

CITY OF UKIAH
MENDOCINO COUNTY, CALIFORNIA

SPECIAL PROVISIONS
FOR
DOWNTOWN STREETScape, ROAD DIET AND UTILITIES PROJECT – PHASE II
SPECIFICATION NO. 2021-179



2/22/2023

CITY OF UKIAH
DEPARTMENT OF PUBLIC WORKS
300 Seminary Avenue
Ukiah, California 95482-5400

Bids Open: _____
2:00 p.m.
Office of City Clerk

CITY OF UKIAH
MENDOCINO COUNTY, CALIFORNIA

CITY COUNCIL:

MARI RODIN– MAYOR
JOSEFINA DUEÑAS– VICE-MAYOR
DOUGLAS CRANE– COUNCIL MEMBER
SUSAN SHER – COUNCIL MEMBER
JUAN OROZCO– COUNCIL MEMBER

SAGE SANGIACOMO – CITY MANAGER

TIM ERIKSEN - DIRECTOR OF PUBLIC WORKS / CITY ENGINEER

MARY HORGER – PROCUREMENT MANAGER

KRISTINE LAWLER – CITY CLERK

R. ALLEN CARTER - CITY TREASURER

CITY OF UKIAH
DEPARTMENT OF PUBLIC WORKS
MARCH 2023

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**CITY OF UKIAH, MENDOCINO COUNTY, CALIFORNIA
NOTICE TO BIDDERS FOR
DOWNTOWN STREETScape, ROAD DIET AND UTILITIES PROJECT – PHASE II
SPECIFICATION NO. 2021-179**

NOTICE IS HEREBY GIVEN that sealed standard proposals for DOWNTOWN STREETScape, ROAD DIET AND UTILITIES PROJECT – PHASE II will be received at the Office of the City Clerk, Ukiah Civic Center, 300 Seminary Avenue, Ukiah California until 2:00 p.m. on _____, ____, 20___, at which time, or as soon thereafter as possible, they will be publicly opened and read. Bids shall be addressed to the City Clerk and shall be endorsed “DOWNTOWN STREETScape, ROAD DIET AND UTILITIES PROJECT – PHASE II.” Bids are required for the entire work described herein. No fax bids will be accepted.

ENGINEER'S ESTIMATE OF QUANTITIES

Item No.	Description	Quantity	Unit of Measure
1	Mobilization, Demobilization, and Final Cleanup	1	LS
2	Storm Water Pollution Prevention Plan (SWPPP)	1	LS
3	Storm Water Sampling and Analysis Day	10	EA
4	Temporary Water Pollution Control Measures	1	LS
5	Progress Schedule (Critical Path Method)	1	LS
6	Construction Area Signs	1	LS
7	Traffic Control System	1	LS
8	Positive Location (Potholing)	20	EA
9	Construction Survey	1	LS
10	Trench Bracing and Shoring	1	LS
11	Bypass Sewage Pumping	1	LS
12	Remove Traffic Stripe and Markings (Striping Conforms)	1	LS
13	Remove Existing Drainage Inlet	5	EA
14	Abandon Existing Storm Drain Pipe	800	LF
15	Remove/Replace Unsuitable Material - Miscellaneous Concrete	140	CY
16	Remove/Replace Unsuitable Material - Roadway Section	560	CY
17	Remove Concrete Curb and Gutter	4,100	LF
18	Remove Vertical Curb	130	LF
19	Remove Concrete Sidewalk, Driveways, and Curb Ramps	23,900	SF
20	Remove Concrete Roadway	52,000	SF
21	Remove/Salvage Trash Receptacle	1	EA
22	Remove Lighting Standard	2	EA
23	Remove Sanitary Sewer Manhole	6	EA
24	Abandon Sanitary Sewer Manhole	6	EA
25	Remove Sewer Main Line Cleanout	10	EA
26	Remove Existing Sanitary Sewer Main	2,900	EA
27	Abandon Existing Sanitary Sewer Main	2,660	LF
28	Abandon Existing Sanitary Sewer Lateral	50	EA
29	Abandon Existing Water Main	4,030	LF
30	Utility Conflict Resolution	1	LS
31	12" Water Main (C900)	1,950	LF
32	12" Water Main (Ductile Iron)	80	LF
33	6" Steel Casing Pipe - Bore and Jack (Electric)	25	LF

34	8" Steel Casing Pipe - Bore and Jack (AT&T & CATV)	25	LF
35	18" Steel Casing Pipe - Bore and Jack (Water and SS)	76	LF
36	6" Water Main (C900)	20	LF
37	4" Water Main (C900)	60	LF
38	1" Water Service (For 3/4" Meter)	32	EA
39	Fire Hydrant and Lateral	6	EA
40	Fire Service	6	EA
41	Air Relief Valve	3	EA
42	Backflow Preventer	2	EA
43	Cap Existing Water Main	4	EA
44	Water Tie-In	6	EA
45	Temporary Blow Off Valve	1	EA
46	12" Sanitary Sewer	2,260	LF
47	10" Sanitary Sewer	1,490	LF
48	8" Sanitary Sewer	30	LF
49	48" Sanitary Sewer Manhole	13	EA
50	Sewer Main Line Cleanout	3	EA
51	4" Sewer Lateral With Cleanout	50	EA
52	Drainage Inlet	10	EA
53	LID Storm Drain Inlet	3	EA
54	Under Sidewalk Drain	13	EA
55	15" RCP Storm Drain Pipe	700	LF
56	12" RCP Storm Drain Pipe	400	LF
57	48" Storm Drain Manhole	3	EA
58	Clearing and Grubbing	1	LS
59	Remove Tree and Stump	47	EA
60	Remove Tree Grate	43	EA
61	Conform Grind	10,500	SF
62	Edge Grind	14,900	SF
63	Cold Plane Asphalt Concrete Pavement	15,600	SF
64	Roadway Excavation (F)	6,900	CY
65	Class 2 Aggregate Base (F)	4,100	CY
66	Hot Mix Asphalt (Type A)	3,100	TON
67	Adjust Existing Sanitary Manhole Cover to Grade	12	EA
68	Adjust Existing Storm Drain Manhole Cover to Grade	6	EA
69	Adjust Existing AT&T Manhole Cover to Grade	2	EA
70	Adjust Existing Drainage Inlet to Grade	3	EA
71	Adjust Existing Street Monument Cover to Grade	2	EA
72	Adjust Existing Utility Cover to Grade (Sidewalk)	85	EA
73	Adjust Existing Valves to Grade	35	EA
74	Minor Concrete (Curb and Gutter)	3,100	LF
75	Minor Concrete (6" Vertical Curb)	130	LF
76	Minor Concrete (Driveway)	6,200	SF
77	Minor Concrete (Sidewalk)	19,700	SF
78	Minor Concrete (Curb Ramp)	13	EA
79	Minor Concrete (Detectable Warning Surface)	250	SF

80	Minor Concrete (8-inch Median Curb)	940	LF
81	Minor Concrete (Median Paving)	1,000	SF
82	Minor Concrete (Bioretention Curb & Gutter)	130	LF
83	Minor Concrete (Bioretention Vertical Curb)	170	LF
84	Irrigation System	1	LS
85	Street Tree	72	EA
86	Decomposed Granite Tree Well	1,210	SF
87	Brick Band	1,670	LF
88	Bench	6	EA
89	Bike Rack	13	EA
90	Planter Rail (Bioretention Area)	160	LF
91	Planting Area	4,600	SF
92	Plant Establishment Work	1	LS
93	Bioretention Area	800	SF
94	Survey Monument	2	EA
95	Flag Pole Sleeve	100	EA
96	Remove Roadside Sign	20	EA
97	Remove Roadside Sign Panel	2	EA
98	Thermoplastic Crosswalk and Pavement Marking	2,551	SF
99	Two-Way Blue Retroreflective Pavement Marker	9	EA
100	Metal Roadside Sign	84	EA
101	Roadside Sign - One Post	44	EA
102	Traffic Stripe (Detail 1)	330	LF
103	Traffic Stripe (Detail 8)	2,300	LF
104	Traffic Stripe (Detail 22)	4,000	LF
105	Traffic Stripe (Detail 27B)	4,000	LF
106	Traffic Stripe (Detail 27C)	920	LF
107	Traffic Stripe (Detail 32)	2,900	LF
108	Traffic Stripe (Detail 38)	750	LF
109	Traffic Stripe (Detail 39)	2,800	LF
110	Traffic Stripe (Detail 39A)	320	LF
111	Traffic Stripe (Detail 40)	120	LF
112	Green Bike Lane Pavement Markings	1,000	SF
113	Modify Signal (Gobbi St and S State St)	1	LS
114	Modify Signal (Mill St and S State St)	1	LS
115	Modify Signal (Scott St and N State St)	1	LS
116	Street Lighting System	1	LS
117	EXCAVATE, TRENCH, BACKFILL AND COMPACTION (12 INCH X 36 INCH TRENCH)	586	LF
118	EXCAVATE, TRENCH, BACKFILL AND COMPACTION (18 INCH X 48 INCH TRENCH)	224	LF
119	EXCAVATE, TRENCH, BACKFILL AND COMPACTION (24 INCH X 59 INCH TRENCH)	1,167	LF
120	1 INCH PVC SCH 40 CONDUIT (COMCAST) INCLUDING INSTALLATION	184	FT

121	2 INCH PVC SCH 40 CONDUIT (COMCAST) INCLUDING INSTALLATION	3,364	FT
122	3 INCH PVC SCH 40 CONDUIT (COMCAST) INCLUDING INSTALLATION	80	FT
123	2 INCH PVC SCH 40 CONDUIT (AT&T) INCLUDING INSTALLATION	225	FT
124	4 INCH PVC SCH 40 CONDUIT (AT&T) INCLUDING INSTALLATION	1,991	FT
125	3 INCH PVC SCH 40 CONDUIT INCLUDING INSTALLATION (ELECTRIC)	442	FT
126	4 INCH PVC SCH 40 CONDUIT INCLUDING INSTALLATION (ELECTRIC)	3,152	FT
127	EXCAVATE, BACKFILL, COMPACT AND INSTALL CABLE SERVICE VAULTS B48 (COMCAST)	1	EA
128	EXCAVATE, BACKFILL, COMPACT AND INSTALL CABLE SERVICE VAULTS N36 (COMCAST)	14	EA
129	EXCAVATE, BACKFILL, COMPACT AND INSTALL CABLE SERVICE VAULTS N30 (COMCAST)	3	EA
130	EXCAVATE, BACKFILL, COMPACT AND INSTALL SERVICE VAULTS 17" X 30" X 24" (AT&T)	3	EA
131	EXCAVATE, BACKFILL, COMPACT AND INSTALL SERVICE VAULTS 2'6" X 4' X 3' (AT&T)	9	EA
132	EXCAVATE, BACKFILL, COMPACT AND INSTALL SERVICE VAULTS 3' X 5' X 4' (AT&T)	2	EA
133	EXCAVATE, BACKFILL, COMPACTION AND INSTALL PEDESTAL BOX PAD (CITY TO PROVIDE)	1	EA
134	EXCAVATE, BACKFILL, COMPACTION AND INSTALL 504LA VAULT (CITY TO PROVIDE)	1	EA
135	EXCAVATE, BACKFILL, COMPACTION AND INSTALL PPB PRIMARY JUNCTION BOX (CITY TO PROVIDE)	1	EA
136	EXCAVATE, BACKFILL, COMPACTION AND INSTALL TRANSFORMER BOX PAD (CITY TO PROVIDE)	5	EA
137	EXCAVATE, BACKFILL, COMPACTION AND INSTALL CONCRETE TRANSFORMER PAD (POUR IN PLACE)	1	EA
138	EXCAVATE, BACKFILL, COMPACTION AND INSTALL SECONDARY SERVICE BOX (CITY TO PROVIDE)	4	EA

Plans and Special Provisions may be inspected and/or copies obtained from the City's website at www.cityofukiah.com/purchasing. No bid will be considered unless it is made on the forms furnished by the City and is made in accordance with the details of the Special Provisions. Each bidder must be licensed as required by law. Further information regarding the work or these specifications can be obtained by calling Mary Horger, Procurement Manager at (707) 463-6233 or by email at mhorger@cityofukiah.com.

The City Council reserves the right to reject any or all bids and to determine which proposal is, in its opinion, the lowest responsive bid by a responsible bidder and which it deems in the best interest of the City to accept. The City Council also reserves the right, but not the obligation, to waive any irregularity or failure to strictly comply with the bidding requirements, that the City determines in the reasonable exercise of its discretion does not provide the bidder with a competitive advantage over other bidders.

This project is subject to the "Buy America" provisions of the Surface Transportation Assistance Act of 1982 as amended by the Intermodal Surface Transportation Efficiency Act of 1991.

The City of Ukiah affirms that in any contract entered into pursuant to this advertisement, Disadvantaged Business Enterprises (DBE) will be afforded full opportunity to submit bids in response to this invitation. Bidders are advised that, as required by federal law, the City of Ukiah is implementing DBE requirements for this Project. Section 16 "Federal Requirements for Federal-Aid Construction Projects" under subsection titled "Disadvantaged Business Enterprises (DBE) covers these requirements.

The DBE Contract goal is 8%

No contractor or subcontractor may be listed on a bid proposal for a public works unless registered with the Department of Industrial Relations ("DIR") pursuant to Labor Code section 1725.5 except as allowed. under Labor Code section 1771.1. The prime contractor shall be responsible for posting job site notices as prescribed by regulation. This project is subject to compliance monitoring and enforcement by the DIR.

Pursuant to provisions of Section 1770, including amendments thereof, of the Labor Code of the State of California, the DIR Director has ascertained the general prevailing rate of wages for straight time, overtime, Saturdays, Sundays and Holidays including employer payment for health and welfare, vacation, pension and similar purposes for the City of Ukiah. Copies of his General Prevailing Wage Determination are available on the Internet at web address: <http://www.dir.ca.gov/DLSR/PWD/>.

The Federal minimum wage rates for this project as predetermined by the United States Secretary of Labor are set forth in the Bid Book and in copies of this book that may be examined at the offices described above where project plans, special provisions, and bid forms may be seen. Addenda to modify the Federal minimum wage rates, if necessary, will be issued to holders of Bid book. Future effective general prevailing wage rates, which have been predetermined and are on file with the California Department of Industrial Relations are referenced but not printed in the general prevailing wage rates. Attention is directed to the Federal minimum wage rate requirements in the Bid book. If there is a difference between the minimum wage rates predetermined by the Secretary of Labor and the general prevailing wage rates determined by the Director of the California Department of Industrial Relations for similar classifications of labor, the Contractor and subcontractors shall pay not less than the higher wage rate. The Department will not accept lower State wage rates not specifically included in the Federal minimum wage determinations. This includes "helper" (or other classifications based on hours of experience) or any other classification not appearing in the Federal wage determinations. Where Federal wage determinations do not contain the State wage rate determination otherwise available for use by the Contractor and subcontractors, the Contractor and subcontractors shall pay not less than the Federal minimum wage rate, which most closely approximates the duties of the employees in question.

The prime contractor for the work herein shall possess a current, valid State of California, Class A (General Engineering) Contractor's License. Pursuant to California Public Contract Code §22300, this contract includes provisions that allow substitutions of certain types of securities in lieu of the City withholding a portion of the partial payments due the Contractor to insure performance under this contract.

By order of the City Council, City of Ukiah, County of Mendocino, State of California.

Dated: _____

Kristine Lawler, City Clerk, City of Ukiah, California

PUBLISH TWO TIMES:

NOT FOR BID

INSTRUCTIONS TO BIDDERS

DOWNTOWN STREETSCAPE, ROAD DIET AND UTILITIES PROJECT – PHASE II shall be performed in accordance with the Plans and Special Provisions therefor adopted, to which special reference is hereby made.

Each bidder must supply all the information required by the bid documents and Special Provisions.

Minority business enterprises will be afforded full opportunity to submit bids in response to this invitation and will not be discriminated against on the grounds of race, color or national origin in consideration for an award of any contract entered into pursuant to this advertisement. Women will be afforded equal opportunity in all areas of employment. However, the employment of women shall not diminish the standards or requirements for the employment of minorities.

All proposals or bids shall be accompanied by a cashier's check or certified check payable to the order of the City of Ukiah amounting to 10 percent of the bid, or by a bond in said amount and signed by the bidder and a corporate surety, payable to said City. Said check shall be forfeited, or said bond shall become payable to said City in case the bidder depositing the same does not, within fifteen (15) days after written notice that the contract has been awarded to him: (a) enter into a contract with the City and (b) furnish certificates of insurance and endorsements, a bond of faithful performance and a payment bond as described in the Special Provisions.

No bidder shall withdraw his or her bid for a period of thirty (30) calendar days after the date set by the City for the opening thereof.

The Contractor and any subcontractors shall each possess a valid City of Ukiah Business License prior to the start of any work.

The Contractor shall furnish a project schedule to the Engineer prior to the start of any work and start work as scheduled.

The work is to be completed within 325 working days. The Contractor will pay to the City the sum of five thousand (\$5000.00) dollars per day for each and every calendar day delay beyond the time prescribed.

The staff shall notify a bidder by telephone, email or fax, if it intends to recommend the rejection of the bidder's bid. Any bid protest must be filed with the City Clerk not more than five calendar days following the bid opening, or 2 calendar days following notice that staff is recommending the rejection of a bid. If any such timely written protest is filed, all bidders shall be provided a copy of the protest within 2 calendar days of its receipt, which may be delivered to the bidders as an email attachment or by fax. All such bidders may file with the City Manager a written objection or other response to the protest.

All objections or responses filed not more than 5 days after receipt of the written protest will be presented to the City Council at its next regular meeting occurring not less than 12 calendar days following the bid opening. The City Council will resolve the bid protest at that meeting based on the written protest, any staff recommendation and all timely written objections and responses. In accordance with the Brown Act, any person may address the City Council on this item during the meeting. The City Council action on the protest shall represent a final decision by the City on the protest.

The BIDDER is advised that this is a federal and state funded project, and as such subject to substantial special provisions and requirements. The BIDDER must ensure that all state and federal provisions are read, understood and complied with during the duration of the project, particularly regarding DBE (see definition, below) issues and related Good Faith effort. In the case of discrepancies between City of Ukiah and federal requirements, federal shall prevail.

