantity of plants for removal and inspection. Any plant material, within one year following the final acceptance of the project, determined by the Landscape Architect to be defective, restricted, declining or otherwise deficient due to abnormal root growth, shall be replaced by Contractor, to the equal condition of adjacent plants, at the time of replacement.
- E. Health: Foliage roots and stems of all plants shall be of vigorous health and normal habit of growth for its species. All plants shall be free of all diseases, insect stages, burns, or disfiguring characteristics.
- F. Untrue Species: All plant material, within two years following the final acceptance of the project, determined by the Landscape Architect to be untrue to the species, clone, and/or variety specified, shall be replaced by the Contractor, to the equal condition of adjacent plants at the time of replacement.

710-2.02 TREE GRATES

- A. Tree Grates shall be 4' by 6', two section, DTN model as available from Olympic Foundry, or approved equal.
- B. Tree grates shall bear the name "Historic Lakeport" and the incorporation date shall be "1888".
- C. Cast iron to conform to ASTM A48, Class 30, for gray iron casting.
- D. Tree grates shall be pattern and dimension indicated, of uniform quality, free from blow holes, porosity, hard spots, shrinkage defects, cracks or other injurious defects.
- E. Finish shall be smooth, well cleaned by shot blasting or other approved method. Finished grates are not to have asphaltic paint applied.

710-2.03 CHEMICALS

- A. Refer to Section 02935, Landscape Maintenance.

710-2.04 MULCH

- A. Mulch in tree wells shall be washed pea gravel

710-2.05 ROOT BARRIER

- A. Root Barrier shall be #UB-24 by Deep Root Corporation or approved equal.

710- 3 – EXECUTION

710-3.01 PLANTING

- A. Plant Material Approvals: Before planting operations commence, all or a representative sampling of plant material shall be reviewed at the site for the Landscape Architect's approval. Defective plants installed without such review shall be removed from the site upon request by the Landscape Architect and an acceptable plant substituted in its place.
- B. Layout: Only those plants to be planted in any single day shall be laid out. Locations of all plants shall be reviewed prior to planting. Plants installed without this review shall be transplanted as directed by the Landscape Architect.
- C. Protection of Plants: Contractor shall maintain all plant material in a healthy growing condition prior to and during planting operations. Contractor shall be responsible for vandalism, theft and damage to plant material until the commencement of the maintenance period.
- D. Root Systems: Contractor shall be responsible for inspection of all root systems on plant materials. Inspection shall include, but not be limited to, checking for rootbound stock, encircling roots at the perimeter of the container, girdling roots at the top surface of the rootball, and other defective root conditions. Such inspections shall include the complete removal of soil from one percent of plant material containers, or at least one plant from each nursery and each plant type. Contractor shall cut defective or potentially defective girdling, rootbound, and encircling roots and spread the root system into the surrounding backfill. Plants with excessively defective root systems shall be rejected by the Contractor.
- E. Pruning: Contractor shall do no pruning without the specific approval of the Landscape Architect. Plants pruned without approval shall be replaced by the Contractor, if required.
- F. Basins: Construct basins as necessary to water plants. Remove basins from all plants under a permanent irrigation system prior to final inspection and finish grade the planting area. Basins for plants to be hand-watered shall remain in place. Basin bottoms shall drain to berm away from plant stem.
- G. Staking: All trees shall be staked as drawn with stakes driven securely into existing soil aligned with the trunk and perpendicular to the direction of the prevailing winds. A minimum of two figure-eight wire and rubber tree ties required per stake.
- H. Plant Pits, Backfill and Finish Grading: See SOIL PREPARATION Section for materials and installation requirements.

- I. Cleanup: After completion of all operations, Contractor shall remove all trash, excess soil and other debris. All walks and pavement shall be swept and washed clean, leaving the entire area in a neat, orderly condition.
- J. Mulch Installation: All tree wells shall receive a three-inch layer of pea gravel mulch. Spread mulch to a uniform thickness. Keep mulch away from the crown of trees.
- K. Root Barrier: Install root barrier per detail. Install tight to adjacent pavement or other hardscape surface.

710-3.02 TREE GATES

- A. Tree grates to be installed as detailed on drawings with the use of metal shims to leave the grate level with adjacent surfaces. Installed grates shall be stable and non-rocking.

711 LANDSCAPE MAINTENANCE

711-1 - GENERAL

711-1.1 SCOPE

- A. Work in this section includes the growing and maintenance operations necessary to establish the plantings; to provide pest and disease control, and to maintain the irrigation system, and related construction elements.

711-1.2 SUBMITTALS

- A. Soil Testing: Contractor shall collect a one-quart representative composite sample of the in-place tree pit backfill 20 days after completion of planting and submit to Soil and Plant Laboratory of Santa Clara, (408) 727-0330, for maintenance period fertilizer recommendation. Test results shall be made available to the Landscape Architect. Sample shall be a representative composite taken from several planting areas. Cost of soil test shall be paid for by the Contractor.
- B. Herbicide: Submit a written recommendation from a State of California appropriately licensed individual along with complete product data from proposed manufacturer, for review by Owner's representative.

711-2 – PRODUCTS

711-2.1 MATERIALS

- A. Fertilizer: Used during the course of the maintenance period shall be determined by soils test required under Part 1 of this Section. For bidding purposes only, assume the use of ammonium sulfate (21-0-0) at 5 lbs. per 1000 SF, minimum of two applications.
- B. Water: During the course of construction and maintenance period shall be paid for by the Contractor.