Examination of Site, Drawings, Etc.

Each bidder shall visit the site of the proposed work and fully acquaint himself with local conditions, construction and labor required so that he or she may fully understand the facilities, difficulties and restrictions attending the execution of the work under the Contract. Bidders shall thoroughly examine and be familiar with the Plans and Special Provisions. The failure of any bidder to receive or examine any form, instrument, addendum, or other document, or to visit the site and acquaint himself with conditions there existing, shall in no way relieve the bidder from any obligation with respect to his or her proposal or to the contract. The drawings for the work show conditions as they are supposed or believed by the Engineer to exist; but, it is neither intended nor shall it be inferred that the conditions as shown thereon constitute a representation by the Engineer,

the City or its officers that such conditions are actually existent, nor shall the City, the Engineer or any of their officers or representatives be liable for any loss sustained by the Contractor as a result of a variance between the conditions shown on the drawings and the conditions actually revealed during the progress of the work or otherwise.

The bidder's attention is directed to the possible existence of obstructions and public improvements within the limits of the work or adjacent thereto, which may or may not be shown on the Drawings. Any bid shall take into consideration that conditions may exist underground or otherwise that are not known to the City or easily detected during a site inspection that could impact the time or cost of completing the project. The City expects the bids to anticipate such conditions so that it can know for budgeting and other purposes the total cost to complete the project before accepting a bid and undertaking the legal obligation to construct the project. In awarding the contract the City relies on the contractor's representation that its bid anticipates differing site conditions and the additional time or cost that such conditions may necessitate.

The bidder shall investigate to his or her satisfaction the conditions to be encountered, the character, quality and quantities of work to be performed and materials to be furnished and the requirements of the Plans, Special Provisions, Standard Specifications, Standard Plans, and Contract Documents. The submission of a proposal shall be considered conclusive evidence that the bidder has made such examination and has accepted the project workplace as a safe workplace to perform the work of the Contract.

Bidder Inquiries and Questions

Inquiries and questions must be submitted in writing via fax or email to the following designated contact person:

Mary Horger, Procurement Manager
Fax: (707) 313-3621
Email: mhorger@cityofukiah.com

The City reserves the right to not respond to inquiries or questions submitted within 3 business days of the bid opening.

Location of the Work

All of the work to be performed is within the City of Ukiah on State Street from Cherry Street to Mill Street and Henry Street to Norton Street.

GENERAL CONDITIONS

SECTION 1. PROPOSAL REQUIREMENTS AND GENERAL CONDITIONS

1-01. Definitions. Whenever any word or expression defined in this section, or pronoun used in its stead, occurs in these contract documents, it shall have and is mutually understood to have the meaning given:

- a. "City of Ukiah" or "City" shall mean the City of Ukiah, Mendocino County, California, acting through its City Council or any other board, body, official or officials to which or to whom the power belonging to the Council shall by virtue of any act or acts, hereafter pass or be held to appertain.
- b. "Engineer" shall mean the Engineer duly and officially appointed by the City to supervise and direct the work of construction under this contract, acting personally or through agents or assistants duly authorized by him, such agents or assistants acting within the scope of the particular duties entrusted to them.
- c. "Inspector" shall mean the engineering or technical inspector or inspectors duly authorized or appointed by the Engineer, limited to the particular duties entrusted to him or her or them.
- d. "Contractor" shall mean the party entering into contract with the City of Ukiah for the performance of work covered by this contract and his or her authorized agents or legal representatives.
- e. "Date of signing of contract" or words equivalent thereto, shall mean the date upon which this contract, with the signature of the Contractor affixed, together with the prescribed bonds, shall be or shall have been delivered to the City or its duly authorized representatives.
- f. "Day" or "days", unless herein otherwise expressly defined, shall mean a calendar day or days of twenty-four hours each.
- g. "The work" shall mean and include all the work specified, indicated, shown or contemplated in the contract to construct the improvement, including all alterations, amendments or extensions thereto made by contract change order or other written orders of the Engineer.
- h. "Contract drawings", "drawings", "plans" shall mean and include 1) all drawings or plans which may have been prepared by or on behalf of the City, as a basis for proposals, when duly signed and made a part of this contract by incorporation or reference, 2) all drawings submitted in pursuance of the terms of this contract by the successful bidder with his or her proposal and by the Contractor to the City if and when approved by the Engineer and 3) all drawings submitted by the Engineer to the Contractor during the progress of the work as provided for herein.
- i. Where "as shown", "as indicated", "as detailed" or words of similar import are used, it shall be understood that reference to the drawings accompanying these Special Provisions is made unless stated otherwise.

Where "as directed", "as permitted", "approved" or words of similar import are used, it shall be understood that the direction, requirements, permission, approval or acceptance of the Engineer is intended unless stated otherwise.

As used herein, "provide" or "install" shall be understood to mean "provide or install complete in place", that is, "furnish and install". "Shall" is mandatory; "may" is permissive.

1-02. Examination of Plans, Special Provisions and Site of Work. The bidder shall examine carefully the Proposal, Plans, Special Provisions, Contract forms and the site of the work contemplated therefor. It will be assumed that the bidder has investigated to his or her satisfaction the conditions to be encountered and the character, quality and requirements of all Plans, Special Provisions, Standard Specifications, and Standard Plans involved.

1-03. Proposal. Bids shall be made on the blank forms prepared by the City. All bids shall give the prices bid, both in writing and in figures and shall be signed by the bidder or his or her authorized representative, with his or her address. If the bid is made by an individual or partner, his or her name and the post office address of his or her business or partnership, along with his or her signature or the signature of one or more partners must be shown; if made by a corporation, the bid

shall show the name of the state under the laws of which the corporation is chartered, the name of the corporation and the title of the person who signs on behalf of the corporation.

Each proposal shall be enclosed in a sealed envelope, endorsed as specified in the notice to bidders. Bidders are warned against making erasures or alterations of any kind and proposals which contain omissions, erasures, conditions, alterations, additions not called for, additional proposals or irregularities of any kind may be rejected.

1-04. Withdrawal of Bids. Any bid may be withdrawn at any time prior to the hour fixed in the notice to bidders for the openings of bids, provided that a request in writing, executed by the bidder or his or her duly authorized representative, for the withdrawal of such bid is filed with the City. The withdrawal of a bid will not prejudice the right of a bidder to file a new bid.

1-05. Public Opening of Bids. Bids will be opened and read publicly at the time and place indicated in the notice to bidders. Bidders or their agents are invited to be present.

1-06. Bid Guaranty. Each bid must be accompanied by a certified check, cashier's check or bidder's bond executed by an admitted surety insurer, payable to the order of the City of Ukiah in an amount not less than 10 percent of the bid as a guarantee that the bidder will enter into a contract, if awarded the work.

1-07. Qualification of Bidders. No contractor or subcontractor may be listed on a bid proposal for a public works project (submitted on or after March 1, 2015) unless registered with the Department of Industrial Relations pursuant to Labor Code section 1725.5 [with limited exceptions from this requirement for bid purposes only under Labor Code section 1771.1(a)]. No contractor or subcontractor may be awarded a contract for public work on a public works project (awarded on or after April 1, 2015) unless registered with the Department of Industrial Relations pursuant to Labor Code section 1725.5. The prime contractor shall be responsible for posting job site notices as prescribed by regulation. This project is subject to compliance monitoring and enforcement by the Department of Industrial Relations.

Each bidder shall be licensed under the provisions of Chapter 9, Division 3 of the Business and Professions Code and shall be skilled and regularly engaged in the general class or type of work called for under this contract. A statement setting forth this experience and business standing shall be submitted by each bidder on the form provided herewith. It is the intention of the City to award a contract only to a bidder who furnishes satisfactory evidence that he or she has the requisite experience and ability and that he or she has sufficient capital, facilities and equipment to enable him or her to prosecute the work successfully and promptly within the time and in the manner agreed.

In determining the degree of responsibility to be credited to a bidder, the City may weigh evidence that the bidder or his or her personnel charged with the responsibility in the work, has performed satisfactorily other contracts of like nature and magnitude or comparable difficulty at similar rates of progress.

1-08. Disqualification of Bidders. More than one bid from an individual business, partnership, corporation or association, under the same or different names, will not be considered. Reasonable grounds for believing that any bidder is financially interested in more than one bid for the work will cause the rejection of all bids in which he or she is so interested. If there is reason to believe that collusion exists among the bidders, none of the participants in such collusion will be considered. Bids in which the prices obviously are unbalanced may be rejected.

1-09. Identification of Subcontractors. All bids shall comply with the Subletting and Subcontracting Fair Practices Act (Public Contract Code Section 4100 and following) and shall set forth:

(a) The name and the 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 to a subcontractor licensed by the State of California who, under subcontract to the prime contractor, specially fabricates and installs a portion of the work according to detailed drawings contained in the plans and Special Provisions, in an amount in excess of one-half of 1 percent of the prime contractor's total bid.

(b) The portion of the work which will be done by each such subcontractor. The prime contractor shall list only one subcontractor for each such portion defined by the prime contractor in his or her bid.

1-10. General Provisions of the Standard Specifications. All provisions of the General Provisions, Sections 1 through 11, of the Standard Specifications, shall be applicable to the contract except as modified by these Special Provisions. The Standard Specifications are set forth in Section 12-06 of these Special Provisions.

1-11. **Addenda.** If it becomes necessary to revise any part of these plans and specifications after they have been released, the City will issue an addendum containing the revision. All addenda will be posted on the City's website at www.cityofukiah.com/purchasing with the rest of the bid documents. Anyone who intends to submit a bid in response to this Request for Bid must check the website frequently for any posted addenda. Anyone submitting a bid will be deemed to have seen and agreed to be bound by the posted addenda.

SECTION 2. AWARD AND EXECUTION OF CONTRACT

2-01. Award of Contract. Award of the contract, if it be awarded, will be to the lowest responsible bidder whose bid complies with all the specified requirements. The award, if made, will be made within thirty (30) days after opening of the bids. The City reserves the right to reject any and all bids and to waive any irregularity in the proposal not pertaining to cost.

2-02. Return of Proposal Guaranties. All bid guaranties will be held until the contract has been fully executed, after which they will be returned upon request to the respective bidders whose bids they accompany.

2-03. Execution of Contract. The contract agreement shall be executed in duplicate by the successful bidder and returned, together with the contract bonds, insurance certificates and endorsements, within fifteen (15) days after written notice of the award of the contract. After execution by the City; one copy shall be filed with the City and one copy shall be returned to the Contractor. If the bidder fails or refuses to enter into the contract agreement within the required time, then the bid guaranty accompanying the bid shall be forfeited to the City.

SECTION 3. SCOPE AND INTENT OF CONTRACT

3-01. Effect of Inspection and Payments. Neither the inspection by the Engineer or an inspector, nor any order, measurement or approved modification, nor certificate or payment of money, nor acceptance of any part or whole of the work, nor any extension of time, nor any possession by the City or its agents, shall operate as a waiver of any provision of this contract or of any power reserved therein to the City, or of any right to damages thereunder; nor shall any breach of this contract be held to be a waiver of any subsequent breach. All remedies shall be construed as cumulative.

3-02. Effect of Extension of Time. The granting of any extension of time on account of delays which, in the judgement of the City, are avoidable delays shall in no way operate as a waiver on the part of the City of its rights under this contract.

3-03. Extra Work. If extra work orders are given in accordance with provisions of this contract, such work shall be considered a part hereof and shall be subject to each and all of its terms and requirements.

3-04. Assignment of Contract. The contract may be assigned or sublet in whole or in part only upon the written consent of the City acting through its authorized agents. Consent will not be given to any proposed assignment which would relieve the original contractor or its surety of their responsibilities under the contract nor will the Engineer consent to any assignment of a part of the work under the contract.

3-05. Subcontractors. The Contractor shall be as fully responsible for the acts and omissions of his or her subcontractors and of persons either directly or indirectly employed by them, as he or she is for the acts and omissions of persons directly employed by him.

The Contractor shall cause appropriate provisions to be inserted in all subcontracts relative to the work to bind subcontractors to the terms of this Contract which are applicable to the work of subcontractors.

Nothing contained in this contract shall be construed to create or shall be relied upon to create any contractual relationship between any subcontractor and the City and no action may be brought by any subcontractor against the City based on this contract.

3-06. Interpretation of Special Provisions and Drawings. The Special Provisions and the Contract Drawings are intended to be explanatory of each other. Any work indicated in the Contract Drawings and not in the Special Provisions, or vice versa, is to be executed as if indicated in both. In case of a discrepancy or conflict between the Technical Specifications and Contract Plans, the Technical Specifications shall govern. All work shown on the Contract Drawings, the dimensions of which are not figured, shall be accurately followed to the scale to which the drawings are made, but figured dimensions are in all cases to be followed, where given, though they differ from scaled measurements. Large scale drawings shall be followed in preference to small scale drawings. Should it appear that the work to be done, or any of the matters relative thereto, are

not sufficiently detailed or explained in these contract documents, including the contract drawings, the Contractor shall apply to the Engineer for such further explanations as may be necessary and shall conform thereto as part of this contract, so far as may be consistent with the terms of this contract. In the event of any doubt or questions arising respecting the true meaning of the Special Provisions, reference shall be made to the Engineer and his or her decision thereon shall be final. If the Contractor believes that a clarification or interpretation justifies an increase in the contract price or contract time, the Contractor must comply with the written notice provisions of Sections 9-05 and 10-07 of these Special Provisions. Contractor's attention is directed to Section 12-06 of the Technical Specifications regarding the Standard Specifications and Standard Plans.

3-07. Addenda. If it becomes necessary to revise any part of these plans and specifications after they have been released, the City will issue an addendum containing the revision. All addenda will be posted on the City's website at www.cityofukiah.com/purchasing with the rest of the bid documents. Anyone who intends to submit a bid in response to this Request for Bid must check the website frequently for any posted addenda. Anyone submitting a bid will be deemed to have seen and agreed to be bound by the posted addenda.

3-08. Liability of City Officials. No city official, nor the Engineer, nor any authorized assistant of any of them, shall be personally responsible for any liability arising under this contract.

3-09. Dispute Resolution. Claims of \$375,000 or less by the Contractor that arise under this Contract are subject to the mandatory dispute resolutions provisions in Public Contract Code Sections 20104-20104.6.

SECTION 4. BONDS

4-01. Faithful Performance Bond. As a part of the execution of this contract, the Contractor shall furnish a bond of a surety company or other securities providing equivalent protection such as cash, letter of credit, or certificates of deposit, acceptable to the City, conditioned upon the faithful performance of all covenants and stipulations under this contract. The amount of the bond shall be 100 percent of the total contract price, as this sum is set forth in the agreement.

4-02. Material and Labor Bond. As a part of the execution of this contract, the Contractor shall furnish a bond of a surety company or other securities providing equivalent protection such as cash, letter of credit or certificates of deposit acceptable to the City in a sum not less than 50 percent of the total contract price, as this sum is set forth in the agreement for the payment in full of all persons, companies or corporations who perform labor upon or furnish materials to be used in the work under this contract, in accordance with the provisions of Sections 3247 through 3252 inclusive of the Civil Code of the State of California and any acts amendatory thereof.

4-03. Defective Material and Workmanship Bond. As a condition precedent to the completion of this contract, the Contractor shall furnish a bond of a surety company acceptable to the City in an amount not less than 5 percent (5%) of the final contract price, to hold good for a period of one (1) year after the completion and acceptance of the work, to protect the City against the results of defective materials, workmanship and equipment during that time. This bond shall be delivered to the City before the final payment under this contract will be made.

4-04. Notification of Surety Companies. The surety companies shall familiarize themselves with all of the conditions and provisions of this contract and they waive the right of special notification of any change or modification of this contract or of extension of time, or decreased or increased work, or of the cancellation of the contract, or of any other act or acts by the City or its authorized agents, under the terms of this contract; and failure to so notify the aforesaid surety companies of changes shall in no way relieve the surety companies of their obligation under this contract.

SECTION 5. INSURANCE REQUIREMENTS FOR CONTRACTORS (WITH CONSTRUCTION RISKS)

Contractor shall procure and maintain for the duration of the contract insurance against claims for injuries to persons or damages to property which may arise from or in connection with the performance of the work hereunder by the Contractor, his or her agents, representatives, employees or subcontractors.

5-01. Minimum Scope of Insurance

Coverage shall be at least as broad as:

DOWNTOWN STREETSCAPE PROJECT
PHASE II

1. Insurance Services Office Commercial Liability Coverage (occurrence form CG 0001).
2. Insurance Services Office form number CA 0001 (Ed. 1/87) covering Automobile Liability, code 1 (any auto).
3. Worker's Compensation insurance as required by the State of California and Employer's Liability Insurance.
4. Course of Construction insurance covering for "all risks" of loss.

5-02. Minimum Limits of Insurance

Contractor shall maintain limits no less than:

1. General Liability: \$1,000,000 per occurrence for bodily injury, personal injury and property damage including operations, products and completed operations. If Commercial General Liability Insurance or other form with a general aggregate limit is used, either the general aggregate limit shall apply separately to this project/location or the general aggregate limit shall be twice the required occurrence limit.
2. Automobile Liability: \$1,000,000 per accident for bodily injury and property damage.
3. Employer's Liability: \$1,000,000 per accident for bodily injury and property damage.
4. Course of Construction: Completed value of the project with no co-insurance penalty provisions.

5-03. Deductibles and Self-insured Retentions. Any deductibles or self-insured retentions must be declared to and approved by the City. At the option of the City, either: the insurer shall reduce or eliminate such deductibles or self-insured retentions as respects the City, its officers, officials, employees and volunteers; or the Contractor shall provide a financial guarantee satisfactory to the City guaranteeing payment of losses and related investigations, claim administration and defense expenses.