- C. Herbicide: Shall be a commercially available pre-emergent herbicide material recommended for this project and these plantings by a State of California appropriately licensed individual. The licensed individual shall review all planting, including but not limited to seed, sod, groundcovers, shrubs, and trees, the types and extent of soil preparation, the irrigation systems, drainage patterns, and other project characteristics to verify type, compatibility, and recommend the appropriate herbicide(s) for use. Contractor shall be responsible for all overspray, spreading, runoff, plant health, and other impacts from the use of the herbicide.

711-3 – EXECUTION

711-3.1 TIME LIMITS: The maintenance period shall commence from the date of substantial completion of planting as defined in paragraph 3.6 below, and extend for a 90-day period thereafter, or until the acceptance of Final Completion.

711-3.2.FERTILIZER APPLICATION: Fertilizer(s) shall be applied per Soil and Plant Laboratory recommendations. For bidding purposes, assume initial application to be four weeks after planting and subsequent applications to be at 45-day intervals.

711-3.3 HERBICIDE APPLICATION: Herbicide shall not be used until all plant material has been planted a minimum of 20-days. All planting areas shall be kept weed-free by non-herbicide methods during this time period. Herbicide shall not be applied to any areas which are or have been seeded. Contractor must apply the material in conformance with the written recommendations of the State appropriately licensed individual.

711-3.4 BASIC REQUIREMENTS: All planting areas shall be kept weed-free at all times during the maintenance period. All pest and disease control shall be the Contractor's responsibility. All planting areas shall be kept at optimum moisture for plant growth. Settlement of soil and plants and soil erosion shall be repaired and areas replanted as required. Dying or deficient plants shall be replaced as soon as they become apparent.

711-3.5 OWNER'S RESPONSIBILITY: Work installed under this contract that is damaged or stolen prior to Substantial Completion shall be repaired or replaced by the Contractor without cost to the Owner. After Substantial Completion and through the maintenance period, these damages and similar factors such as extensive litter, abuse and defacement shall be the Owner's responsibility to repair or replace and shall not be a part of this contract. No planting shall be guaranteed beyond the maintenance period, except as to conformance to specified species and variety, and except as to conditions specified under "Root Systems" of Landscape Planting, Section 02934.

711-3.6 MULCH REPLENISHMENT: Mulch shall be maintained at the specified thickness, and shall be replenished as necessary.

711-3.7 SUBSTANTIAL COMPLETION: Shall be deemed as the time all plantings are installed, and when all other work is satisfactorily completed (with the exception of minor items to be completed as noted upon a checklist compiled by the Landscape Architect. Maintenance period shall not commence until work is deemed substantially complete by the Landscape Architect.

710-3.8 FINAL REVIEW: Contractor shall request a final review of the project at least five days in advance of the proposed date. Failure to request this notice shall automatically extend the date of completion. The maintenance period will continue until project is deemed complete.

711 SITE METAL

711-1 GENERAL

711-1.01 SUMMARY

A. Section Includes:

1. This section includes fabrication and installation of all steel handrails and related hardware as indicated on plans and as specified herein.

711-1.02 SUBMITTALS

A. Product Data: Submit manufacturer's product specifications and installation instructions for products and processes used in site metal, including finishes and grout.

B. Shop Drawings: Submit shop drawings for fabrication and erection of handrails. Include plans, elevations and details of fittings, connections and anchorages to other work. Provide templates for anchor and bolt installation by others.

1. Where materials or fabrications are indicated to comply with certain requirements for design loadings, include structural details, material properties and other information needed for review.

C. Samples: Submit samples for each type of metal finish indicated. Prepare samples on metal on same gauge and alloy to be used in work. Where normal color and texture variations are to be expected, provide "range" samples showing limits of such variations.

1. Include 12 inch long samples of distinctly different members including handrails, top rails, posts and rail coverings, if any. Include samples of fittings and brackets if requested by Engineer.
2. Submit one sample of skate stopper.

711-1.03 QUALITY ASSURANCE

A. Shop Assembly: Preassemble items in shop to greatest extent possible to minimize field splicing and assembly. Disassemble units only as necessary for shipping and handling limitations. Clearly mark units for reassembly and coordinated installation.

711-1.04 SYSTEM PERFORMANCES

A. Structural Performances: Provide metal assemblies which, when installed, comply with the following minimum requirements for structural performance, unless otherwise indicated.

1. Handrails and Toprails: Capable of withstanding the following loads applied as indicated:
 - a. Concentrated load of 200 pounds applied at any point in any direction.
 - b. Uniform load of 50 pounds per linear foot applied simultaneously in both vertical and horizontal directions.