5-04. Other Insurance Provisions

The general liability and automobile liability policies are to contain, or be endorsed to contain, the following provisions:

1. The City, its officers, officials, employees and volunteers are to be covered as Additional Insured with respect to liability arising out of automobiles owned, leased, hired or borrowed by or on behalf of the contractor; and with respect to liability arising out of work or operations performed by or on behalf of the Contractor including materials, parts or equipment furnished in connection with such work or operations. General liability coverage can be provided in the form of an endorsement to the Contractor's insurance, or as a separate owner's policy.
2. The workers' compensation policy is to be endorsed with a waiver of subrogation. The insurance company, in its endorsement, agrees to waive all rights of subrogation against the City, its officers, officials, employees and volunteers for losses paid under the terms of this policy which arises from the work performed by the named insured for the City.
3. For any claims related to this project, the Contractor's insurance coverage shall be primary insurance as respects the City, its officers, officials, employees or volunteers. Any insurance or self-insurance maintained by the City, its officers, officials, employees or volunteers shall be excess of the Contractor's insurance and shall not contribute with it.
4. Each insurance policy required by this clause shall be endorsed to state that coverage shall not be canceled by either party, except after thirty (30) days' prior written notice by certified mail, return receipt requested, has been given to the City.
5. Coverage shall not extend to any indemnity coverage for the active negligence of the additional insured in any case where an agreement to indemnify the additional insured would be invalid under Subdivision (b) of Section 2782 of Civil Code.
6. Course of Construction policies shall contain the following provisions:
 - a.) The City shall be named as loss payee.
 - b.) The insurer shall waive all rights of subrogation against the City.

5-05. Acceptability of Insurers

Insurance is to be placed with insurers with a current A.M. Best's rating of no less than the following:

A++ VII	A- VIII
A+ VII	B++ X
A VII	B+ X

5-06. Verification of Coverage. Contractor shall furnish the City with original certificates and amendatory endorsements effecting coverage required by this clause. The endorsements shall be on forms provided by the City or on other than the City's forms, provided those endorsements or policies conform to the requirements. All certificates and endorsements are to be received within 15 days from written notice of contract award, and the work shall not commence until the certificates and endorsements have been approved by the City. The City reserves the right to require complete certified copies of all required insurance policies, including endorsements affecting the coverage required by these Special Provisions at any time.

5-07. Subcontractors. Contractor shall include all subcontractors as insureds under its policies or shall furnish separate certificates and endorsements for each subcontractor. All coverages for subcontractors shall be subject to all of the requirements stated herein.

SECTION 6. RESPONSIBILITIES AND RIGHTS OF CONTRACTOR

6-01. Legal Address of Contractor. Both the address given in the proposal and the Contractor's office in the vicinity of the work are hereby designated as places to either of which drawings, samples, notices, letters or other articles or communications to the Contractor may be mailed or delivered. The delivery at either of these places of any such thing from the City or its agents to the Contractor shall be deemed sufficient service thereof upon the Contractor and the date of such service shall be the date of such delivery. The address named in the proposal may be changed at any time by notice in writing from the Contractor to the City. Nothing herein contained shall be deemed to preclude or render inoperative the service of any drawing, sample, notice, letter or other article or communication to or upon the Contractor personally.

6-02. Office of Contractor at Site. During the performance of this contract, the Contractor shall maintain a suitable office at the site of the work which shall be the headquarters of a representative authorized to receive drawings and any such thing given to the said representatives or delivered at the Contractor's office at the site of work in his or her absence shall be deemed to have been given to the Contractor.

6-03. Attention to Work. The Contractor shall give his or her personal attention to and shall supervise the work to the end that it shall be prosecuted faithfully and when he or she is not personally present on the work, he or she shall at all reasonable times be represented by a competent superintendent or foreman who shall receive and obey all instructions or orders given under this contract and who shall have full authority to execute the same and to supply materials, tools and labor without delay and who shall be the legal representative of the Contractor. The Contractor shall be liable for the faithful observance of any instructions delivered to him or her or to his or her authorized representative.

6-04. Liability of Contractor. The Contractor shall do all of the work and furnish all labor, materials, tools and appliances, except as otherwise herein expressly stipulated, necessary or proper for performing and completing the work herein required in the manner and within the time herein specified. The mention of any specific duty or liability imposed upon the Contractor shall not be construed as a limitation or restriction of any general liability or duty imposed upon the Contractor by this contract, said reference to any specific duty or liability being made herein merely for the purpose of explanation.

The right of general supervision by the City shall not make the Contractor an agent of the City and the liability of the Contractor for all damages to persons or to public or private property, arising from the Contractor's execution of the work, shall not be lessened because of such general supervision.

Until the completion and final acceptance by the City of all the work under and implied by this contract, the work shall be under the Contractor's responsible care and charge. The Contractor shall rebuild, repair, restore and make good all injuries, damages, re-erections and repairs, occasioned or rendered necessary by causes of any nature whatsoever, excepting only acts of God and none other, to all or any portions of the work, except as otherwise stipulated.

To the fullest extent permitted by law, Contractor shall indemnify and hold harmless the City and its officers, directors, agents and employees from and against all claims, damages, losses and expenses including but not limited to attorneys' fees, costs

of suit, expert witness fees and expenses and fees and costs of any necessary private investigators arising out of or resulting from the performance of the work, provided that any such claim, damage, loss or expense (1) is attributable to bodily injury, sickness, disease or death, or to injury to or destruction of tangible property, other than the work itself, including the loss of use resulting therefrom and (2) is caused in whole or in part by any act or omission of the Contractor, any subcontractor, or anyone directly or indirectly employed by any of them, or anyone for whose acts any of them may be liable, regardless of whether or not it is caused in part by a party indemnified hereunder, or by the negligence or omission of a party indemnified herein.

In any and all claims against the City or any of its agents or employees by any employee of the Contractor, any subcontractor, anyone directly or indirectly employed by any of them, or anyone for whose acts any of them may be liable, the indemnification obligation shall not be limited in any way by any limitation on the amount or type of damages, compensation or benefits payable by or for the Contractor or any subcontractor under workers' or workmen's compensation acts, disability benefit acts, or other employee benefit acts. The obligation to indemnify shall extend to and include acts of the indemnified party which may be negligent or omissions which may cause negligence.

The City shall have the right to estimate the amount of such damage and to cause the City to pay the same and the amount so paid for such damage shall be deducted from the money due the Contractor under this contract; or the whole or so much of the money due or to become due the Contractor under this contract as may be considered necessary by the City, shall be retained by the City until such suits or claims for damages shall have been settled or otherwise disposed of and satisfactory evidence to that effect furnished to the City.

6-05. Protection of Persons and Property. The Contractor shall furnish such watchman, guards, fences, warning signs, walks and lights as shall be necessary and shall take all other necessary precautions to prevent damage or injury to persons or property.

All property line fences and improvements in the vicinity of the work shall be protected by the Contractor and, if they are injured or destroyed, they and any other property injured by the Contractor, his or her employees or agents, shall be restored to a condition as good as when he or she entered upon the work.

6-06. Protection of City Against Patent Claims. All fees, royalties or claims for any patented invention, article or method that may be used upon or in any manner connected with the work under this contract shall be included in the price bid for the work and the Contractor and his or her sureties shall protect and hold the City, together with all of its officers, agents, servants and employees, harmless against any and all demands made for such fees or claims brought or made on account of this contract. The Contractor shall, if requested by the Engineer, furnish acceptable proof of a proper release from all such fees or classes.

Should the Contractor, his or her agents, servants or employees, or any of them be enjoined from furnishing or using any invention, article, material or appliance supplied or required to be supplied or used under this contract, the Contractor shall promptly substitute other articles, materials or appliance, in lieu thereof, of equal efficiency, quality, finish, suitability and market value and satisfactory in all respects to the Engineer. Or, in the event that the Engineer elects, in lieu of such substitution, to have supplied and to retain and use, any such invention, article, material or appliance, as may by this contract be required to be supplied, in that event the Contractor shall pay such royalties and secure such valid licenses as may be requisite and necessary for the City, its officers, agents, servants and employees, or any of them, to use such invention, article, material or appliance without being disturbed or in any way interfered with by any proceeding in law or equity on account thereof. Should the Contractor neglect or refuse to make the substitution promptly, or to pay such royalties and secure such licenses as may be necessary, then in that event the Engineer shall have the right to make such substitution, or the City may pay such royalties and secure such licenses and charge the cost thereof against any money due to the Contractor from the City or recover the amount thereof from him or her and his or her sureties notwithstanding final payment under this contract may have been made.

6-07. Protection of Contractor's Work Property. The Contractor shall protect his or her work, supplies and materials from damage due to the nature of the work, the action of the elements, trespassers, or any cause whatsoever under his or her control, until the completion and acceptance of the work. Neither the City nor any of its agents assumes any responsibility for collecting indemnity from any person or persons causing damage to the work of the Contractor.

6-08. Regulations and Permits. The Contractor shall secure and pay for all permits, give all notices and comply with all laws, ordinances, rules and regulations bearing on the conduct of the work as drawn and specified. If the Contractor observes that the Plans and Special Provisions are at variance therewith, he or she shall promptly notify the Engineer in writing and any necessary changes shall be adjusted as provided in the contract for changes in the work. The contractor and

any subcontractors shall each secure and maintain a valid City of Ukiah Business License. The City of Ukiah will issue a no fee encroachment permit to the Contractor allowing him or her to perform work within City right of way or within City property after the Contract Documents have been executed and insurance certificates and endorsements have been approved by the City.

6-09. Construction Utilities. The Contractor shall be responsible for providing for and in behalf of his or her work under this contract, all necessary utilities, such as special connection to water supply, telephones, power lines, fences, roads, watchmen, suitable storage places, etc.

6-10. Approval of Contractor's Plans. The approval by the Engineer of any drawing or any method of work proposed by the Contractor in accordance with paragraph 8-06 shall not relieve the Contractor of any of his or her responsibility for his or her errors therein and shall not be regarded as any assumption of risk or liability by the City or any officer or employee thereof and the Contractor shall have no claim under this contract on account of the failure or partial failure or inefficiency of any plan or method so approved. Such approval shall be considered to mean merely that the Engineer has no objection to the Contractor's using, upon his or her own full responsibility the plan or method approved.

6-11. Suggestions to the Contractor. Any plan or method of work suggested by 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 Engineer and the City shall assume no responsibility thereof.

6-12. Termination of Unsatisfactory Subcontracts. Should any subcontractor fail to perform in a satisfactory manner the work undertaken by him, such subcontract shall be terminated immediately by the Contractor upon notice from the Engineer.

6-13. Preservation of Stakes and Marks. The Contractor shall preserve carefully bench marks, reference points and stakes and in case of destruction he or she shall replace his or her stakes, reference points and bench marks and shall be responsible for any mistakes that may be caused by their unnecessary loss or disturbance. Contractor's attention is directed to Section 7-03 of these Special Provisions.

6-14. Assistance to Engineer. At the request of the Engineer the Contractor shall provide men from his or her force and tools, stakes and other materials to assist the Engineer temporarily in making measurements and surveys and in establishing temporary or permanent reference marks. Payment for such materials and assistance will be made as provided for under the caption "Extra Work," provided, however, that the cost of setting stakes and marks carelessly lost or destroyed by the Contractor's employees will be assessed to the Contractor.

6-15. Removal of Condemned Materials and Structures. The Contractor shall remove from the site of the work, without delay, all rejected and condemned materials or structures of any kind brought to or incorporated in the work and upon his or her failure to do so, or to make satisfactory progress in so doing, within forty-eight (48) hours after the service of a written notice from the Engineer, the condemned material or work may be removed by the City and the cost of such removal shall be taken out of the money that may be due or may become due the Contractor on account of or by virtue of this contract. No such rejected or condemned material shall again be offered for use by the Contractor under this Contract.

6-16. Proof of Compliance with Contract. In order that the Engineer may determine whether the Contractor has complied with the requirements of this contract, not readily enforceable through inspection and tests of the work and materials, the Contractor shall, at any time when requested, submit to the Engineer properly authenticated documents or other satisfactory proofs as to his or her compliance with such requirements.

6-17. Errors and Omissions. If the Contractor, in the course of the work, finds any errors or omissions in plans or in the layout as given by survey points and instruction, or if he or she finds any discrepancy between the plans and the physical conditions of the locality, he or she shall immediately inform the Engineer, in writing and the Engineer shall promptly verify the same. Any work done after such discovery, until authorized, will be done at the Contractor's risk.

6-18. Cooperation. The Contractor shall cooperate with all other contractors who may be performing work in behalf of the City and workmen who may be employed by the City on any work in the vicinity of the work to be done under this contract with the work of such contractors or workmen. he or she shall make good promptly, at his or her own expense, any injury or damage that may be sustained by other contractors or employees of the City at his or her hands.

Any difference or conflict which may arise between the Contractor and other contractors, or between the contractor and workmen of the City in regard to their work shall be adjusted and determined by the Engineer. If the work of the Contractor is

delayed because of any acts or omissions of any other contractor or of the City, the Contractor shall on that account have no claim against the City other than for an extension of time.

6-19. Right of Contractor to Stop Work. Under the following conditions the Contractor shall have the right, if he or she so desires, to stop the work and terminate the contract upon ten (10) days written notice to the Engineer and recover from the City payment for all work actually performed and for all satisfactory materials actually delivered to the site of the work for permanent incorporation therein, all as may be shown by the estimate of the Engineer.

- (1) If the work is stopped under an order of any court or other competent public authority for a period of time of three (3) months through no act or fault of the Contractor or of anyone employed by him.
- (2) If the Engineer fails to issue the monthly certificate for payment in accordance with the terms of this contract.
- (3) If the City fails to pay the Contractor within sixty (60) days after it shall have become due, as provided by the terms of this contract, any sum certified by the Engineer or awarded by the City.

All provided that if such action to terminate the contract be not instituted by the Contractor within ten (10) days after the alleged existence of such condition and if written notice of such action be not at that time delivered to the City and the Engineer, then such right shall lapse until another occasion arises according to this section.

6-20. Hiring and Dismissal of Employees. The Contractor shall employ only such foremen, mechanics and laborers as are competent and skilled in their respective lines of work and whenever the Engineer shall notify the Contractor that any person on the work is, in his or her opinion, incompetent, unfaithful, intemperate or disorderly, or refuses to carry out the provisions of this contract, or uses threatening or abusive language to any person on the work representing the City, or is otherwise unsatisfactory, such person shall be discharged immediately from the work and shall not be re-employed upon it except with the consent of the Engineer.

6-21. Wage Rates.

1. Contractor shall pay all mechanics and laborers employed or working upon the site of the work unconditionally and without subsequent deductions or rebate on any account the full amounts due at the time of payment at wage rates not less than those contained in the applicable prevailing wage determination, regardless of any contractual relationship which may be alleged to exist between the Contractor and subcontractors and such laborers and mechanics.
2. Contractor shall comply with the California Labor Code Section 1775. In accordance with said Section 1775, Contractor shall forfeit as a penalty to the Owner, \$50.00 (or the higher minimum penalty as provided in Section 1775(B)(ii) – (iii)) for each calendar day or portion thereof, for each workman paid less than the stipulated prevailing rates for such work or craft in which such workman is employed for any work done under the Contract by him or her or by any subcontractor under him or her in violation of the provisions of the Labor Code and in particular, Labor Code Sections 1770 to 1780, inclusive. In addition to said penalty and pursuant to Section 1775, the difference between such stipulated prevailing wage rates and the amount paid to each workman for each calendar day or portion thereof for which each workman was paid less than the stipulated prevailing wage rate shall be paid to each workman by the Contractor.
3. Pursuant to the provision of Section 1770 of the Labor Code of the State of California, Owner has ascertained the general prevailing rate of wages (which rate includes employer payments for health and welfare, vacation, pension and similar purposes) applicable to the work to be done, for straight time work. The holiday wage rate listed shall be applicable to all holidays recognized in the collective bargaining agreement of the particular craft, classification or type of workmen concerned. Copies of the General Prevailing Wage Determination are available on the Internet at web address: <http://www.dir.ca.gov/DLSR/PWD> The Contractor shall post the wage determination at the site of work in a prominent place where it can easily be seen by the workers.
4. City will not recognize any claim for additional compensation because the Contractor has paid any rate in excess of the prevailing wage rate obtained by the Contractor. The possibility of wage increases is one of the elements to be considered by the Contractor in determining his or her bid and will not in any circumstances be considered as the basis for a claim against the City.

5. The Labor Commissioner through the Division of Labor Standards Enforcement (DLSE) may at any time require contractors and subcontractors to furnish electronic certified payroll records directly to DLSE. Commencing with contracts awarded or after April 1, 2015, all contractors and subcontractors must furnish electronic certified payroll records directly to the DLSE.

6. Travel and Subsistence Payments.

Contractor shall make travel and subsistence payments to each workman needed to execute the work in accordance with the requirements in Section 1773.8 of the Labor Code (Chapter 880, Statutes of 1968).

7. Apprentices.

Attention is directed to the provisions in Sections 1777.5 (Chapter 1411, Statutes of 1968) and 1777.6 of the California Labor Code concerning the employment of apprentices by the Contractor or any subcontractor under him. Contractor and any subcontractor under him or her shall comply with the requirements of said sections in the employment of apprentices.

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

6-22. Cleaning Up. The Contractor shall not allow the site of the work to become littered with trash and waste material, but shall maintain the same in a neat and orderly condition throughout the construction period. The Engineer shall have the right to determine what is or is not waste material or rubbish and the place and manner of disposal.

On or before the completion of the work, the Contractor shall without charge therefore carefully clean out all pits, pipes, chambers or conduits and shall tear down and remove all temporary structures built by him or her and shall remove rubbish of all kind from any of the grounds which he or she has occupied and leave them in first class condition.

6-23. Guaranty. All work shall be guaranteed for a period of one year from the date of acceptance by the City. The Contractor shall promptly make all needed repairs arising out of defective materials, workmanship and equipment.

The City is hereby authorized to make such repairs if within ten days after the mailing of a notice in writing to the Contractor or his or her agent, the Contractor shall neglect to make or undertake with due diligence the aforesaid repairs, provided, however, that in case of an emergency where, in the opinion of the City delay would cause serious loss or damage, repairs may be made without notice being sent to the Contractor and the Contractor shall pay the costs thereof.

Pursuant to the provisions of Section 4-03 of these Special Provisions, the Contractor shall furnish a Defective Material and Workmanship Bond in an amount not less than 5 percent of the final contract price, which shall be effective for a period of one (1) year after the completion and acceptance of the work.