711-2 MATERIALS

711-2.01 PRODUCTS

- A. Steel
 1. Tubing: Cold-formed, ASTM A500; or hot-rolled, ASTM A501.
 2. Steel Plates, Shapes and Bars: ASTM A48, Class 30.
 3. Gray Iron Castings: ASTM A48, Class 30.
 4. Malleable Iron Castings: ASTM A47, grade as recommended by fabricator for type of use indicated.
- B. Non-Shrink Non-Metallic Grout: Premixed, factory-packaged, non-staining, non-corrosive, non-gaseous grout complying with CE CRD-C621. Provide grout specifically recommended by manufacturer for interior and exterior applications of type specified in this section.
- C. Welding Electrodes and Filler Metal: Provide type and alloy of filler metal and electrodes as recommended by producer of metal to be welded, and as required for color match, strength and compatibility in fabricated items.
- D. Fasteners: Use fasteners of same basic metal as the fastened metal, unless otherwise indicated. Do not use metals which are corrosive or incompatible with materials jointed.
 1. Provide concealed fasteners for interconnection of handrail and railing components and for their attachment to other work, except where otherwise indicated.
 2. Provide Phillips flat-head machine screws for exposed fasteners unless otherwise indicated.
- E. Anchors and Inserts: Provide anchor of proper type, size and material for type of loading and installation conditions shown, as recommended by manufacturer, unless otherwise indicated. Use non-ferrous metal of hot-dipped galvanized anchors and inserts for exterior locations and elsewhere as required for corrosion resistance. Use toothed steel or lead expansion bolt devices for drilled-in-place anchors. Furnish inserts, as required, to be set into concrete or masonry work.
- F. Primer Paint for Ferrous Metals: Manufacturer's standard rust-inhibiting primer, compatible with finish coats of paint. Coordinate selection of metal primer with finish paint requirements specified.
- G. Galvanizing Repair Paint: High zinc dust content paint for regalvanizing welds in galvanized steel, complying with Military Specification MIL-P-21035 (ships).

H. Bituminous Paint: SSPC-Paint 12 (cold-applied asphalt mastic).

711-2.02 FABRICATION

- A. General: Fabricate all metal items to design, dimensions and details shown. Provide metal members in sizes and profiles indicated, with supporting posts and brackets of size and spacing shown, but not less than required to support the design loading indicated.
- B. Welded Connections: Fabricate handrails, fencing, gates, and utility roof of materials indicated below for interconnections of members by welding. Preassemble railing units in shop to maximum extent practicable and consistent with shipping and handling limitations. Perform welding to comply with applicable AWS specifications, using method appropriate for metal and finish indicated. Grind exposed welds smooth and flush to match and blend with adjoining surfaces.
1. Provide welded connections for ferrous pipe handrails, fencing, gates, and utility roof.
- C. Form simple and compound curves by bending members in jigs to produce uniform curvature for each repetitive configuration required; maintain profile of member throughout entire bend without buckling, twisting or otherwise deforming exposed surfaces of handrail and railing components.
- D. For exterior handrails, fencing, gates, utility roof, and those exposed to moisture from condensation or other sources, provide weep holes or other means for evacuation of entrapped water in hollow sections of railing members.
- E. Brackets, Flanges, Fittings and Anchors: Provide manufacturer's standard wall brackets, flanges, miscellaneous fittings and anchors for interconnection of handrail and railing members to other work, unless otherwise indicated. Furnish inserts and other anchorage devices for connecting handrails and railing to concrete or masonry work. Fabricate and space anchorage devices as indicated and as required to provide adequate support. Coordinate anchorage devices with supporting structure.
1. For posts set in concrete provide sleeves of galvanized steel, not less than 6 inches long and with inside dimensions not less than 1/2 inch greater than outside dimensions of post. Provide galvanized steel plate closure welded to bottom of sleeves, make closure 1 inch greater in length and width than outside dimensions of sleeve.
 2. Provide slip-fit metal sockets to receive removable railing posts. Include removable socket covers designed and fabricated to fit into socket and resist accidental removal.

711-2.03 METAL FINISHES

- A. General: Finish shall be an acrylic polyurethane paint system as manufactured by TNEMEC Co., Inc., or other similar system by an approved manufacturer. Color to be selected by Owner's representative.

- B. Surface Preparation: Prepare all surfaces by removing all loose mill scale, loose rust, dirt, grease or other foreign matter by sandblasting to a commercial grade according to SSPC-SP6, by the manufacturer of the paint system.
- C. Shop Applied Prime Coat: Apply a prime coat of TNEMEC Series 66, Color Hi-Build Epoxoline, to a dry thickness of 3 to 4 mils.
- D. Shop Applied Finish Coat: Apply two finish coats of Hi-Build Acrylic Polyurethane Enamel, TNEMEC Series 73 (semi-gloss) or 74 (high-gloss), Endura-Shield III, to a dry film thickness of 2.5 to 3.5 mils per coat.

2.04 SKATE STOPS

- A. Skate Stops shall be HR series as available from Skate Stoppers, (619) 447-6374, size to fit specified handrails.

711-3 – EXECUTION

711-3.01 EXAMINATION

- A. Installer must examine the areas and conditions under which handrails, fencing, and gates are to be installed and notify the Contractor in writing of conditions detrimental to the proper and timely completion of the work. Do not proceed with the work until unsatisfactory conditions have been corrected in a manner acceptable to the Installer.

711-3.02 PREPARATION

- A. Coordinate setting drawings, diagrams, templates, instructions and directions for installation of anchorages such as sleeves, concrete inserts, anchor bolts and miscellaneous items having integral anchors which are to be embedded in concrete or masonry construction. Coordinate delivery of such items to project site.
- b. Field Measurements: Take field measurements prior to preparation of shop drawings and fabrication, where possible. Do not delay job progress; allow for adjustments during installation where taking field measurements before fabrication might delay work.

711-3.03 INSTALLATION

- A. General
 1. Fit exposed connections accurately together to form tight, hairline joints.
 2. Perform cutting, drilling and fitting required for installation of handrails and railings. Set work accurately in location, alignment and elevation, plumb, level, true and free of rack, measured from established lines and levels. Do not weld, cut or abrade surfaces of handrails and railing components which have been coated or finished after fabrication, and are intended for field connection by mechanical means without further cutting or fitting.

3. Field Welding: Comply with applicable AWS specification for procedures of manual shielded metal-arc welding, for appearance and quality of welds made, and for methods used in correcting welding work. Weld connections which are not to be left as exposed joints, but could not be shop welded because of shipping size limitations. Grind exposed joints smooth and touch-up shop paint coat.
4. Adjust handrails, fencing, and gates prior to anchoring to ensure matching alignment at abutting joints. Space posts at interval indicated or, if not indicated, as required by design loadings.

B. Anchoring Posts

1. Anchor posts in concrete by means of sleeves preset and anchored into concrete. After posts have been inserted into sleeves, fill annular space between posts and sleeve solid with non-shrink, non-metallic grout, mixed and placed to comply with grout manufacturer's directions.
 - a. Leave anchorage joint exposed; wipe off excess grout and leave 1/8 inch build-up, sloped away from post. For installation exposed on exterior or to flow of water, seal grout to comply with grout manufacturer's directions.
2. Anchor posts to metal surfaces with manufacturer's standard fittings designed for this purpose, unless otherwise indicated.
3. Provide removable railing sections as indicated, using slip-fit metal sockets. Accurately locate sockets to match post spacing.

711-3.04 ADJUST AND CLEAN

- A. Protect finishes of railings and handrails from damage during construction period by use of temporary protective coverings approved by railing manufacturer. Remove protective covering at project completion or when directed by Owner's representative. Restore finishes damaged during installation and construction period so that no evidence remains of correction work. Return items which cannot be refinished in the field to the shop; make required alterations and refinish entire unit or provide new units as required.
- B. Touch-Up Painting: Immediately after erection, clean field welds, bolted connections and abraded areas of shop paint; and paint exposed areas with same material.

711-3.05 SKATE STOPS

- A. Install Skate Stops on all handrails per manufacturer's recommendations.

712 SITE FURNISHINGS

712-1 - GENERAL

712-1.01 SUMMARY

- A. Section Includes: Benches, News Racks, Bicycle Bollards, and Trash Receptacles. For this contract, only Trash Receptacles apply. All others are NIC.

712-1.02 SUBMITTALS

- A. Product Data: Submit manufacturer's product data for all items.

712-2 MATERIALS

712-2.01 Bench (NIC)

- A. Timberform "Restoration" Series #2118-6, 6 feet length, Alaskan Yellow Cedar slats, kiln dried, with dark green or custom verde gris powder coated frame, surface mount, with optional center arm rest and optional custom lettering or graphic to be selected by City Staff

712-2.02 Bicycle Bollard (NIC)

- A. Madrax PARBC-2-SF-P, with dark green or custom verde gris powder coated finish, ball cap, and surface mount.

712-2.03 News Rack (NIC)

- A. K-Jack "The Stacker"

712-2.04 Trash Receptacle

- A. Timberform Craftsman #2667 (same as existing), with optional ash/dome top, optional custom lettering or graphic to be selected by City Staff, and dark green or custom verde gris powder coating.

712-2.05 Ca Tree Grates

- A. See Planting Section

712-3 EXECUTION

712-3.01 Installation

- A. Install all site furniture in accordance with manufacturer's instructions and construction details.

712-3.02 ADJUSTMENTS

- A. It is understood and agreed that should minor changes and deviations from the locations established on the drawings be required by the Engineer, this shall be done by the Contractor at no additional cost thereto.

713 TEXTURED AND COLORED PAVEMENT

713-1 GENERAL:

Stamped asphalt pavement is described as Textured/Colored AC Pavement on the drawings and documents related to the project. The Contractor doing this work shall be an Authorized StreetPrint Applicator as licensed by Integrated Paving Concepts Inc., and shall have a foreman, supervisor or lead hand on site who has successfully completed a StreetPrint Level 1 Accreditation Training Program.

StreetPrint Pavement Texturing is defined as a proprietary finishing system, which treats the surface of Hot Mix Asphalt Concrete (HMA) by imprinting freshly laid, fully compacted, asphalt, or reheated existing asphalt pavement, with "grid style" or other styles of depressions. This is done to replicate, in relief, the concrete grout depressions common to hand-laid brick or cobblestone, or any other design as shown on the drawings or described in the specifications, and coating the imprinted asphalt surface using the StreetBond Surfacing System.

StreetBond Surfacing System is defined as a collection of proprietary coating products, specially formulated by Integrated Paving Concepts, Inc., for application on asphalt surfaces, to provide color and texture to the asphalt surface, and/or to fill surface voids or segregation.

Imprinting Hot Mix Asphalt is defined as pressing flexible templates into hot, compacted asphalt concrete to create the appearance of grout lines or patterns in the asphalt surface.

Templates are defined as flexible, woven wire rope cut and welded in various patterns, used for imprinting Hot Mix Asphalt. The template pattern shall be determined by the Engineer.

Level 1 Accredited StreetPrint Applicator is someone who has successfully completed the StreetPrint Level 1 Accreditation Training Program. Level 1 Accreditation is obtained by attending a StreetPrint Training Program, successfully completing a written or oral test, and completing at least one StreetPrint project of at least 1000 sq. ft. in area, that meets minimum criteria as set out by Integrated Paving Concepts, Inc.

Reheating of the asphalt surface is defined as the softening of existing compacted Hot Mix Asphalt by applying heat to the asphalt surface using equipment such as infrared heaters or hot air heaters. To avoid over heating or burning and degradation of the asphalt surface continuous monitoring of the surface temperature, during the heating process, using an infra red thermometer is required. Equipment that is specifically excluded from this section and shall not be used for reheating of the asphalt is any form of direct flame heaters. Overheating of the asphalt is defined as applying excessive heat to the asphalt surface. This occurs when blue/black smoke is emitted from the surface. Overheating should be avoided, since coating adhesion is drastically affected when overheating occurs.