SECTION 7. RESPONSIBILITIES AND RIGHTS OF CITY

7-01. Authority of the Engineer. All work done under this contract shall be done in a workmanlike manner and shall be performed to the reasonable satisfaction of the Engineer, who shall have general supervision of all work included hereunder. To prevent disputes and litigation, the Engineer (1) shall in all cases determine the amount, quality, acceptability and fitness of the several kinds of work and materials which are to be paid for under this contract, (2) shall decide all questions relative to the true construction, meaning and intent of the Special Provisions and Drawings, (3) shall decide all questions which may arise relative to the classifications and measurements of quantities and materials and the fulfillment of this contract and (4) shall have the power to reject or condemn all work or material which does not conform to the terms of this contract. his or her estimate and decision in all matters shall be a condition precedent to an appeal for arbitration, or the right of the Contractor to receive, demand, or claim any money or other compensation under this agreement and a condition precedent to any liability on the part of the City to the Contractor on account of this contract. Whenever the Engineer shall be unable to act, in consequence of absence or other cause, then such engineer as the Engineer or the City shall designate, shall perform any and all of the duties and be vested with any or all of the powers herein given to the Engineer.

7-02. Inspection. The City will provide engineering personnel for the inspection of the work.

The Engineer and his or her representatives shall at all times have access to the work whenever it is in preparation or progress and the Contractor shall provide proper facilities for such access and inspection.

If the Special Provisions, the Engineer's instruction, laws, ordinances, or any public authority require any work to be specially tested or approved, the Contractor shall give the Engineer timely notice of its readiness for inspection and, if the inspection is by an authority other than the Engineer, of the date fixed for such inspection. Inspections by the Engineer shall be promptly made at the source of supply where practicable. If any work shall be covered up without approval or consent of the Engineer, it must, if required by the Engineer, be uncovered for examination and properly restored at the Contractor's expense.

Re-examination of any work may be ordered by the Engineer and, if so ordered, the work must be uncovered by the Contractor. If such work is found to be in accordance with the contract documents, the City shall pay the cost of re-examination and replacement. If such work is not in accordance with the contract documents, the Contractor shall pay such cost.

Properly authorized and accredited inspectors shall be considered to be the representatives of the City limited to the duties and powers entrusted to them. It will be their duty to inspect materials and workmanship of those portions of the work to which they are assigned, either individually or collectively, under instructions of the Engineer and to report any and all deviations from the Drawings, Special Provisions and other contract provisions which may come to their notice. Any inspector may be considered to have the right to order the work entrusted to his or her supervision stopped, if in his or her opinion such action becomes necessary, until the Engineer is notified and has determined and ordered that the work may proceed in due fulfillment of all contract requirements.

7-03. Surveys. Contractor shall furnish all land surveys, establish all base lines and benchmarks and make sufficient detailed surveys needed for working points, lines and elevations. The Contractor shall develop all slope stakes and batter boards. Contractor shall also develop all additional working points, lines and elevations as he or she may desire to facilitate his or her methods and sequence of construction.

7-04. Rights-of-Way. The City will provide all necessary rights-of-way and easements in or beneath which work will be performed by the Contractor under this contract.

7-05. Retention of Imperfect Work. If any portion of the work done or material furnished under this contract shall prove defective and not in accordance with the Plans and Special Provisions, and if the imperfection in the same shall not be of sufficient magnitude or importance to make the work dangerous or undesirable, the Engineer shall have the right and authority to retain such work instead of requiring the imperfect work to be removed and reconstructed, but he or she shall make such deductions therefor in the payments due or to become due the Contractor as may be just and reasonable.

7-06. Changes in the Work. The Engineer shall have the right, in writing, to order additions to, omissions from, or corrections, alterations and modifications in the line, grade, form, dimensions, plan, or kind or amount of work or materials herein contemplated, or any part thereof, either before or after the beginning of construction. However, the arithmetical sum of the cost to the City of additions and subtractions from the work under this contract shall not exceed 10 percent of original contract amount or \$5,000, whichever is the greater, unless based upon a supplementary agreement to be made therefore.

The order of such additions, omissions, corrections, alterations and modifications shall be in writing and signed by the Engineer and, in order, shall then be binding upon the Contractor. The Contractor shall proceed with the work as changed and the value of such change shall be determined as provided for in section 10-07 of these Special Provisions.

Such alterations shall in no way affect, vitiate, or make void this contract or any part thereof, except that which is necessarily affected by such alterations and is clearly the evident intention of the parties to this contract.

7-07. Additional Drawings by City. The drawings made a part of this contract at the time of its execution are intended to be fairly comprehensive and to indicate in more or less detail the scope of the work. In addition to these drawings, however, the Engineer shall furnish such additional drawings from time to time during the progress of the work as are necessary to make clear or to define in greater detail the intent of the Special Provisions and the contract drawings and the Contractor shall make his or her work conform to all such drawings.

7-08. Additional and Emergency Protection. Whenever, in the opinion of the Engineer, the Contractor has not taken sufficient precautions for the safety of the public or the protection of the works to be constructed under this contract, or of adjacent structures or property which may be injured by the processes of construction on account of such neglect and whenever, in the opinion of the Engineer, an emergency shall arise and immediate action shall be considered necessary in

order to protect public or private, personal or property interest, then and in that event, the Engineer, with or without notice to the Contractor may provide suitable protection to the said interests by causing such work to be done and such material to be furnished as shall provide such protection as the Engineer may consider necessary and adequate.

The cost and expense of such work and material so furnished shall be borne by the Contractor and, if the same shall not be paid on presentation of the bills therefor, then such costs shall be deducted from any amounts due or to become due the Contractor.

The performance of such emergency work under the direction of the Engineer shall in no way relieve the Contractor from any damages which may occur during or after such precaution has been taken by the Engineer.

7-09. Suspension of Work. The City may at any time suspend the work or any part thereof by giving five (5) days written notice to the Contractor. The work shall be resumed by the Contractor within ten (10) days after the date fixed in the written notice from the City to the Contractor so to do. The City shall reimburse the Contractor for expense incurred by the Contractor in connection with the work under this contract as a result of such suspension.

If the work, or any part thereof, shall be stopped by the notice in writing aforesaid and if the City does not give notice in writing to the Contractor to resume work at a date within ten (10) days of the date fixed in the written notice to suspend, then the Contractor may abandon that portion of the work so suspended and he or she will be entitled to the estimates and payments for all work done on the portions so abandoned, if any, plus 5 percent of the value of the work so abandoned, to compensate for loss of overhead, plant expense and anticipated profit.

7-10. Right of City to Terminate Contract. If the Contractor should be adjudged a bankrupt, or if he or she should make a general assignment for the benefit of his or her creditors, or if a receiver should be appointed on account of his or her insolvency, or if he or she should persistently or repeatedly refuse or should fail, except in cases for which extension of time is provided, to supply sufficient properly skilled workmen or proper materials, or if he or she should fail to make prompt payments to subcontractors or for material or labor, or persistently disregard laws, ordinances or the instructions of the Engineer, or otherwise be guilty of a substantial violation of any provision of the contract, then the City, upon the certificate of the Engineer that sufficient cause exists to justify such action, may, without prejudice to any other right or remedy and after giving the Contractor seven days written notice, terminate the employment of the Contractor and take possession of the premises and of all materials, tools and appliances and finish the work by whatever method the City may deem expedient. In such case, the Contractor shall not be entitled to receive any further payment until the work is finished. If the unpaid balance of the contract price shall exceed the expense of finishing the work, including compensation for additional managerial and administrative services, such excess shall be paid to the Contractor. If such expense shall exceed such unpaid balance, the Contractor shall pay the difference to the City. The expense incurred by the City as herein provided and the damage incurred through the Contractor's default, shall be certified by the Engineer.

7-11. Use of Completed Portions. The City shall have the right to take possession of and use any completed or partially completed portions of the work, notwithstanding the time for completing the entire work or such portions which may not have expired; but such taking possession and using shall not be deemed an acceptance of any work not completed in accordance with the contract documents. If such prior use increases the cost of or delays the work, the Contractor shall be entitled to such extra compensation, or extension of time or both, as the Engineer may determine.

SECTION 8. WORKMANSHIP, MATERIALS AND EQUIPMENT

8-01. General Quality. Materials and equipment shall be new and of a quality equal to that specified or approved. Work shall be done and completed in a thorough and workmanlike manner.

8-02. Quality in Absence of Detailed Specifications. Whenever under this contract it is provided that the Contractor shall furnish materials or manufactured articles or shall do work for which no detailed specifications are set forth, the materials or manufactured articles shall be of the best grade in quality and workmanship obtainable in the market from firms of established good reputation, or, if not ordinarily carried in stock, shall conform to the usual standards for first-class materials or articles of the kind required, with due consideration of the use to which they are to be put. In general, the work performed shall be in full conformity and harmony with the intent to secure the best standard of construction and equipment of the work as a whole or in part.

8-03. Materials and Equipment Specified by Name. Whenever any material or equipment is indicated or specified by patent or proprietary name or by the name of the manufacturer, such specification shall be considered as used for the

purpose of describing the material or equipment desired and shall be considered as followed by the words "or approved equal". The Contractor may offer any material or equipment which shall be equal in every respect to that specified, provided that written approval first is obtained from the Engineer.

8-04. Source of Materials. Price, fitness and quality being equal, preference shall be given by the Contractor for supplies grown, manufactured or produced in the State of California and, next, for such products partially produced in this State in accordance with Government Code Section 4332.

8-05. Storage of Materials. Materials shall be so stored to ensure the preservation of their quality and fitness for the work. They shall be so located and disposed that prompt and proper inspection thereof may be made.

8-06. Drawings, Samples and Tests. As soon as possible after execution of the contract, the Contractor shall submit to the Engineer, in quintuplicate, sufficient information including, if necessary, assembly and detail drawings to demonstrate fully that the equipment and materials to be furnished comply with the provisions and intent of these Special Provisions and Drawings. If the information thus submitted indicates the equipment or materials is acceptable, the Engineer will return one copy stamped with his or her approval; otherwise, one copy will be returned with an explanation of why the equipment or material is unsatisfactory. The Contractor shall have no claims for damages or for extension of time on account of any delay due to the revision of drawings or rejection of material. Fabrication or other work performed in advance of approval shall be done entirely at the Contractor's risk. After approval of equipment or material, the Contractor shall not deviate in any way from the design and specifications given without the written consent of the Engineer.

When requested by the Engineer, a sample or test specimens of the materials to be used or offered for use in connection with the work shall be prepared at the expense of the Contractor and furnished by him or her in such quantities and sizes as may be required for proper examination and tests, with all freight charges prepaid and with information as to their sources.

All samples shall be submitted before shipment and in ample time to permit the making of proper tests, analyses, or examination before the time at which it is desired to incorporate the material into the work. All tests of materials furnished by the Contractor shall be made by the Engineer. Samples shall be secured and tested whenever necessary to determine the quality of the material.

SECTION 9. PROSECUTION OF WORK

9-01. Equipment and Methods. The work under this contract shall be prosecuted with all materials, tools, machinery, apparatus and labor and by such methods as are necessary to the complete execution of everything described, shown, or reasonably implied. If at any time before the beginning or during the progress of the work, any part of the Contractor's plant or equipment, or any of his or her methods of execution of the work, appear to the Engineer to be unsafe, inefficient, or inadequate to insure the required quality or the rate of progress of the work, he or she may order the Contractor to increase or improve his or her facilities or methods and the Contractor shall comply promptly with such orders; but, neither compliance with such orders nor failure of the Engineer to issue such orders shall relieve the Contractor from his or her obligation to secure the degree of safety, the quality of the work and the rate of progress required of the Contractor. The Contractor alone shall be responsible for the safety, adequacy and efficiency of his or her plant, equipment and methods.

9-02. Time of Completion. The Contractor shall promptly begin the work under this contract and shall complete and make ready for full use all portions of the project made the subject of this contract within the time set forth in the agreement bound herewith.

9-03. Avoidable Delays. Avoidable delays in the prosecution or completion of the work shall include all delays which might have been avoided by the exercise of care, prudence, foresight and diligence on the part of the Contractor. The City will consider as avoidable delays within the meaning of this 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 nor the completion of the whole work within the time herein specified, (2) reasonable loss of time resulting from the necessity of submitting plans to the Engineer for approval and from the making of surveys, measurements, inspections, and testing and (3) such interruptions as may occur in the prosecution of the work on account of the reasonable interference of other contractors employed by the City which do not necessarily prevent the completion of the whole work within the time herein specified.

9-04. Unavoidable Delays. Unavoidable delays in the prosecution or completion of the work under this contract shall include all delays which may result, through cause beyond the control of the Contractor and which he or she could not have provided against by the exercise of care, prudence, foresight and diligence. Orders issued by the City changing the amount

of work to be done, the quantity of material to be furnished or the manner in which the work is to be prosecuted and unforeseen delays in the completion of the work of other contractors under contract with the City will be considered unavoidable delays, so far as they necessarily interfere with the Contractor's completion of the whole of the work. Delays due to normally adverse weather conditions will not be regarded as unavoidable delays. However, truly abnormal amounts of rainfall, temperatures or other weather conditions for the location of the work and time of year may be considered as unavoidable delays if those conditions necessarily cause a delay in the completion of the work.

9-05. 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 an unavoidable delay, he or she shall notify the Engineer in writing of the probability of the occurrence of such delay and its cause, in order that the Engineer may take immediate steps to prevent, if possible, the occurrence or continuance of the delay, or, if this cannot be done, may determine whether the delay is to be considered avoidable or unavoidable, how long it continues and to what extent the prosecution and completion of the work are to be delayed thereby.

9-06. Extension of Time. Should any delays occur which the Engineer may consider unavoidable, as herein defined, the Contractor shall, pursuant to his or her application, be allowed an extension of time proportional to said delay or delays, beyond the time herein set forth, in which to complete this contract; and liquidated damages for delay shall not be charged against the Contractor by the City during an extension of time granted because of unavoidable delay or delays.

Any claim by Contractor for a time extension based on unavoidable delays shall be based on written notice delivered to the Engineer within 15 days of the occurrence of the event giving rise to the claim. Failure to file said written notice within the time specified shall constitute a waiver of said claim. Notice of the full extent of the claim and all supporting data must be delivered to the Engineer within 45 days of the occurrence unless the Engineer specifies in writing a longer period. All claims for a time extension must be approved by the Engineer and incorporated into a written change order.

9-07. Unfavorable Weather and Other Conditions. During unfavorable weather and other conditions, the Contractor shall pursue only such portions of the work as shall not be damaged thereby. No portions of the work whose satisfactory quality or efficiency will be affected by any unfavorable conditions shall be constructed while these conditions remain, unless, by special means or precautions approved by the Engineer, the Contractor shall be able to overcome them.

The Contractor shall be granted a time extension of one day for each unfavorable weather day which prevents him or her from placing concrete forms or placing and finishing concrete or asphalt concrete. Such unfavorable weather day is defined as a rain day where precipitation prevents the contractor from performing the work more than four (4) continuous hours within the authorized work period or a temperature day where the ambient temperature is below that specified for the placement of materials associated with the controlling work item for more than four (4) continuous work hours of the authorized work period.

9-08. Saturday, Sunday, Holiday and Night Work. No work shall be done between the hours of 6 p.m. and 7 a.m., nor on Saturdays, Sundays or legal holidays except such work as is necessary for the proper care and protection of work already performed, or except in cases of absolute necessity and in any case only with the permission of the Engineer.

It is understood, however, that night work may be established as a regular procedure by the Contractor if he or she first obtains the written permission of the Engineer and that such permission may be revoked at any time by the Engineer if the Contractor fails to maintain at night adequate force and equipment for reasonable prosecution and to justify inspection of the work.

9-09. Hours of Labor. Eight (8) hours of labor shall constitute a legal day's work and the Contractor or any subcontractor shall not require or permit more than eight hours of labor in a day from any person employed by him or her in the performance of the work under this contract, unless paying compensation for all hours worked in excess of eight (8) hours per day at not less than 1½ times the basic rate of pay. The Contractor shall forfeit to the City, as a penalty, the sum of twenty-five dollars (\$25.00) for each workman employed in the execution of the contract by him or her or by any subcontractor, for each calendar day during which such laborer, workman, or mechanic is required or permitted to labor more than eight hours in violation of the provisions of Section 1810 to 1816, inclusive, (Article 3, Chapter 1, Part 7, Division 2) of the Labor Code of the State of California and any acts amendatory thereof.

SECTION 10. PAYMENT

10-01. Certification by Engineer. All payments under this contract shall be made upon the presentation of certificates in writing from the Engineer and shall show that the work covered by the payments has been done and the payments thereof are due in accordance with this contract.

10-02. Progress Estimates and Payment. The Engineer shall, within the first seven (7) days of each month, make an estimate of the value of the work performed in accordance with this contract during the previous calendar month.

The first estimate shall be of the value of the work satisfactorily completed in place and meeting the requirements of the contract. And every subsequent estimate, except the final estimate, shall be of the value of the work satisfactorily completed in place since the last preceding estimate was made; provided, however, that should the Contractor fail to adhere to the program of completion fixed in this contract, the Engineer shall deduct from the next and all subsequent estimates the full calculated accruing amount of the liquidated damages to the date of said estimate, until such time as the compliance with the program has been restored.

The estimate shall be signed by the Engineer and, after approval, the City shall pay or cause to be paid to the Contractor in the manner provided by law, an amount equal to 95 percent of the estimated value of the work satisfactorily performed and complete in place.

10-03. Substitution of Securities.