713-2 MATERIALS

The color of the coating surface shall be determined by the Engineer. The coating system shall consist of two coats of the StreetBond SP150E with a topcoat of sealer concentrate. A sample of the stamped and colored pavement shall be submitted to the ENGINEER and obtain approval prior to applying on the project.

713-3 CONSTRUCTION

Layout and imprint the pattern into the surface of the HMA shall be as per the drawings or

specifications. Installation shall be in accordance with the latest StreetPrint Application Procedures as issued by Integrated Paving Concepts Inc.

The street print imprinting process and coating shall be performed prior to the adjacent thermoplastic pavement markings.

The Contractor shall follow the latest StreetPrint Application Procedures as issued by Integrated Paving Concepts Inc. The pattern shall be created in accordance with the design as agreed by the Owner or Owner's representative. Patterning shall begin once the asphalt has reached its final density and while there is still sufficient heat in the asphalt to permit imprinting. Patterning shall be achieved using steel rollers and/or vibratory plate compactors and shall be of consistent depth.

Alternatively, imprinting can be carried out at a later stage, on existing asphalt, by applying heat to the asphalt surface to make the upper portion of the asphalt surface pliable enough to accept the imprint of the template. For proper imprinting success, the asphalt pavement must be adequately heat soaked (softened) to a depth of at least 1/2 inch (12.5mm), without burning the asphalt. The asphalt surface temperature shall not exceed 300°F (150°C). If smoke is visible, that is an indication that the asphalt is burning and the pavement may spall or crumble at a later date. Regular monitoring of the surface temperature during heating is recommended to prevent over heating.

The Contractor shall apply the StreetBond Surfacing System as specified above. The air temperature shall be at least 50°F and rising for applying the StreetBond Surfacing System. There should be no precipitation expected within 24 hours after applying StreetBond SP150E Base. The StreetBond products shall be spray applied and broomed using a broom or brushes to cut in small areas where required.

When StreetBond SP 150E has fully dried, StreetBond Sealer Concentrate shall applied as a curing membrane or final coating. StreetBond Sealer Concentrate shall be tinted using StreetBond colorant, and shall be spray applied and broomed into the surface. Care shall be taken to ensure that the entire surface is covered, including the vertical edges of the imprinted surfaces. Sufficient masking shall be used to ensure that the surfacing products are applied only where specified.

All StreetPrint projects shall have on site a foreman, supervisor or lead hand who is registered with Integrated Paving Concepts, Inc., as a Level 1 Accredited StreetPrint Installer.

713-4 PAYMENT

Payment shall be made on a unit cost basis per square foot of installed and coated street print.

714 PAVEMENT MARKINGS

714-1 GENERAL

714-1.1 SUMMARY

A. Includes But Not Limited To

1. Furnish material and apply pavement and curb markings as described in Contract Documents.
2. Remove existing pavement markings in areas which will conflict with new striping layout beyond the paving limits.
3. Thermoplastic traffic stripes and pavement markings shall consist of a single uniform layer of thermoplastic and layer of bonded core elements and a layer of glass beads.
4. Painting Red Curb markings

B. Related Sections

1. Work shall comply with Section 84 of the 2010 Caltrans Standard Specifications
2. Work shall comply with the latest addition of the California Manual of Uniform Traffic Devices (CAMUTCD)

714-1.2 SUBMITTALS

- A. Paint Datasheets and Certificates of Compliance
- B. Thermoplastic Datasheets and Certificates of Compliance
- C. Glass Bead Data Sheets and Certificates of Compliance
- D. 3M Bonded Core Data Sheet
- E. Red Paint for Curbs

714-1.3 PROJECT CONDITIONS

- A. Project Environmental Requirements
 1. Apply only on dry surfaces, during favorable weather, and when damage by rain, fog, or condensation not anticipated.
 2. Provide temporary pavement markings whenever throughout project duration until final pavement markings are installed.
 3. Allow HMA to cure a minimum of 7 days and a maximum of 14 days prior to application.

7104-2 PRODUCTS

- A. All pavement markings shall be thermoplastic.
- B. All Materials shall comply with the requirements of Section 84 and 85 of the 2010 Caltrans Standard Specifications and these Special Provisions.
- C. All thermoplastic shall be alkyd thermoplastic.
- D. Glass Beads shall comply with AASHTO M247 Type 2.
- E. Alkyd Paint per Section 84 and 85 of the Standard Specifications

714-3 EXECUTION

714-3.1 PREPARATION

- A. Surfaces shall be dry and free of grease and loose dirt particles
- B. Layout all pavement markings per plan and in accordance with Section 84. Layout markings shall be kept to a minimum.
- C. Allow 4 working days for City review. Make any changes as provided during review.

714-3.2 APPLICATION

- A. Install per Section 84 and these Special Provisions
- B. Thicknesses
 1. Stripes -0.100 inches minimum
 2. Legends and Markings – 0.125 inches
- C. Bonded Core Elements
 1. 1st layer shall be 3M Bonded Core All Weather Reflective Elements for use in thermoplastic traffic stripes and markings.
 2. Color of bonded core elements shall match color of stripe or marking.
 3. Application rate shall be 6.6 pounds per 100 square feet.
- D. Glass Beads
 1. Apply as second layer.
 2. Application rate of 14.4 pounds per square foot.
- E. Minimum Initial Retro reflectivity Values

	White	Yellow
Dry (ASTM E1710)	700	500
Wet recovery (ASTM E2177)	280	250
Wet continuous (ASTM E2176)	90	75

- 714-3.2 **CLEANING**
- A. Remove drips, overspray, improper markings, and thermoplastic or paint material tracked by traffic by sand blasting, wire brushing, or other method approved by Owner's Agent prior to performance.

- 714-4 **PAYMENT**
- A. All pavement markings shall be paid at the unit price itemized in the bid schedule.

715 PROJECT SIGNAGE

715-1 **GENERAL**

715-1.1 **SUMMARY**

- A. Includes But Not Limited To
1. Furnish and install new sign post bases in sidewalk as indicated on the plans.
 2. Furnish material and install new signs panels and signposts as indicated on the plans
- B. Related Sections
1. Work Specifications shall comply with the latest addition of the California Manual of Uniform Traffic Devices (CAMUTCD)
 2. Comply with City Standard Details

715-1.2 **SUBMITTALS**

- A. Sign product data sheets indicating compliance with CAMUTCD

715-2 **PRODUCTS**

- A. Posts and Post Bases
1. Schedule 40 Galvanized Pipe
 2. Sizes and lengths per plans.
- B. Signs shall comply with the latest addition of the California Manual of Uniform Traffic Devices (CAMUTCD)
- C. Signs shall be the type and installed at the locations indicated on the plans

715-3 **EXECUTION**

715-3.1 **PREPARATION**

- A. Locate sign pole bases as indicated on the drawings prior to placement of sidewalks.
- B. Sign pole bases may be cast in place prior to sidewalk construction.

715-3.2 **APPLICATION**

- A. Verify that sign pole bases are cast plumb prior to placing sidewalk concrete.
- B. Install new signs and poles after completion of sidewalk improvements on a block by block basis.

715-3.2 CLEANING

- A. Remove any foreign marks or concrete splatter from pole bases.

715-4 PAYMENT

- A. All signs shall be paid at the unit price itemized in the bid schedule. The unit cost will include the installation of the base, pole and sign.

BID ALTERNATE 1. BRICK PAVERS

716 BID ALTERNATE 1. BRICK PAVERS

716-1 - GENERAL

716-1.01 SUMMARY

- A. Section Includes: Precast unit pavers complete, including interlocking precast pavers, sand setting bed, sand joints, joint-stabilizing sealer, aggregate base, and compaction of subgrade and base.

716-1.02 REFERENCES

A. Reference Specifications

1. As herein noted, the work shall comply with requirements of:
 - a. The current American Society of Testing Materials series of Standard
 1. ASTM C 33, Standard Specification for Concrete Aggregates.
 2. C 67, Standard Test Methods for Sampling and Testing Brick and Structural Clay Tile, Section 8, Freezing and Thawing.
 3. ASTM C 136, Standard Test Method for Sieve Analysis of Fine and Coarse Aggregates.
 4. ASTM C 140, Standard Test Methods for Sampling and Testing Concrete Masonry Units and Related Units.
 5. ASTM C 144, Standard Specification for Aggregate for Masonry Mortar.
 6. ASTM C 936, Standard Specification for Solid Concrete Interlocking Paving Units.
 7. ASTM C 979, Standard Specification for Pigments for Integrally Colored Concrete.
 8. ASTM D 698, Standard Test Method for Laboratory Compaction Characteristics of Soil Using Standard Effort (12,000 ft-lbf/ft³ (600 kN-m/m^{3 - 9. ASTM D 1557, Test Method for Laboratory Compaction Characteristics of Soil Using Modified Effort (56,000 ft-lbf/ft³ (2,700 kN-m/m^{3 - 10. ASTM D 2940, Specification for Graded Aggregate Material for Bases or Subbases for Highways or Airports.}}
 - b. The current California Department of Transportation Standard Specifications, referred to as DTSS.
 - c. AASHTO M 288 Geotextiles
- B. Interlocking Concrete Pavement Institute (ICPI):

1. ICPI Tech Spec Technical Bulletins

716-1.03 SUBMITTALS

- A. Product Data: Submit manufacturer's technical data for each manufactured product, including certification that each product complies with specified requirements.
- B. Samples for Verification Purposes: Submit two samples made up of actual unit pavers for each type, color and texture required. Include in each set of samples the full range of exposed color and texture to be expected in the completed work.
- C. Non-woven geotextile fabric: submit manufacturer's product data and one square foot sample.
- D. Submit testing certification showing capability of pavers proposed to comply with the specified strength requirement.
- E. Field Test Reports: During construction, submit field test reports in accordance with the testing schedule.

716-1.04 QUALITY CONTROL

- A. Installer Qualifications: Engage an installer who has successfully completed within the past three years at least three unit paver applications similar in type and size to that of this project and who will assign installers from these earlier applications to this project, of which one will serve as lead installer.
- B. Testing and Inspection Service: The Contractor shall engage testing and inspection service to perform gradation analysis for both setting bed and joint sand. Contractor shall cooperate with Owner in performing compaction testing.
- C. Job Mock-Up
 - 1. The Contractor shall construct a mock-up sample, 6 feet by 10 feet minimum, and shall indicate the materials, pattern and joint treatment required in actual construction. Mock up shall include border and field patterns. The Contractor shall make all mock-up samples as required until acceptance by the Engineer. The selected mock-up shall become a minimum standard of workmanship when accepted and shall be matched or bettered through the project. The sample may be constructed as part of the project and, if approved, will be accepted as part of the work. However, should the sample fail to meet the Engineer's approval, it shall be removed and reconstructed until approved.