1. At such times that Public Contract Code Section 22300 is in effect Contractor may propose the substitution of securities of at least equal market value for any moneys to be withheld to ensure performance under the Contract. Market value shall be determined as of the day prior to the date such substitution is to take place. Such substitution shall be made at the request and expense of the Contractor. The securities shall be one or more of the following types:

- (a) Bonds or interest-bearing notes or obligations of the United States, or those for which the faith and credit of the United States are pledged for the payment of principal and interest.
- (b) Bonds or interest-bearing notes on obligations that are guaranteed as to principal and interest by a federal agency of the United States.
- (c) Bonds of the State of California, or those for which the faith and credit of the State of California are pledged for the payment of principal and interest.
- (d) Bonds or warrants, including, but not limited to, revenue warrants, of any county, city, metropolitan water district, California water district, California water storage district, irrigation district in the State of California, municipal utility district, or school district of the State of California, which are rated by Moody's or Standard and Poor as A or better.
- (e) Bonds, consolidated bonds, collateral trust debentures, consolidated debentures, or other obligations issued by federal land banks or federal intermediate credit banks established under the Federal Farm Loan Act, as amended; debentures and consolidated debentures issued by the Central Bank for Cooperatives and banks for cooperatives established under the Farm Credit Act of 1933, as amended; bonds, or debentures of the Federal Home Loan Bank Board established under the Federal Home Loan Bank Act; and stock, bonds, debentures and other obligations of the Federal National Mortgage Association established under the National Housing Act as amended and bonds of any Federal Home Loan Mortgage Corporation.
- (f) Commercial paper of "prime" quality as defined by a nationally recognized organization which rates such securities. Eligible paper is further limited to issuing corporations: (1) organized and operating within the United States; (2) having total assets in excess of five hundred million dollars (\$500,000,000); and (3) approved by the Pooled Money Investment Board of the State of California. Purchases of eligible commercial paper may not exceed 180 days' maturity, nor represent more than 10 percent of the outstanding paper of an issuing corporation.
- (g) Bills of exchange or time drafts on and accepted by a commercial bank, otherwise known as bankers acceptances, which are eligible for purchase by the Federal Reserve System.
- (h) Certificates of deposits issued by a nationally or state-chartered bank or savings and loan association.
- (i) The portion of bank loans and obligations guaranteed by the United States Small Business Administration or the United States Farmers Home Administration.

(j) Student loan notes insured under the Guaranteed Student Loan Program established pursuant to the Higher Education Act of 1965, as amended (20 U.S.C. 1001, et seq.) and eligible for resale to the Student Loan Marketing Association established pursuant to Section 133 of the Education Amendments of 1972, as amended (20 U.S.C. 1087-2).

(k) Obligations issued, assumed or guaranteed by International Bank for Reconstruction and Development, the Inter-American Development Bank, the Asian Development Bank, or the Government Development Bank of Puerto Rico.

(l) Bonds, debentures and notes issued by corporations organized and operating within the United States. Such securities eligible for substitution shall be within the top three ratings of a nationally recognized rating service.

2. The securities shall be deposited with City or with any commercial bank as escrow agent, who shall arrange for transfer of such securities to the Contractor upon satisfactory completion of the contract. Any interest accrued or paid on such securities shall belong to the Contractor and shall be paid upon satisfactory completion of the contract.

The market value of the securities deposited shall at all times be maintained in an amount at least equal, in the sole judgment of City, to the moneys to be withheld pursuant to the Contract Documents to ensure performance of the Contract. In order to comply with this condition, Contractor shall deposit additional securities as necessary upon request by City or the escrow agent.

3. Upon acceptance of any Proposal that includes substituting securities for amounts withheld to ensure performance, a separate escrow agreement satisfactory in form and substance to City shall be prepared and executed by City, the Contractor and the escrow agent, which may be City. The escrow agreement shall specify, among other matters, value of securities to be deposited; procedures for valuing the securities and for adding or withdrawing securities to maintain the market value of the deposited securities at least equal to the amount of moneys which would otherwise be withheld; the terms and conditions of conversion to cash in case of the default by the Contractor; and terms, conditions and procedure for termination of the escrow. City shall have no obligation to enter any such Agreement that does not provide the City with the unilateral right to convert securities to cash and to gain immediate possession of the cash.

10-04. Acceptance. The work must be accepted by vote of the City Council of the City of Ukiah when the whole shall have been completed satisfactorily. The Contractor shall notify the Engineer, in writing, of the completion of the work, whereupon the Engineer shall promptly, by personal inspection, satisfy himself as to the actual completion of the work in accordance with the terms of the contract and shall thereupon recommend acceptance by the City Council.

10-05. Final Estimate and Payment. The Engineer shall, as soon as practicable after the final acceptance of the work done under this contract, make a final estimate of the amount of work done thereunder and the value thereof.

Such final estimate shall be signed by the Engineer, and after approval, the City shall pay or cause to be paid to the Contractor, in the manner provided by law, the entire sum so found to be due hereunder, after deducting therefrom all previous payments and such other lawful amounts as the terms of this contract prescribe.

In no case will final payment be made in less than thirty-five (35) days after the filing of the notice of completion with the County Recorder.

10-06. Delay Payments. Should any payment due the Contractor or any estimate be delayed, through fault of the City beyond the time stipulated, such delay shall not constitute a breach of contract or be the basis for a claim for damages, but the City shall pay the Contractor interest on the amount of the payment at the rate of 6 percent per annum for the period of such delay. The terms for which interest will be paid shall be reckoned, in the case of any monthly or progress payment, from the twentieth day of the month next succeeding the month in which the work was performed to the date of payment of the estimate; and in the case of the final estimate, from the forty-fifth day after acceptance to the date of payment of the final estimate.

The date of payment of any estimate shall be considered the day on which the payment is offered or mailed as evidenced by the records of the Treasurer of the City. If interest shall become due on any delayed payment, the amount thereof, as determined by the City, shall be added to a succeeding payment. If the interest shall become due on the final payment, it shall be paid on a supplementary voucher to interest or any sum or sums which, by the terms of this contract, the City is authorized to reserve or retain.

10-07. Extra Work and Work Omitted. Whenever corrections, alterations, or modifications of the work under this contract ordered by the Engineer and approved by the City increase the amount of work to be done, such added work shall be known as "extra work"; and when such corrections, alterations, or modifications decrease the amount of work to be done, such subtracted work shall be known as "work omitted".

When the Contractor considers that any changes ordered involve extra work, he or she shall immediately notify the Engineer in writing and subsequently keep him or her informed as to when and where extra work is to be performed and shall make claim for compensation therefor each month not later than the first day of the month following that in which the work claimed to be extra work was performed and he or she shall submit a daily complete statement of materials and labor used and expenses incurred on account of extra work performed, showing allocation of all materials, labor and expenses.

All such claims shall state the date of the Engineer's written order and the date of approval by the City authorizing the work on account of which claim is made. Unless such notification is made in writing within the time specified and unless complete statements of materials used and expenses incurred on account of such extra work are furnished as above required, the Contractor shall not be entitled to payment on account of extra work and Contractor shall be deemed to have waived the right to make any future claims for compensation for such extra work.

When changes decrease the amount of work to be done, they shall not constitute a claim for damages on account of anticipated profits on the work that may be omitted.

10-08. Compensation for Extra Work or Work Omitted. Whenever corrections, additions, or modifications in the work under this contract change the amount of work to be done or the amount of compensation due the Contractor, excepting increases or decreases in contract items having unit contract prices for each measurable quantity installed in place, and such changes have been ordered in writing by the Engineer and approved by the City prior to the Contractor performing the extra work, then a price may be agreed upon. Failing such an agreement in price, the Contractor shall be compensated for performing extra work pursuant to the provisions of Section 4-1.05 "Changes and Extra Work", and Section 9-1.04, "Force Account" of the Standard Specifications.

This method of determining the price of work shall not apply to the performance of any work which is required or reasonably implied to be performed or furnished under this contract.

10-09. Compensation to the City for Extension of Time. In case the work called for under this contract is not completed within the time limit stipulated herein, the City shall have the right as provided hereinabove, to extend the time of completion thereof. If the time limit be so extended, the City shall have the right to charge to the Contractor and to deduct from the final payment for the work the actual cost to the City of engineering, inspection, superintendence and other overhead expenses which are directly chargeable to the contract and which accrue during the period of such extension, except that the cost of final unavoidable delays shall not be included in such charges.

10-10. Liquidated Damages for Delay. It is agreed by the parties to the contract that time is of the essence and that, in case all the work is not completed before or upon the expiration of the time limit as set forth, damage, other than those cost items identified in section 10-09, will be sustained by the City and that it is and will be impracticable to determine the actual amount of damage by reason of such delay; and it is therefore agreed that the Contractor will pay to the City the sum of five thousand dollars (\$5000.00) per day for each and every calendar day's delay beyond the time prescribed.

SECTION 11. MISCELLANEOUS

11-01. Notice. Whenever any provision of the contract documents requires the giving of written notice, it shall be deemed to have been validly given if delivered in person to the individual or to a member of the firm or to an officer of the corporation for whom it is intended, or if delivered at or sent by registered or certified mail, postage prepaid, to the last business address known to the giver of the notice. If mailed, the notice shall be deemed received on the date of delivery stated in the return receipt.

11-02. Computation of Time. When any period of time is referred to in the Contract Documents by days, it shall be computed to exclude the first and include the last day of such period. If the last day of any such period falls on a Saturday or Sunday or on a day made a legal holiday by the law of the applicable jurisdiction, such day shall be omitted from the computation.

11-03. Claims Procedure Required by Public Contract Code Section 9204. This section shall apply to any claim by the Contractor arising in connection with this project in accordance with Public Contract Code Section 9204.

a. For purposes of this section "Claim" means a separate demand by the Contractor sent by registered mail or certified mail with return receipt requested, for one or more of the following:

(A) A time extension, including, without limitation, for relief from damages or penalties for delay assessed by the City under this contract.

(B) Payment by the City of money or damages arising from work done by, or on behalf of, the Contractor pursuant to this contract and payment for which is not otherwise expressly provided or to which the Contractor is not otherwise entitled.

(C) Payment of an amount that is disputed by the City.

b.

(1)

(A) Upon receipt of a claim pursuant to this section, the City shall conduct a reasonable review of the claim and, within a period not to exceed 45 days, shall provide the Contractor a written statement identifying what portion of the claim is disputed and what portion is undisputed. Upon receipt of a claim, a public entity and the contractor may, by mutual agreement, extend the time period provided in this subdivision.

(B) The Contractor shall furnish reasonable documentation to support the claim.

(C) If the City needs approval from its governing body to provide the Contractor a written statement identifying the disputed portion and the undisputed portion of the claim, and the governing body does not meet within the 45 days or within the mutually agreed to extension of time following receipt of a claim sent by registered mail or certified mail, return receipt requested, the City shall have up to three days following the next duly publicly noticed meeting of the governing body after the 45-day period, or extension, expires to provide the claimant a written statement identifying the disputed portion and the undisputed portion.

(D) Any payment due on an undisputed portion of the claim shall be processed and made within 60 days after the City issues its written statement. If the City fails to issue a written statement, paragraph (3) shall apply.

(2)

(A) If the Contractor disputes the City's written response, or if the City fails to respond to a claim issued pursuant to this section within the time prescribed, the Contractor may demand in writing an informal conference to meet and confer for settlement of the issues in dispute. Upon receipt of a demand in writing sent by registered mail or certified mail, return receipt requested, the City shall schedule a meet and confer conference within 30 days for settlement of the dispute.

(B) Within 10 business days following the conclusion of the meet and confer conference, if the claim or any portion of the claim remains in dispute, the City shall provide the claimant a written statement identifying the portion of the claim that remains in dispute and the portion that is undisputed. Any payment due on an undisputed portion of the claim shall be processed and made within 60 days after the public entity issues its written statement. Any disputed portion of the claim, as identified by the contractor in writing, shall be submitted to nonbinding mediation, with the City and the Contractor sharing the associated costs equally. The City and Contractor shall mutually agree to a mediator within 10 business days after the disputed portion of the claim has been identified in writing. If the parties cannot agree upon a mediator, each party shall select a mediator and those mediators shall select a qualified neutral third party to mediate with regard to the disputed portion of the claim. Each party shall bear the fees and costs charged by its respective mediator in connection with the selection of the neutral mediator. If mediation is unsuccessful, the parts of the claim remaining in dispute shall be subject to applicable procedures outside this section.

(C) For purposes of this section, mediation includes any nonbinding process, including, but not limited to, neutral evaluation or a dispute review board, in which an independent third party or board assists the parties in dispute resolution through negotiation or by issuance of an evaluation. Any mediation utilized shall conform to the timeframes in this section.

(D) Unless otherwise agreed to in writing by the City and the Contractor, the mediation conducted pursuant to this section shall excuse any further obligation under Public Contract Code Section 20104.4 to mediate after litigation has been commenced.

(3) Failure by the City to respond to a claim from the Contractor within the time periods described in this subdivision or to otherwise meet the time requirements of this section shall result in the claim being deemed rejected in its entirety. A claim that is denied by reason of the public entity's failure to have responded to a claim, or its failure to otherwise meet the time requirements of this section, shall not constitute an adverse finding with regard to the merits of the claim or the responsibility or qualifications of the Contractor.

(4) Amounts not paid in a timely manner as required by this section shall bear interest at 7 percent per annum.

(5) If a subcontractor or a lower tier subcontractor lacks legal standing to assert a claim against a public entity because privity of contract does not exist, the Contractor may present to the public entity a claim on behalf of a subcontractor or lower tier subcontractor. A subcontractor may request in writing, either on his or her own behalf or on behalf of a lower tier subcontractor, that the Contractor present a claim for work which was performed by the subcontractor or by a lower tier subcontractor on behalf of the subcontractor. The subcontractor requesting that the claim be presented to the public entity shall furnish reasonable documentation to support the claim. Within 45 days of receipt of this written request, the Contractor shall notify the subcontractor in writing as to whether the Contractor presented the claim to the public entity and, if the original contractor did not present the claim, provide the subcontractor with a statement of the reasons for not having done so.

c. A waiver of the rights granted by this section is void and contrary to public policy, provided, however, that (1) upon receipt of a claim, the parties may mutually agree to waive, in writing, mediation and proceed directly to the commencement of a civil action or binding arbitration, as applicable; and (2) the City may prescribe reasonable change order, claim, and dispute resolution procedures and requirements in addition to the provisions of this section, so long as the contractual provisions do not conflict with or otherwise impair the timeframes and procedures set forth in this section.

11-04. Litigation and Forum Selection. Contractor and City stipulate and agree that any litigation relating to the enforcement or interpretation of this contract, arising out of Contractor's performance or relating in any way to the work shall be brought in Mendocino County and that venue will lie in Mendocino County.

Except as otherwise expressly provided by law, the parties waive any objections they might otherwise have to the propriety of jurisdiction or venue in the state courts in Mendocino County and agree that California law shall govern any such litigation.

The duties and obligations imposed by these General Conditions and the rights and remedies available hereunder to the parties hereto and, in particular but without limitation, the warranties, guaranties and obligations imposed upon the Contractor and all of the rights and remedies available to the City thereunder, shall be in addition to and shall not be construed in any way as a limitation of, any rights and remedies available to any or all of them which are otherwise imposed or available by law or contract, by special warranty or guaranty, or by other provisions of the contract documents and the provisions of this paragraph shall be as effective as if repeated specifically in the contract documents in connection with each particular duty, obligation, right and remedy to which they apply. All warranties and guaranties made in the contract document shall survive final payment and termination or completion of this contract. The City disclaims an express or implied warranty that the plans and specifications identify all site conditions that could affect the time or cost to complete the Work.

11-05. Waiver. The Contractor shall strictly comply with all notices and other contract requirements. Waiver by the City of any failure of the Contractor to comply with any term of the contract, including the notice provisions, shall not be deemed a waiver of a subsequent breach.

TECHNICAL SPECIFICATIONS

SECTION 12. GENERAL INFORMATION

12-01. Location and Scope of Work. All of the work to be performed is within the City of Ukiah and includes transportation and pedestrian improvements, sanitary sewer and water main replacements, and undergrounding overhead utilities on State Street between Cherry Street and Mill Street and Henry Street and Norton Street. The roadway/pedestrian work includes demolition of sidewalks, curb and gutter and cold planing the existing roadway surface, along with construction of new curb and gutter, bulb-outs, sidewalk, accessible curb ramps, asphalt overlay, storm drain modifications street lighting, landscaping and traffic signal modifications. The utility work includes potable water main, fire water and sanitary sewer utility improvements. Work includes abandoning existing water pipelines and service laterals, removal of existing hydrants and water meters, demolition of existing sanitary sewer main and sewer manholes, construction of new hydrant laterals and water hydrants, water meters, connection to existing water services and construction of sanitary sewer mains, sanitary sewer manholes and sanitary sewer laterals, cleanouts and connection to existing sanitary sewer building services and mains. The scope also includes repair of disturbed surfaces including existing roadway services and sidewalks. The undergrounding work involves trench, backfill, compact and install underground conduits for electric, AT&T and Comcast. Install vault(s), boxes, secondary service boxes for electric, AT&T and Comcast. Install electric box pads for switch, transformer(s) and pedestal(s) (installed by Contractor, provided by City) for underground duct system.

The Contractor should familiarize himself with the local conditions of the project sites. Failure to do so will in no way relieve him of the responsibility for performing any of the work or operations required as a part of this contract. Further information regarding the work or these specifications can be obtained from Mary Horger at (707) 463-6233.

12-02. Arrangement of Technical Specifications. The Technical Specifications are arranged in sections covering the various phases of work as follows:

Section No.	Title
12	General Information
13	Construction Details (Special Provisions)
14	Exclusions from General Conditions
15	Amendments to General Conditions

12-03. Arrangement of Plans. General locations and linear quantities of the work are shown in on the Plans. The Plans consist of one hundred and seven (107) sheets numbered 1 through 107 and they are hereby made a part of the Contract Documents.

12-04. Business Licenses. The Contractor and any subcontractors shall each secure and maintain a valid City of Ukiah Business License prior to the start of any portion of the work.

12-05. Permits. The Contractor shall provide, procure, and pay for all permits required to complete this work. The Contractor shall obtain an encroachment permit from the City of Ukiah Public Works Department at no cost prior to the start of the Work. The encroachment permit will not be issued until the Contract Agreement and bonds have been executed, submitted, and accepted by the City and all insurance endorsements have been submitted to and accepted by the City's Risk Manager.

12-06. Standard Specifications and Standard Plans. The Standard Specifications and Standard Plans of the California State Department of Transportation 2018, are hereby made a part of these special provisions, and are hereinafter referred to as "Standard Specifications" and "Standard Plans." These special provisions specify the qualitative technical requirements of the project.

Whenever in the Standard Specifications and the Standard Plans the following terms are used, they shall be understood to mean and refer to the following:

Department of Transportation - The City Council.

Director of Public Works - The City of Ukiah Director of Public Works/City Engineer.