716-1.05 JOB CONDITIONS

- A. Existing Conditions
 - 1. Examine work in place on which this work is dependent. Defects which may influence satisfactory completion and performance of this work shall be corrected in accordance with the requirements of the applicable section of work prior to commencement of the

work. Commencement shall be construed as work in place being acceptable for satisfying the requirements of this section.

B. Protection

1. Protect the work and adjacent work against damage during progress of the work.
2. Construction equipment which will damage existing or new pavement shall not be used.
3. Protect unit pavers during storage and construction against wetting by rain or groundwater, and against soilage or intermixture with earth or other types of materials.

C. Storage and Handling

1. Handle pavers to prevent chipping, breakage, soiling or other damage. Do not use pinch or wrecking bars without protecting edges of pavers with wood or other rigid materials. Lift with wide-belt type slings wherever possible; do not use wire rope or ropes containing tar or other substances which might cause staining. If required, use wood rollers and provide cushion at end of wood slide.
2. Store pavers on wood skids or pallets. Place and stock skids and pavers to distribute weight evenly and to prevent breakage or cracking. Protect stored pavers from weather with waterproof non-staining covers or enclosures, but allow air to circulate around pavers.
3. Materials in containers: Deliver materials to the project site in their original, unopened containers bearing label clearly identifying manufacturer's name and brand. Store materials under cover, clear of the ground and protected from the weather.

716-2 - MATERIALS

716-2.01 SAND SETTING BED

- A. Sand shall be well graded, washed sharp sand conforming to ASTM C33, and meeting the following sieve analysis gradations:

<u>Sieve</u>	<u>Percent Passing</u>
3/8 inch	100
No. 8	80 - 100
No. 16	50 - 85
No. 30	25 - 60
No. 50	20 - 30
No. 200	0 - 5

Note: Use of masonry sand will not be permitted.

716-2.02 PAVERS

- A. Brick pavers shall have spacer bars on each unit. These insure a minimum joint width between each unit in which the sand is placed. Spacer bars help prevent contact of the edges with adjacent pavers and subsequent chipping.
- B. Brick pavers shall be A Grade pavers manufactured/supplied by a member of the Brick Institute of America (BIA). The BIA manufacturer/supplier shall be:
Name: PINE HALL BRICK
Address: P. O. Box 11044
2701 Shorefair Drive
Winston-Salem, NC 27116-1044
Phone: (800) 334-8689

- C. Product name/shape, overall dimensions, and thickness of the paver(s) shall be:

English Edge Red Pavers:
4" x 8" x 2 1/4" thick
With beveled edge and spacer nibs

- D. Pavers shall meet the following requirements set forth in ASTM C 902, Specification for Pedestrian and Light Traffic Paving Brick:

1. Minimum average compressive strength of 10,000 psi.
2. The average cold water absorption shall not be greater than 6% with no individual unit testing greater than 7%. Absorption test results may not be achieved through the use of sealers or other products applied to the clay paver. (Sealer protection degrades over time requiring re-application after several years.)
3. Resistance of 50 freeze-thaw cycles, when tested in accordance with ASTM C67. In addition the clay paver must pass CSA-A231.2 freeze thaw test in saline solution without the use of sealers or other products applied to the paver. A test report must be submitted by the manufacturer.
4. Dimensional tolerances shall meet the PX standard. The dimensional tolerances around the mean values for length, width, and depth shall be 1/16".
5. The pavers should be solid units without core holes or other perforations.
6. The contractor shall ensure that the manufacturer conducts a test sampling of 24 pavers every 50,000 pavers manufactured to determine the pavers compliance with dimensional and water absorption characteristics. The 24-paver sample shall be representative of the color mix in the typical finished package and chosen on a consistent basis from one kiln car.

- E. Proven Field Performance: Satisfactory field performance is indicated when units similar in composition and made with the same manufacturing process as those to be supplied to the purchaser do not exhibit objectionable deterioration after at least three years. The units used as the basis for proven field performance shall have been exposed to the same general type of environment, temperature range and traffic volume as is contemplated for the units supplied to the purchaser.

- F. Visual Inspection: All units shall be sound and free of defects that would interfere with the proper placing of the unit or impair the strength or permanence of the construction. Cracks or

chipping resulting from handling in shipment, delivery and installation shall be deemed grounds for rejection.

716-2.03 JOINTING SAND

- A. Polymeric joint sand, Polysweep Tan, by SEK Surebond, or approved equal.

716-2.04 JOINT-STABILIZING SEALER

- A. SB-1300 Joint-Stabilizing Sealer, by SEK Surebond, or approved equal.

716-2.05 AGGREGATE BASE

- A. Class 2 conforming to DTSS.

716-2.06 NON-WOVEN GEOTEXTILE FABRIC

- A. Non-woven geotextile fabric shall be needle-punched and composed of polypropylene or polyester fibers formed into a stable network. Elongation shall be greater than 50 percent and shall meet requirements of AASHTO M 288, Class 3.
 - 1. Non-woven geotextile fabric shall be TenCate Geosynthetics Mirafi 140N or equal.

716-3 - EXECUTION

716-3.01 EXCAVATION

- A. Perform all subgrade cut and fill as necessary to meet the final grades shown on the plans. Compact subgrade to 92%.

716-3.02 AGGREGATE BASE

- A. Place aggregate base to depth indicated and compact to 95%.

716-3.03 SAND SETTING BED

- A. The sand shall be of uniform moisture content when screeded and shall be protected against rain when stockpiled on site prior to screeding. For installation, the moisture content shall be in the range of 4 to 8 percent.
- B. Spreading: The bedding sand shall be spread loose in a uniform layer to give a depth after compaction of the paving units of a minimum of 3/4 inch thickness and as required to achieve designed grades.
- C. Screeding
 - 1. The spread sand shall be carefully maintained in a loose condition and protected against precompaction by traffic or rain both prior to and following screeding. Sand shall be lightly screeded in a loose condition to predetermined depth. Under no circumstances shall the sand be screeded in advance of the laying face to an extent to which paving will

not be completed on that day. Any screeded sand which is precompacted prior to laying of paving unit shall be brought back to profile in a loose condition. Neither pedestrian or vehicular traffic shall be permitted on the screeded sand.

2. The Contractor shall screed the bedding sand using either an approved mechanical spreader or by the use of screed guides and boards.

716-3.04 SETTING PAVERS

- A. General: Pavers with excessive chips, cracks, voids, discolorations or other defects shall not be installed.
- B. Pattern: The pavers shall be laid in a stack bond pattern as shown on approved shop drawings.
- C. Color Blending: Paving units shall be installed from a minimum of three bundles simultaneously.
- D. Joints: In order to maintain the desired pattern, joint spacing must be consistent. Joint spacing inch shall be maintained unless noted otherwise. Joint spacing shall be governed by the setting nodes Precast into the concrete paver units. Pavers with setting nodes shall be set tight, with each node set to edge of adjacent paver surface.
- E. Alignment: String lines or chalk lines on bedding sand should be used to hold all pattern lines true.
- F. Cutting
 1. Where cutting is necessary, the gaps at the edge of the paving surface shall be filled with manufactured edge pavers or with pavers to cut to fit. Cutting shall be accomplished to leave a clean edge to the traffic surface using a mechanical hydraulic, or guillotine cutter or masonry saw.
 2. The use of infill concrete or discontinuities in patterns will not be permitted. Lay out pavers in all areas so as to eliminate slivers at edges.
- G. Sweeping Clean: Upon completion of cutting the area must be swept clean of all debris to facilitate inspection and to ensure pavers are not damaged during compaction.
- H. Compaction
 1. After inspection of the paving units, they shall be compacted to achieve consolidation of the sand bedding and brought to design levels and profiles by not less than three passes of a suitable plate compactor.
 2. Compaction shall be accomplished by the use of a plate compactor capable of a minimum of 5,000 pound compaction force.
 3. Initial compaction should proceed as closely as possible following installation of the paving units and prior to acceptance of any traffic or application of sweeping sand.

4. Compaction should not be attempted within 3 feet (1 meter) of the laying edge.
- I. Paver Inspection: Any units which are structurally damaged during compaction shall be immediately removed and replaced.
 - J. Jointing Sand
 1. The jointing sand shall be spread over the pavement after initial compaction has been completed. This jointing sand shall be spread as soon as is practical after initial compaction and prior to the termination of work on that day. The Contractor shall not use wet sand.
 2. The jointing sand shall be broomed to fill the joints. Excess sand shall then be removed from the pavement surface and the pavers shall be compacted again to settle the jointing sand.
 - K. Final Compaction of Pavers
 1. After jointing sand has been installed and the pavement surface swept clean, final compaction shall be accomplished by not less than two passes of the plate compactor.
 2. Final compaction should proceed as closely as possible following installation of jointing sand and prior to the acceptance of any traffic.
 3. Inspection by the Engineer shall determine whether a second application or partial application of jointing sand is required.
 - K. Joint-Stabilizing Sealer
 1. Apply to paving in accordance with manufacturer's instructions.

716-3.05 NON-WOVEN GEOTEXILE FABRIC

- A. Lay smooth and free of tension, stress, folds, and wrinkles. Overlap ends of panels a minimum of 16 inches.

716-3.06 ALLOWABLE TOLERANCE

- A. The finished surface shall be smooth, even, and true to the lines, grades and cross section indicated. When tested with a 10 foot straight-edge parallel to the centerline of the surfaced area, finished surface shall not show a deviation in excess of ¼ inch in 10 feet.
- B. The maximum offset from flush from paver surface to paver surface or from paver surface to a fixed flush edge shall not exceed 1/16 inch.

716-3.07 REPAIR, CLEANING AND PROTECTION

- A. Remove and replace pavers which are chipped, broken, stained or otherwise damaged, or if units do not match adjoining units as intended. Provide new units to match adjoining units and install in same manner as original units, with same joint treatment to eliminate evidence of replacement.
- B. Clean concrete pavers after setting is complete; use procedures recommended by producer for types of application indicated.

716-3.08 CLEAN-UP

- A. Sweep clean all paved areas of excess sand and dirt.
- B. Pick up and remove from the site all surplus materials, equipment and debris resulting from this section of the work.
- C. Provide final protection and maintain conditions in a manner acceptable to the installer, which ensures paver work being without damage or deterioration at time of substantial completion.

716-3.09 GUARANTEE

- A. Finished area shall be free of bumps or depressions, evenly graded to levels shown, and shall be guaranteed against defects of materials and workmanship for a period of one year after substantial completion.

END OF SECTION

APPENDIX 1
DOWNTOWN IMPROVEMENT PROJECT – PHASE II, BID NO. 16-01
IN THE CITY OF LAKEPORT, CALIFORNIA

Standard Details Applicable to Project