Engineer - The Engineer, designated by the City Council, acting either directly or through properly authorized agents, such agents acting within the scope of the particular duties entrusted to them.

Laboratory - The designated laboratory authorized by the City of Ukiah and approved by Caltrans to test materials and work involved in the contract.

State or Owner - The City of Ukiah

Other terms appearing in the Standard Specifications and the Standard Plans shall have the intent and meaning specified in Section I, Definition of Terms of the Standard Specifications.

In case of discrepancy between the contract documents, the order of precedence from the highest to lowest is as follows:

1. (City) Special Provisions
2. (City) Project Plans
3. City Standard Plans and Details
4. Standard Plans
5. Standard Specifications

12-07. Temporary Facilities. All temporary facilities are the responsibility of the Contractor. The removal of said facilities shall be the responsibility of the Contractor. The Contractor shall be responsible for any and all damages to existing facilities which are a result of the work.

12-08. Public Convenience and Safety. Attention is directed to Section 7-1.03, "Public Convenience," 7-1.04, "Public Safety" of the Standard Specifications. The Contractor shall conduct operations so as to cause the least possible obstruction and inconvenience to public traffic. The Contractor shall, at his or her expense, furnish such flag persons and furnish, erect, construct and maintain such fences, barriers, lights, signs, detours, pedestrian walkways, driveway ramps and bridging as may be necessary to give adequate warning to the public that work is in progress and that dangerous conditions exist, to provide access to abutting properties and to permit the flow of pedestrian and vehicular traffic to safely and expeditiously pass the work.

12-09. Maintaining Traffic. Attention is directed to Section 7-1.03, "Public Convenience," 7-1.04, "Public Safety," 12-1.01, "General," and 12-3, "Temporary Traffic Control Devices," of the Standard Specifications.

Streets shall be open to through vehicular traffic during non-working hours. The Contractor shall provide temporary pavement, trench plates and any other methods shall be utilized to allow for a normal driver experience. The Contractor shall provide all applicable signage through the work zone to inform the public of the condition of the roadway through the site. During work hours public traffic shall be permitted to pass through the work with as little inconvenience and delay as possible. Access to abutting property, driveways and building entrances shall be maintained during the performance of the work. The Contractor is advised that commercial and residential businesses immediately about the Project Area. The Contractor shall provide advance written notification of the work and of temporary closures of driveways to the abutting property owners or managers of the businesses at least 5 business days prior to the start of the Work or the temporary closure of the driveway to the respective business property. The format and content of the Notice by the Contractor shall be approved by the Engineer prior to its issuance to the public. The Contractor shall provide trench plates at driveways and left turn pockets after the trench and roadway excavation has been made at those particular locations. The Contractor shall maintain safe and accessible (ADA compliant) walkways to all business entrances within the Project Area for the duration of the project. Under no circumstances shall access to any business be blocked or closed without the written approval of the City and written consent of the business owner.

12.10. Stream Pollution. The Contractor shall exercise every reasonable precaution to prevent muddying or silting of live streams, and the Contractor's attention is called to the fact that the terms of this contract do not relieve him or her of responsibility for compliance with Sections 5650 and 12015 of the Fish and Game Code or other applicable statutes relating to pollution prevention or abatement.

The Contractor's attention is also directed to Section 13, "Water Pollution Control," of the Standard Specifications and to Section 13-3, "Storm Water Pollution Prevention Plan", of the Standard Specifications concerning the requirement for submittal to the Engineer for approval a Storm Water Pollution Prevention Plan (SWPPP) for the control of pollution to adjacent drainage courses during the construction of the project. Said SWPPP shall include the erosion control provisions required by Section 13, "Water Pollution Control", of the Construction Details.

12-11. Warranties. Unless otherwise indicated, the Contractor shall warrant all materials provided and work performed under this contract for a period of one (1) year from the date of final acceptance, except where longer warranties are specified herein. He shall replace promptly and at his own expense any materials and/or workmanship which fail during this warranty period.

12-12. Utilities. No water, sewer or electrical services will be provided by the owner. It is the Contractor's sole responsibility to arrange such services as necessary.

12-13. Dust Control. Dust control shall conform to the provisions of Section 18 "Dust Palliatives" of the Standard Specifications.

Dust shall be managed all active construction areas by water at least twice daily and more often during hot or windy periods or use of a dust palliative. The active construction areas adjacent to businesses and residential areas shall be kept damp at all times. Hauling trucks shall be covered and at least a two-foot freeboard shall be maintained.

Unpaved access roads, parking areas for construction equipment and construction employee vehicles, staging areas, and storage areas shall be paved with hot mix asphalt or have a stabilized access in accordance with the details of TC-1, "Stabilized Construction Entrance/Exit," of the Caltrans Construction Site Best Management Practices Manual or Standard Plan T58. Unpaved construction staging areas shall receive the application of either water twice daily or a dust palliative. All paved roads, parking areas, staging areas, storage areas, and public roads impacted by the work of the project shall be swept daily with street sweepers equipped with water spray to remove soil materials that have been deposited on these surfaces by reason of the work.

The Contractor shall enclose, cover, or water twice daily or apply non-toxic soil stabilizers or install erosion control blankets to or on exposed stockpiles, embankment slopes, and cut slopes.

Traffic speeds on unpaved surfaces shall be limited to a maximum speed of 15 mph

12-14. Noise Control. The Contractor's attention is directed to the provisions of Section 14-8.02, "Noise Control", of the Standard Specifications and Section 9.08, Saturday, Sunday, Holiday, and Night Work, of these General Conditions concerning the control of noise emissions and authorized work hours and days. Between 7:00 a.m. and 7:00 p.m., noise from Contractor's operations shall not exceed limits established by applicable laws or regulations and in no event shall exceed 86 dB at a distance of 50 feet from the noise source.

The Contractor shall notify all residents, businesses and property owners within a 500-foot radius of the construction site about the proposed construction schedule. The notification shall be in writing and it shall be developed by the Contractor and submitted to the City for approval a minimum of 5 working days prior to the proposed public notification.

The City shall provide a Noise Disturbance Coordinator who shall be responsible for acting on any local complaints concerning the construction noise being generated by reason of the work of the project. The Contractor shall conspicuously post a telephone number for the Noise Disturbance Coordinator at the construction site and he shall include it in the construction schedule notice to be provided to the residents. The Noise Disturbance Coordinator shall investigate the noise complaint allegations and shall require the Contractor to implement reasonable measures to mitigate the noise level in accordance with the requirements of these General Conditions and of the Standard Specifications.

The Contractor shall locate all stationary noise generating construction equipment such as air compressors and generators as far as practical from the nearby residences and other noise sensitive land uses. The noise source shall be acoustically shielded when practical. The Contractor shall prohibit unnecessary idling of internal combustion engines.

12-15. Watering. The application of water shall be performed in accordance with the provisions of Section 18, "Dust Palliatives," of the Standard Specifications except as modified by these Special Provisions. The Contractor is advised that water may be obtained from fire hydrants within the Project Area under permit with the City's Public Utilities Department and

upon the payment of a meter deposit. Permit application and inquiry as to the water usage fees are to be made at Public Utilities Department-Water Division Building within the City's Corporation Yard located at 1320 Airport Road, (707) 463-6200.

12-16. Preconstruction Conference. A preconstruction conference shall be held before any work will be allowed to commence. This meeting will cover inspection, schedule for work and among other items, the responsibilities and procedures of each of the interested parties to assure that the project will be completed in accordance with the contract documents.

12-17. Progress Schedule. Progress schedules will be required for this contract and shall conform to the provisions in Section 8-1.02D, "Level 3 Critical Path Method Schedule," of the Standard Specifications. Critical Path Method (CPM) schedules shall be prepared using Microsoft Project software, or an equivalent software application approved by the Engineer. After baseline schedule is accepted by the Engineer, Contractor shall update and submit the CPM schedule to Engineer for review every 2 calendar weeks.

12-18. Progress Meetings. The Engineer shall schedule, arrange and conduct progress meetings. These meetings shall be conducted once per week, or as mutually agreed by Contractor and City, and shall be attended by the Contractor's superintendent and representatives of all subcontractors, utilities, and others, who are active in the execution of the Work. The purpose of these meetings shall be to review the Contractor's CPM schedule, resolve conflicts, and in general, coordinate and expedite the execution of the Work. Engineer will make arrangements for meetings, prepare agenda with copies for participants, preside at meetings and record the meeting minutes.

12-19. Safety Requirements. The Contractor shall comply with all pertinent provisions of the Department of Labor "Safety and Health Regulations for Construction (29 FCS Part 1518, 36 CFR 7340)", with additions or modifications thereto, in effect during construction of this project.

12-20. Public Notification. The Contractor shall be responsible for all public notification regarding construction work, including detours, lane and street closures, hours of operations, and notification of effected commercial businesses and residences within 1000 feet of the construction. For any business impacted by construction, the Contractor shall provide adequate sized on-site signage indicating that businesses are open during construction. The Contractor shall prepare public noticing via the newspaper, radio announcements, notification of the emergency vehicle agencies, public transit, Ukiah Unified School District, Ukiah Municipal Airport. At a minimum, Main Street, State Street, School Street, Perkins Street, and Gobbi Street will be affected by potential detours and street closures, with recommended alternate routes of travel. Access will be restricted to businesses and residents only during construction closures. Location of street closures signage shall be positioned to give motorists the ability to use alternate routes prior to coming to a dead end road closed for construction. All proposed detours, closures and traffic control methods shall be submitted to the Engineer for approval prior noticing to the public. All public noticing shall be performed a minimum of one (1) calendar week prior to instituting traffic control, and lane or street closures. The tentative construction schedule shall be included in the public noticing, and the use of temporary traffic signalization of intersections shall be noted. **The Contractor shall submit all public notice language to the City Engineer for approval prior to publication of notices. All road closures, detour routes, and traffic control including temporary lane closure plans shall be submitted by the Contractor to the City Engineer for approval prior to public noticing and use.**

Coincident or Adjacent Contracts

City Contract no.	City-Route-Post Mile	Location	Type of work

Replace section 5-1.26 with:

Construction surveying including horizontal and vertical control and construction staking shall be the responsibility of the Contractor. Vertical and horizontal control is to be established from the existing Control Points established by the City and shown on the Plans. Vertical Control Points are shown on the Plans.

Prior to the start of excavation work, the Contractor will be required to pothole existing utilities and other underground piping for the purpose of verifying location and depth a minimum of five (5) working days in advance of excavation. The limited utility information indicated on the Plans reflects a baseline sampling of potential utility conflicts identified during the design of the project. The Contractor is responsible for potholing at these locations at a minimum. Additional utility location efforts may be required by the Contractor to positively locate all utilities impacted by the project. As a part of the Work, the Contractor will be responsible for performing all survey and construction layout work and performing testing and quality control work.

Add to section 5-1.36A:

All temporary facilities are the responsibility of the Contractor and the removal of said facilities shall be the responsibility of the Contractor. The Contractor shall be responsible for any and all damages to existing facilities which are a result of the installation and removal of the Contractor's temporary facilities.

The City will not arrange temporary water, sewer or electrical services for construction. It is the Contractor's sole responsibility to arrange such services as necessary with the applicable utility provider(s).

6 CONTROL OF MATERIALS

Add to section 6-2.01A:

The Contractor shall be responsible for controlling the quality of the materials incorporated into the work and of the work performed. The City shall perform material sampling and testing to verify the work meets the specified quality requirements (Quality Assurance). The City will perform soil and aggregate sampling and testing using an independent testing laboratory firm licensed to perform such tests. Other required sampling and testing may be performed by the City's independent laboratory certified to perform the type of sampling and testing assigned to or requested of the m. Should any City performed test result indicate a non-compliance with the requirements of the Contract Documents, the Contractor shall remove and reconstruct or rework the non-complying portion of work at no additional cost to the City. All reconstructed and reworked items of work shall be tested at the Contractor's expense in the same manner as required for the initial work at no additional cost to the City. Prior to any removal, reconstruction or rework of any work item already incorporated into the project, the Contractor shall first obtain the approval of the Engineer as to the Contractor's proposed methods for removal, reconstruction or rework.

Examples of Quality Control material tests required by the Contractor on this project include, but are not limited to, compaction and gradation of aggregate base, Portland cement concrete and hot mix asphalt, compaction on roadway subgrade, and gradation & durability on aggregate materials.

The City reserves the right to test, at its own cost, any item of work that has been tested by the Contractor and any independent testing performed by the City shall not relieve the Contractor of his responsibility for sampling, testing, reporting and overall quality control required by the Contract Documents. Should any independent tests performed by the City indicate non-compliance with the Contract Documents, upon notice of the Engineer, the Contractor shall retest that portion of the work not in compliance to the independent test. The City will closely monitor the Contractor's retest. Should the Contractor's retest indicate compliance with the Contract Documents, the direct costs related to the retest shall be paid as extra work pursuant to the provisions provided in Section 9 of the Standard Specifications. Should the Contractor's retest indicate non-compliance, the Contractor shall remove, reconstruct, or rework the non-complying portion of work and the cost of the replacement work and retest shall be borne by the Contractor.

4. Full compensation to furnish, install and maintain **Temporary Water Pollution Control Measures** and conforming to the requirements of this section shall be paid for at the contract **lump sum** price, which price shall include full compensation for furnishing all labor, materials, tools, equipment and incidentals and for doing all work involved in the installation, construction, maintenance, removal and disposal of water pollution control practices, including non-storm water and waste management and materials pollution and water pollution control practices, except those shown on the plans for which there is a contract item of work and excluding developing, preparing, obtaining approval of, revising, and amending the SWPPP, as shown on the plans, as specified in the Standard Specifications and these Special Provisions, and as directed by the Engineer, and no additional allowance will be made therefore. No adjustment of compensation will be made for any increase or decrease in the quantities of temporary water pollution control measures, regardless of the reason for the increase or decrease. The provisions in Section 9-1.06, "Changed Quantity Payment Adjustments," shall not apply to temporary water pollution control measures.

5. Full compensation for developing, updating and maintaining **Progress Schedule (Critical Path Method)** will be paid for at the contract **lump sum** price, which price shall include developing and submitting a CPM progress schedule, updating and submitting the schedule every 2 calendar weeks, and maintaining the schedule through the duration of the contract, as specified in these Construction Details, and no additional allowance will be made therefor. Payment for Progress Schedule (Critical Path Method) shall be as follows:

- A total of 25 percent of the item total is paid upon completion of 5 percent of all work and acceptance of a schedule of values for each lump sum item in the bid schedule,
- A total of 50 percent of the item total is paid upon completion of 25 percent of all work,
- A total of 75 percent of the item total is paid upon completion of 50 percent of all work, and
- A total of 100 percent of the item total is paid upon completion of all work.

6. Full compensation for furnishing, placing, maintaining, and removing the **Construction Area Signs** will be paid for at the contract **lump sum** price, which price shall include furnishing all labor, materials, tools, equipment and incidentals for doing all work involved in furnishing and installing temporary construction area signs including changeable message boards, arrow boards, temporary relocation of regulatory signs, and for erecting or placing, maintaining (including covering and uncovering as needed) and when no longer required, removing construction area signs as specified in these Construction Details, and no additional allowance will be made therefor.

7. Full compensation for furnishing, placing, maintaining, and removing the temporary **Traffic Control System** will be paid for at the contract **lump sum** price, which price shall include furnishing all labor, materials, tools, equipment and incidentals for doing all work involved in furnishing traffic control system required for direction of public vehicular and pedestrian traffic through or around the work, including preparation and implementation of the traffic control plans, pedestrian routing plans, maintaining access to businesses, noticing, temporary facilities including temporary lighting, traffic control equipment, flaggers, signs, striping, walkways, plates, barriers, and temporary pavement marker tabs, and all other pedestrian and vehicular traffic control requirements as required or specified in these Construction Details, and no additional allowances will be made therefor.

Payment for this item includes, but is not limited to, furnishing additional signage including those pertaining to the individual businesses affected, parking restrictions and pedestrian and bicycle routing.

8. Full compensation for **Positive Location (Potholing)** will be measured and paid for at the contract unit price per **each**, which price shall include full compensation for furnishing all labor, materials, tools, equipment, transportation and incidentals, and for doing all the work involved in positively locating utilities horizontally and vertically, tracking and conveying the information to the engineer and temporarily backfilling where required, and no additional allowances will be made therefor

9. Full compensation for **Construction Survey** will be measured and paid for at the contract **lump sum** price and shall include full compensation for furnishing all labor, materials, tools, equipment and incidentals for performing all work involved in establishing and maintaining vertical control and horizontal control, staking, and related construction surveying required to perform the Work, and no additional allowances will be made therefor.

10. Full compensation for **Trench Bracing and Shoring** will be measured and paid for at the contract **lump sum** price, which price shall include full compensation for furnishing all labor, materials, tools and equipment, and doing all work involved in trench bracing and shoring, and no additional allowance will be made therefor.

11. Full compensation for **Bypass Sewage Pumping** will be measured and paid for at the contract **lump sum** price and shall include full compensation for furnishing all labor, materials, tools, equipment and incidentals for performing all work involved in establishing, operating and demobilizing the bypass sewage pumping as specified in these Special Provisions and Construction Details, and no additional allowances will be made therefor.

12. Full compensation for **Remove Traffic Stripe and Markings** will be measured and paid for at the contract unit price per **linear foot** and shall include full compensation for furnishing all labor, materials, tools, equipment and incidentals for performing all work involved in removal of paint and thermoplastic traffic striping and raised pavement markers, traffic markings and legends, including lead compliance plan, and handling, removal, and disposal of grinding or cold planing residue that is a nonhazardous waste, as specified in these Construction Details, and as shown on the Plans, and no additional allowances will be made therefor. Double yellow (4 inch) shall be measured as a single stripe. Striping and markings located within pavement removal and conform grinding limits shall be considered as included in those items, and no additional allowances will be made therefor.

13. Full compensation for **Remove Existing Drainage Inlet** will be measured and paid for at the contract unit price per **each**, which price shall include full compensation for furnishing all labor, materials, tools and equipment, and doing all the work involved in removing and demolishing existing storm drain inlets, and no additional allowance will be made therefor.

14. Full compensation for **Abandon Existing Storm Drain Pipe** will be measured and paid for at the contract unit price per **linear foot**, which price shall include full compensation for furnishing all labor, materials, tools and equipment, and doing all work involved in abandoning of system components identified on the plans including pumping applicable pipes with slurry per the specifications, and no additional allowance will be made therefor.

15. Full compensation for **Remove/Replace Unsuitable Material – Miscellaneous Concrete** will be measured and paid for at the contract unit price per **cubic yard**, which price shall include full compensation for furnishing all plant, labor, materials, tools, equipment, transportation, and incidentals for performing all work required for the removal and replacement of materials deemed unsuitable by the Engineer, including removing base, sub-base, subgrade, cutting and pruning tree roots encountered during excavation, spreading and compacting subgrade material to achieve required subgrade elevation, backfilling as required to achieve design subgrades and finish grades, and scarifying, moisture conditioning and compacting subgrade as specified in Section 19 of the Standard Specifications and these Construction Details, including, preparation of subgrade in miscellaneous concrete areas, proof rolling, scarification, moisture conditioning, and compaction and no additional allowances will be made therefor.

16. Full compensation for **Remove/Replace Unsuitable Material – Roadway Section** will be measured and paid for at the contract unit price per **cubic yard**, which price shall include full compensation for furnishing all plant, labor, materials, tools, equipment, transportation, and incidentals for performing all work required for the removal and replacement of materials deemed unsuitable by the Engineer, including removing base, sub-base, subgrade, cutting and pruning tree roots encountered during excavation, spreading and compacting subgrade material to achieve required subgrade elevation, backfilling as required to achieve design subgrades and finish grades, and scarifying, moisture conditioning and compacting subgrade as specified in Section 19 of the Standard Specifications and these Construction Details, including, preparation of subgrade in the roadway, proof rolling, scarification, moisture conditioning, and compaction and no additional allowances will be made therefor.

17. Full compensation for **Remove Concrete Curb and Gutter** will be measured and paid for at the contract unit price per **linear foot** and shall include full compensation for furnishing all labor, materials, tools, equipment and incidentals for performing all work involved in the removal of existing concrete curb and gutter including but not limited to saw cutting, removal of concrete, sand and base rock, excavation, stockpiling removed materials, hauling and disposal of removed materials, and cleaning of materials, as specified in these Construction Details and shown on the Plans, and no additional allowances will be made therefor.

18. Full compensation for **Remove Concrete Vertical Curb** will be measured and paid for at the contract unit price per **linear foot** and shall include full compensation for furnishing all labor, materials, tools, equipment and incidentals for performing all work involved in the removal of existing concrete curb including but not limited to saw cutting, removal of concrete, sand and base rock, excavation, stockpiling removed materials, hauling and disposal of removed materials, and cleaning of materials, as specified in these Construction Details and shown on the Plans, and no additional allowances will be made therefor.

19. Full compensation for **Remove Concrete Sidewalk, Driveways, and Curb Ramps** will be measured and paid for at the contract unit price per **square foot** and shall include full compensation for furnishing all labor, materials, tools, equipment and incidentals for performing all work involved in the removal of existing concrete sidewalk, pedestrian ramps and driveways, including but not limited to saw cutting, removal of concrete, sand and base rock, excavation, stockpiling removed materials, hauling and disposal of removed materials, and cleaning of materials, as specified in these Construction Details and shown on the Plans, and no additional allowances will be made therefor.

20. Full compensation for **Remove Concrete Roadway** will be measured and paid for at the contract unit price per **square foot** and shall include full compensation for furnishing all labor, materials, tools, equipment and incidentals for performing all work involved in the removal of the roadway surface, including but not limited to, removal of striping and markings within the limits, lowering utility covers, excavation, stockpiling removed materials, hauling and disposal of removed materials, cleaning of materials furnishing, the asphalt concrete for and constructing, maintaining, removing and disposing of temporary asphalt concrete tapers and generally preparing surface for asphalt concrete pavement, as specified in these Construction Details, shown on the Plans, and directed by the Engineer and no additional allowances will be made therefor.

21. Full compensation for **Remove/Salvage Trash Receptacle** will be measured and paid for at the contract unit price per **each**, which price shall include full compensation for furnishing all plant, labor, materials, tools and equipment and doing all the work involved in removing and salvaging the receptacle, as shown on the Plans and specified in these Construction Details, and no additional allowances will be made therefor.

22. Full compensation for **Remove Lighting Standard** will be measured and paid for at the contract unit price per **each**, which price shall include full compensation for furnishing all labor, materials, tools, equipment, transportation and incidentals, and for doing all the work involved in disconnecting lighting standard from lighting circuit, removing and abandoning junction boxes, removing existing lighting standards, bases and foundations as shown on the Plans and Standard Plans, and specified in the Standard Specifications and these construction details, and no additional allowances will be made therefor.

23. Full compensation for **Remove Sanitary Sewer Manhole** will be measured and paid for at the contract unit price per **each**, which price shall include full compensation for furnishing all labor, materials, tools and equipment, and doing all the work involved in removing, demolishing and disposal of existing sanitary sewer manhole, and no additional allowance will be made therefor.

24. Full compensation for **Abandon Sanitary Sewer Manhole** will be measured and paid for at the contract unit price per **each**, which price shall include full compensation for furnishing all labor, materials, tools and equipment, and doing all the work involved in removing, demolishing and disposal of existing sanitary sewer manhole that is in conflict with the roadway section grading plane and filling the remainder of the manhole with a suitable material, and no additional allowance will be made therefor.

25. Full compensation for **Remove Existing Sewer Main Line Cleanout** will be measured and paid for at the contract unit price per **each**, which price shall include full compensation for furnishing all labor, materials, tools and equipment, and doing all the work involved in removing, demolishing and disposing of existing sewer main line cleanout, and no additional allowance will be made therefor.

26. Full compensation for **Remove Existing Sewer Main** will be measured and paid for at the contract unit price per **linear foot**, which price shall include full compensation for furnishing all labor, materials, tools and equipment, and doing all work involved in demolition and disposal of redundant sewer main in conflict with the new construction, and no additional allowance will be made therefor.

27. Full compensation for **Abandon Existing Sewer Main** will be measured and paid for at the contract unit price per **linear foot**, which price shall include full compensation for furnishing all labor, materials, tools and equipment, and doing all work involved in abandoning the sewer main, including pumping applicable pipes with slurry per the size requirements in the specifications and no additional allowance will be made therefor.

28. Full compensation for **Abandon Existing Sewer Lateral** will be measured and paid for at the contract unit price per **each**, which price shall include full compensation for furnishing all labor, materials, tools and equipment, and doing all the work involved in removing, demolishing and disposing of existing sewer lateral where in conflict, and no additional allowance will be made therefor.

29. Full compensation for **Abandon Existing Water Main** will be measured and paid for at the contract unit price per **linear foot**, which price shall include full compensation for furnishing all labor, materials, tools and equipment, and doing all work

involved in demolition and disposal of redundant water main in conflict with the new construction, and pumping applicable pipes with slurry per the size requirements in the specifications and no additional allowance will be made therefor.

30. Full compensation for **Utility Conflict Resolution** shall be paid for on a **Force Account** basis up to the contract allowance price and shall include full compensation for furnishing all labor, materials, permits, tools and equipment, and for doing all the work involved as required to resolve all utility conflicts, and as directed by the Engineer, and no additional compensation will be allowed therefor.

31. Full compensation for **12" Water Main C900** will be measured and paid for at the contract unit price per **linear foot**, which price shall include full compensation for furnishing all labor, materials, tools and equipment and doing all the work involved in furnishing and installing water pipe including all pipe fittings and valves, concrete thrust blocks & pipe restraint as show on the plans, complete in place, all excavation & disposal of excavated material; hand digging to protect roots; root pruning; abandonment, temporary connections, removal and disposal of existing materials; connecting to new or existing pipe and service laterals; dewatering and ground water disposal; controlled low strength material if used; temporary and permanent trench paving; obtaining and disposing of construction water; temporary blow offs; swabbing, disinfecting and testing; and any other items when required by the work or shown on the Plans, not specifically enumerated in the Plans or these specifications and no additional allowance will be made therefor.

32. Full compensation for **12" Water Main Ductile Iron Pipe** will be measured and paid for at the contract unit price per **linear foot**, which price shall include full compensation for furnishing all labor, materials, tools and equipment and doing all the work involved in furnishing and installing water pipe including all pipe fittings and valves, concrete thrust blocks & pipe restraint as show on the plans, complete in place, all excavation & disposal of excavated material; hand digging to protect roots; root pruning; abandonment, temporary connections, removal and disposal of existing materials; connecting to new or existing pipe; dewatering and ground water disposal; controlled low strength material if used; temporary and permanent trench paving; obtaining and disposing of construction water; swabbing, disinfecting and testing; and any other items when required by the work or shown on the Plans, not specifically enumerated in the Plans or these specifications and no additional allowance will be made therefor.

33. Full compensation for **6" Steel Casing Pipe - Bore and Jack (Electric)** will be measured and paid for at the contract unit price per **linear foot**, which price shall include full compensation for furnishing all labor, materials, tools and equipment and doing all the work involved in the installation of the steel casing pipe under the existing box culvert structure, complete, including, excavation of sending and receiving pits, casing spacers, bracing, welding, installation, backfill, compaction, sand filling of annular space, approved casing end caps and all labor, materials, tools and equipment required in performing the work required and any other items when required by the work or shown on the Plans, not specifically enumerated in the Plans or these specifications and no additional allowance will be made therefor.

34. Full compensation for **8" Steel Casing Pipe - Bore and Jack (AT&T & CATV)** will be measured and paid for at the contract unit price per **linear foot**, which price shall include full compensation for furnishing all labor, materials, tools and equipment and doing all the work involved in the installation of the steel casing pipe under the existing box culvert structure, complete, including, excavation of sending and receiving pits, casing spacers, bracing, welding, installation, backfill, compaction, sand filling of annular space, approved casing end caps and all labor, materials, tools and equipment required in performing the work required and any other items when required by the work or shown on the Plans, not specifically enumerated in the Plans or these specifications and no additional allowance will be made therefor.

35. Full compensation for **18" Steel Casing Pipe - Bore and Jack (Water and SS)** will be measured and paid for at the contract unit price per **linear foot**, which price shall include full compensation for furnishing all labor, materials, tools and equipment and doing all the work involved in the installation of the steel casing pipe under the existing box culvert structure, complete, including, excavation of sending and receiving pits, casing spacers, bracing, welding, installation, backfill, compaction, sand filling of annular space, approved casing end caps and all labor, materials, tools and equipment required in performing the work required and any other items when required by the work or shown on the Plans, not specifically enumerated in the Plans or these specifications and no additional allowance will be made therefor.

36. Full compensation for **4" Water Main C900** will be measured and paid for at the contract unit price per **linear foot**, which price shall include full compensation for furnishing all labor, materials, tools and equipment and doing all the work involved in furnishing and installing water pipe including all pipe fittings and valves, concrete thrust blocks & pipe restraint as show on the plans, complete in place, all excavation & disposal of excavated material; hand digging to protect roots; root pruning; abandonment, temporary connections, removal and disposal of existing materials; connecting to new or existing pipe and service laterals; dewatering and ground water disposal; controlled low strength material if used; temporary and permanent trench paving; obtaining and disposing of construction water; temporary blow offs; swabbing, disinfecting and testing; and

any other items when required by the work or shown on the Plans, not specifically enumerated in the Plans or these specifications and no additional allowance will be made therefor.

37. Full compensation for **6" Water Main C900** will be measured and paid for at the contract unit price per **linear foot**, which price shall include full compensation for furnishing all labor, materials, tools and equipment and doing all the work involved in furnishing and installing water pipe including all pipe fittings and valves, concrete thrust blocks & pipe restraint as show on the plans, complete in place, all excavation & disposal of excavated material; hand digging to protect roots; root pruning; abandonment, temporary connections, removal and disposal of existing materials; connecting to new or existing pipe and service laterals; dewatering and ground water disposal; controlled low strength material if used; temporary and permanent trench paving; obtaining and disposing of construction water; temporary blow offs; swabbing, disinfecting and testing; and any other items when required by the work or shown on the Plans, not specifically enumerated in the Plans or these specifications and no additional allowance will be made therefor.

38. Full compensation for all **1" Water Service (For 3/4" Meter)** will be measured and paid for at the contract unit price per **each**, which price shall include full compensation for furnishing all labor, materials, tools and equipment and doing all the work involved in furnishing and installing water lateral pipe, water meters and service connections including all pipe fittings, as show on the plans, complete in place; all excavation & disposal of excavated material; hand digging to protect roots; root pruning; abandonment, temporary connections, removal and disposal of existing materials; connecting to new or existing pipe; identifying, locating and connecting to the existing building water service connection 1-ft from the property boundary; dewatering and ground water disposal; controlled low strength material if used; temporary and permanent trench paving and any other items when required by the work or shown on the Plans, not specifically enumerated in the Plans or these specifications and no additional allowance will be made therefor.

39. Full compensation for **Fire Hydrant and Lateral** will be measured and paid for at the contract unit price per **each**, which price shall include full compensation for furnishing all labor, materials, tools and equipment and doing all the work involved in furnishing and installing fire hydrants including all pipe fittings, concrete thrust blocks & pipe restraint as show on the plans, complete in place, all excavation & disposal of excavated material; hand digging to protect roots; root pruning; abandonment, temporary connections, removal and disposal of existing materials; connecting to new or existing pipe; dewatering and ground water disposal; controlled low strength material if used; temporary and permanent trench paving; testing; and any other items when required by the work or shown on the Plans, not specifically enumerated in the Plans or these specifications and no additional allowance will be made therefor.

40. Full compensation for **Fire Service** will be measured and paid for at the contract unit price per **each**, which price shall include full compensation for furnishing all labor, materials, tools and equipment and doing all the work involved in furnishing and installing fire services where they exist including all pipe fittings, concrete thrust blocks & pipe restraint as show on the plans, complete in place, all excavation & disposal of excavated material; hand digging to protect roots; root pruning; abandonment, temporary connections, removal and disposal of existing materials; connecting to new or existing pipe; dewatering and ground water disposal; controlled low strength material if used; temporary and permanent trench paving; testing; and any other items when required by the work or shown on the Plans, not specifically enumerated in the Plans or these specifications and no additional allowance will be made therefor.

41. Full compensation for **air relief valves** will be measured and paid for at the contract unit price per **item**, which price shall include full compensation for furnishing all labor, materials, enclosures, labels, coatings, concrete pads, hardware, tools and equipment and doing all the work involved in furnishing and installing air relief valves including all pipe fittings, concrete thrust blocks & pipe restraint as shown on the plans, complete in place; all excavation & disposal of excavated material; hand digging to protect roots; root pruning; abandonment, temporary connections, removal and disposal of existing materials; connecting to new or existing pipe; dewatering and ground water disposal; controlled low strength material if used; temporary and permanent trench paving; testing; and any other items when required by the work or shown on the Plans, not specifically enumerated in the Plans or these specifications and no additional allowance will be made therefor.

42. Full compensation for **backflow preventers** will be measured and paid for at the contract unit price per **item**, which price shall include full compensation for furnishing all labor, materials, enclosures, labels, coatings, concrete pads, hardware, tools and equipment and doing all the work involved in furnishing and installing backflow preventers including all pipe fittings, as shown on the plans, complete in place; all excavation & disposal of excavated material; hand digging to protect roots; root pruning; abandonment, temporary connections, removal and disposal of existing materials; connecting to new or existing pipe; dewatering and ground water disposal; controlled low strength material if used; temporary and permanent trench paving; and any other items when required by the work or shown on the Plans, not specifically enumerated in the Plans or these specifications and no additional allowance will be made therefor.

43. Full compensation for **Cap Existing Water Main** will be measured and paid for at the contract unit price per **each**, which price shall include full compensation for furnishing all plant, labor, materials, tools, equipment, transportation, and incidentals for performing all work required to excavate, cut and remove and cap the existing water main and no additional allowances will be made therefor

44. Full compensation for **Water Tie-In** will be measured and paid for at the contract unit price per **each**, which price shall include full compensation for furnishing all plant, labor, materials, tools, equipment, transportation, and incidentals for performing all work required at the tie in locations to the existing main, including testing and acceptance and no additional allowances will be made therefor.

45. Full compensation for **Temporary Blow Off** will be measured and paid for at the contract unit price per **item**, which price shall include full compensation for furnishing all labor, materials, enclosures, labels, coatings, concrete pads, temporary thrust restraint, hardware, tools and equipment and doing all the work involved in furnishing and installing temporary blow offs including all pipe fittings, as shown on the plans, complete in place; all excavation & disposal of excavated material; hand digging to protect roots; root pruning; abandonment, temporary connections, removal and disposal of existing materials; connecting to new or existing pipe; dewatering and ground water disposal; controlled low strength material if used; testing; and any other items when required by the work or shown on the Plans, not specifically enumerated in the Plans or these specifications and no additional allowance will be made therefor.

46. Full compensation for all **12" PVC Pipe Sanitary Sewer pipe** will be measured and paid for at the contract unit price per **linear foot**, which price shall include full compensation for furnishing all labor, materials, tools and equipment and doing all the work involved in furnishing and installing the sanitary sewer pipe, including all pipe fittings, as shown on the plans, complete in place; all excavation & disposal of excavated materials; connecting to new or existing pipe or manholes; dewatering and groundwater disposal; controlled low strength material if used; temporary and permanent trench paving; testing; CCTV inspection; and any other items when required by the work or shown on the Plans, not specifically enumerated in the Plans or these specifications, and no allowance will be made therefor.

47. Full compensation for all **10" PVC Pipe Sanitary Sewer pipe** will be measured and paid for at the contract unit price per **linear foot**, which price shall include full compensation for furnishing all labor, materials, tools and equipment and doing all the work involved in furnishing and installing the sanitary sewer pipe, including all pipe fittings, as shown on the plans, complete in place; all excavation & disposal of excavated materials; connecting to new or existing pipe or manholes; dewatering and groundwater disposal; controlled low strength material if used; temporary and permanent trench paving; testing; CCTV inspection; and any other items when required by the work or shown on the Plans, not specifically enumerated in the Plans or these specifications, and no allowance will be made therefor.

48. Full compensation for all **8" PVC Pipe Sanitary Sewer pipe** will be measured and paid for at the contract unit price per **linear foot**, which price shall include full compensation for furnishing all labor, materials, tools and equipment and doing all the work involved in furnishing and installing the sanitary sewer pipe, including all pipe fittings, as shown on the plans, complete in place; all excavation & disposal of excavated materials; connecting to new or existing pipe or manholes; dewatering and groundwater disposal; controlled low strength material if used; temporary and permanent trench paving; testing; CCTV inspection; and any other items when required by the work or shown on the Plans, not specifically enumerated in the Plans or these specifications, and no allowance will be made therefor.

49. Full compensation for all **48" sanitary sewer manhole** will be measured and paid for at the contract unit price per each, which price shall include full compensation for furnishing all labor, materials, tools and equipment and doing all the work involved in furnishing and installing the sanitary sewer manholes, as shown on the plans, complete in place; all excavation & disposal of excavated materials; connecting to new or existing pipe; dewatering and groundwater disposal; controlled low strength material if used; frames and covers; testing; and any other items when required by the work or shown on the Plans, not specifically enumerated in the Plans or these specifications, and no allowance will be made therefor.

50. Full compensation for all **Sewer Main Line Cleanout** will be measured and paid for at the contract unit price per **each**, which price shall include full compensation for furnishing all labor, materials, tools and equipment and doing all the work involved in furnishing and installing the sanitary sewer laterals and cleanouts, including all pipe fittings, as shown on the plans, complete in place; all excavation & disposal of excavated materials; connecting to new or existing sewer main; all cleanouts frames and covers; dewatering and groundwater disposal; controlled low strength material if used; temporary and permanent trench paving; testing; and any other items when required by the work or shown on the Plans, not specifically enumerated in the Plans or these specifications, and no allowance will be made therefor.

51. Full compensation for all **4" Sewer Lateral with Cleanout** will be measured and paid for at the contract unit price per **each**, which price shall include full compensation for furnishing all labor, materials, tools and equipment and doing all the work involved in furnishing and installing the sanitary sewer laterals and cleanouts, including inspecting existing live laterals and marking the alignment back to the point of connection to the building; all pipe fittings, as shown on the plans, complete in place; all excavation & disposal of excavated materials; connecting to new or existing sewer main; all cleanouts frames and covers; dewatering and groundwater disposal; controlled low strength material if used; temporary and permanent trench paving; testing; and any other items when required by the work or shown on the Plans, not specifically enumerated in the Plans or these specifications, and no allowance will be made therefor.

52. Full compensation for **Drainage Inlet** will be measured and paid for at the contract unit price per **each**, which price shall include full compensation for furnishing all labor, materials, tools and equipment, and doing all the work involved in providing area storm drain inlets, including that portion of pipe not paid for under pipe; excavation, subgrade preparation, providing all pipe fittings, grouting, furnishing, placing, & compacting backfill material, and controlled density fill where required; furnishing, installing, and any other items necessary to place the LID storm drain inlet on specified fill when required by the work or shown on the Plans, and other work not specifically enumerated in the Plans or these specifications, and no additional allowance will be made therefor.

53. Full compensation for **LID Storm Drain Inlet** will be measured and paid for at the contract unit price per **each**, which price shall include full compensation for furnishing all labor, materials, tools and equipment, and doing all the work involved in providing LID area storm drain inlets, including that portion of pipe not paid for under pipe; excavation, subgrade preparation, providing all pipe fittings, grouting, furnishing, placing, & compacting backfill material, and controlled density fill where required; furnishing, installing, and any other items necessary to place the LID storm drain inlet on specified fill when required by the work or shown on the Plans, and other work not specifically enumerated in the Plans or these specifications, and no additional allowance will be made therefor.

54. Full compensation for all **Under Sidewalk Drains** will be measured and paid for at the contract unit price per **each**, which price shall include full compensation for furnishing all labor, materials, tools and equipment and doing all the work involved in furnishing and installing the storm drain pipe, including all pipe fittings, as shown on the plans, complete in place; all excavation & disposal of excavated materials; connecting to new or existing pipe or manholes; dewatering and groundwater disposal; controlled low strength material if used; and any other items when required by the work or shown on the Plans, not specifically enumerated in the Plans or these specifications, and no allowance will be made therefor.

55. Full compensation for all **15" RCP Storm Drain Pipe** will be measured and paid for at the contract unit price per **linear foot**, which price shall include full compensation for furnishing all labor, materials, tools and equipment and doing all the work involved in furnishing and installing the storm drain pipe, including all pipe fittings, as shown on the plans, complete in place; all excavation & disposal of excavated materials; connecting to new or existing pipe or manholes; dewatering and groundwater disposal; controlled low strength material if used; temporary and permanent trench paving; testing; CCTV inspection; and any other items when required by the work or shown on the Plans, not specifically enumerated in the Plans or these specifications, and no allowance will be made therefor.

56. Full compensation for all **12" RCP Storm Drain Pipe** will be measured and paid for at the contract unit price per **linear foot**, which price shall include full compensation for furnishing all labor, materials, tools and equipment and doing all the work involved in furnishing and installing the storm drain pipe, including all pipe fittings, as shown on the plans, complete in place; all excavation & disposal of excavated materials; connecting to new or existing pipe or manholes; dewatering and groundwater disposal; controlled low strength material if used; temporary and permanent trench paving; testing; CCTV inspection; and any other items when required by the work or shown on the Plans, not specifically enumerated in the Plans or these specifications, and no allowance will be made therefor.

57. Full compensation for all **48" Storm Drain Manhole** will be measured and paid for at the contract unit price per **each**, which price shall include full compensation for furnishing all labor, materials, tools and equipment and doing all the work involved in furnishing and installing the manholes, as shown on the plans, complete in place; all excavation & disposal of excavated materials; connecting to new or existing pipe; dewatering and groundwater disposal; controlled low strength material if used; frames and covers; testing; and any other items when required by the work or shown on the Plans, not specifically enumerated in the Plans or these specifications, and no allowance will be made therefor.

58. Full compensation for **Clearing and Grubbing** will be paid for at the contract **lump sum** price, which price shall include full compensation for furnishing all labor, materials, tools, equipment and incidentals for performing all work involved in

clearing and grubbing, including but not limited to tree removal, vegetation removal, and irrigation removal within the limits shown on the Plans and as specified in these Construction Details, and no additional allowances will be made therefor.

59. Full compensation for **Remove Tree and Stump** will be measured and paid for at the contract unit price per **each**, which price shall include full compensation for all labor, materials, tools and equipment and doing all the work involved in removing street trees, including excavation and removal and all other incidentals, as shown on the Plans and specified in these Construction Details, and no additional allowances will be made therefor.

60. Full compensation for **Remove Tree Grate** will be measured and paid for at the contract unit price per **each**, which price shall include full compensation for all labor, materials, tools and equipment and doing all the work involved in removing tree grates, including excavation and removal and all other incidentals, as shown on the Plans and specified in these Construction Details, and no additional allowances will be made therefor.

61. Full compensation for **Conform Grinding** will be measured and paid for at the contract unit price per **square foot** and shall include full compensation for furnishing all labor, materials, tools, equipment and incidentals for performing all work involved in the asphalt concrete cold planning and grinding at conforms, including but not limited to, removal of striping and markings within conform grind limits, lowering utility covers, excavation, stockpiling removed materials, hauling and disposal of removed materials, cleaning of materials furnishing, the asphalt concrete for and constructing, maintaining, removing and disposing of temporary asphalt concrete tapers and generally preparing surface for asphalt concrete pavement, as specified in these Construction Details, shown on the Plans, and directed by the Engineer and no additional allowances will be made therefor.

62. Full compensation for **Edge Grinding** will be measured and paid for at the contract unit price per **square foot** and shall include full compensation for furnishing all labor, materials, tools, equipment and incidentals for performing all work involved in the asphalt concrete cold planning and grinding at conforms, including but not limited to, removal of striping and markings within conform grind limits, lowering utility covers, excavation, stockpiling removed materials, hauling and disposal of removed materials, cleaning of materials furnishing, the asphalt concrete for and constructing, maintaining, removing and disposing of temporary asphalt concrete tapers and generally preparing surface for asphalt concrete pavement, as specified in these Construction Details, shown on the Plans, and directed by the Engineer and no additional allowances will be made therefor.

63. Full compensation for **Cold Plane Asphalt Concrete Paving** will be measured and paid for at the contract unit price per **square foot** and shall include full compensation for furnishing all labor, materials, tools, equipment and incidentals for performing all work involved in the asphalt concrete cold planning, including but not limited to, removal of striping and markings within grind limits, lowering utility covers, excavation, stockpiling removed materials, hauling and disposal of removed materials, cleaning of materials furnishing, the asphalt concrete for and constructing, maintaining, removing and disposing of temporary asphalt concrete tapers and generally preparing surface for asphalt concrete pavement, as specified in these Construction Details, shown on the Plans, and directed by the Engineer and no additional allowances will be made therefor.

64. Full compensation for **Roadway Excavation** will be measured and paid for at the contract unit price per **cubic yard (F)** for the final pay quantity in the Engineer's Estimate, which price shall include full compensation for furnishing all plant, labor, materials, tools, equipment, transportation, and incidentals for performing all work required for the roadway excavation and bioretention / LID area excavation as described in this section within the limits shown on the Plans, removing asphalt concrete pavement, base, sub-base, subgrade, cutting and pruning tree roots encountered during excavation, spreading and compacting subgrade material to achieve required subgrade elevation, backfilling as required to achieve design subgrades and finish grades, and scarifying, moisture conditioning and compacting subgrade as specified in Section 19 of the Standard Specifications and these Construction Details, including, preparation of subgrade in all roadway, curb and gutter, sidewalk, driveway and ramp areas, proof rolling, scarification, moisture conditioning, and compaction and no additional allowances will be made therefor.

Removal of existing bituminous pavement and base materials will be paid for as roadway excavation.

65. Full compensation for **Class 2 Aggregate Base** will be measured and paid for at the contract unit price per **cubic yard** and shall include full compensation for furnishing all plant, labor, materials, tools, equipment, transportation, and incidentals for performing all work required for the hauling, constructing, placing, spreading, moisture conditioning and compacting of aggregate base, and Class 2 permeable material to finish grade or subgrade elevations within the limits shown on the Plans, as specified in Section 26 of the Standard Specifications and these Construction Details, and no additional allowances will be made therefor.

66. Full compensation for **Hot Mix Asphalt (Type A)** will be measured and paid for at the contract unit price per **ton** which price shall include full compensation for furnishing all plant, labor, materials, tools, equipment, transportation, and incidentals for performing all work under “Hot Mix Asphalt,” including but not limited fiber reinforced HMA, fiber reinforced leveling course, fiber reinforced HMA overlay, tack coat, subgrade proof rolling, compaction, testing and other incidentals as shown on the Plans and specified in the Standard Specification, these Construction Details, and as directed by the Engineer, and no additional allowances will be made therefor.

67. Full compensation for **Adjust Existing Sanitary Manhole Cover to Grade** will be measured and paid for at the contract unit price per **each** and shall include full compensation for furnishing all labor, materials, tools, equipment and incidentals for performing all work involved in adjusting existing sanitary sewer manhole covers to new finish grades, including but not limited to excavation, backfill, concrete, grade rings, debris platforms, cleaning, asphalt or concrete pavement and mortar throughout the project limits and all other related work specified on the Plans, in these Construction Details, the Standard Specifications and as directed by the Engineer and no additional allowances will be made therefor. Lowering manhole covers prior to roadway removal/cold planing shall be paid for under those items of work as further described in these Construction Details.

68. Full compensation for **Adjust Existing Storm Drain Manhole Cover to Grade** will be measured and paid for at the contract unit price per **each** and shall include full compensation for furnishing all labor, materials, tools, equipment and incidentals for performing all work involved in adjusting existing storm drain manhole covers to new finish grades, including but not limited to excavation, backfill, concrete, grade rings, debris platforms, cleaning, asphalt or concrete pavement and mortar throughout the project limits and all other related work specified on the Plans, in these Construction Details, the Standard Specifications and as directed by the Engineer and no additional allowances will be made therefor. Lowering manhole covers prior to roadway removal/cold planing shall be paid for under those items of work as further described in these Construction Details.

69. Full compensation for **Adjust AT&T Manhole Cover to Grade** will be measured and paid for at the contract unit price per **each** and shall include full compensation for furnishing all labor, materials, tools, equipment and incidentals for performing all work involved in adjusting existing utility manhole covers to new finish grades, including but not limited to excavation, backfill, concrete, grade rings, debris platforms, cleaning, asphalt or concrete pavement and mortar throughout the project limits and all other related work specified on the Plans, in these Construction Details, the Standard Specifications and as directed by the Engineer and no additional allowances will be made therefor. Lowering manhole covers prior to roadway removal/cold planing shall be paid for under those items of work as further described in these Construction Details.

70. Full compensation for **Adjust Existing Drainage Inlet to Grade** will be measured and paid for at the contract unit price per **each** and shall include full compensation for furnishing all labor, materials, tools, equipment and incidentals for performing all work involved in adjusting existing storm drain inlet to new finish grades, including but not limited to excavation, backfill, concrete, grade rings, debris platforms, cleaning, asphalt or concrete pavement and mortar throughout the project limits and all other related work specified on the Plans, in these Construction Details, the Standard Specifications and as directed by the Engineer and no additional allowances will be made therefor. Lowering manhole covers prior to roadway removal/cold planing shall be paid for under those items of work as further described in these Construction Details.

71. Full compensation for **Adjust Existing Street Monument Cover to Grade** will be measured and paid for at the contract unit price per **each** and shall include full compensation for furnishing all labor, materials, tools, equipment and incidentals for performing all work involved in adjusting existing cover to new finish grades, including but not limited to excavation, backfill, concrete, grade rings, debris platforms, cleaning, asphalt or concrete pavement and mortar throughout the project limits and all other related work specified on the Plans, in these Construction Details, the Standard Specifications and as directed by the Engineer and no additional allowances will be made therefor. Lowering manhole covers prior to roadway removal/cold planing shall be paid for under those items of work as further described in these Construction Details.

72. Full compensation for **Adjust Existing Utility Cover to Grade (Sidewalk)** will be measured and paid for at the contract unit price per **each** and shall include full compensation for furnishing all labor, materials, tools, equipment and incidentals for performing all work involved in adjusting existing utility and box covers in sidewalk areas, to new finish grades, including but not limited to excavation, backfill, concrete, grade rings, debris platforms, cleaning, concrete pavement and mortar throughout the project limits and all other related work specified on the Plans, in these Construction Details, the Standard Specifications and as directed by the Engineer and no additional allowances will be made therefor.

73. Full compensation for **Adjust Existing Valves to Grade** will be measured and paid for at the contract unit price per **each** and shall include full compensation for furnishing all labor, materials, tools, equipment and incidentals for performing all work involved in adjusting existing valve covers and sanitary sewer cleanout covers, to new finish grades, including but not limited to excavation, backfill, concrete, grade rings, debris platforms, cleaning, asphalt or concrete pavement and mortar throughout the project limits and all other related work specified on the Plans, in these Construction Details, the Standard Specifications and as directed by the Engineer and no additional allowances will be made therefor. Lowering covers prior to roadway removal/cold planing shall be paid for under those items of work as further described in these Construction Details.

74. Full compensation for **Minor Concrete (Curb and Gutter)** will be measured and paid for at the contract unit price per **linear foot**, which price shall include full compensation for furnishing all plant, labor, materials, tools and equipment and doing all the work involved in constructing curb and gutter complete in place, including formwork, expansion joints, scoring, and all incidentals, as shown on the Plans and City of Ukiah Standard Plans, and specified in these Construction Details, and no additional allowances will be made therefor.

75. Full compensation for **Minor Concrete (6" Vertical Curb)** will be measured and paid for at the contract unit price per **linear foot**, which price shall include full compensation for furnishing all plant, labor, materials, tools and equipment and doing all the work involved in constructing the curb in place, including formwork, expansion joints, scoring, and all incidentals, as shown on the Plans and City of Ukiah Standard Plans, and specified in these Construction Details, and no additional allowances will be made therefor.

76. Full compensation for **Minor Concrete (Driveway)** will be measured and paid for at the contract unit price per **square foot**, which price shall include full compensation for furnishing all plant, labor, materials, tools and equipment and doing all the work involved in constructing driveway curb cut complete in place, including setting and verification of grade, placing rebar as shown in the detail, placing and finishing concrete, expansion joints, scoring, and all incidentals, as shown on the Plans and City of Ukiah Standard Plans, and specified in these Construction Details, and no additional allowances will be made therefor.

77. Full compensation for **Minor Concrete (Sidewalk)** will be measured and paid for at the contract unit price per **square foot**, which price shall include full compensation for furnishing all plant, labor, materials, tools and equipment and doing all the work involved in constructing sidewalk complete in place, including setting and verification of grade, placing and finishing concrete, retaining curbs behind sidewalks, expansion joints, scoring, and all incidentals, as shown on the Plans and City of Ukiah Standard Plans, and specified in these Construction Details, and no additional allowances will be made therefor.

78. Full compensation for **Minor Concrete (Curb Ramp)** will be measured and paid for at the contract unit price per **each**, which price shall include full compensation for furnishing all plant, labor, materials, tools and equipment and doing all the work involved in constructing curb ramps including setting and verification of grade, furnishing and placing concrete, expansion joints and all other incidentals, as shown on the Plans and City of Ukiah Standard Plans, and specified in these Construction Details, and no additional allowances will be made therefor. The work limits for Minor Concrete (Curb Ramp) shall include all concrete work up to the sidewalk border. Sidewalk area outside of the ramp will be paid for under Minor Concrete (Sidewalk).

79. Full compensation for **Minor Concrete (Detectable Warning Surface)** will be measured and paid for at the contract unit price per **each**, which price shall include full compensation for furnishing all plant, labor, materials, tools and equipment and doing all the work involved in installing the detectable warning surface including setting and verification of grade, and all other incidentals, as shown on the Plans and City of Ukiah Standard Plans, and specified in these Construction Details, and no additional allowances will be made therefor.

80. Full compensation for **Minor Concrete (8" Median Curb)** will be measured and paid for at the contract unit price per **linear foot**, which price shall include full compensation for furnishing all plant, labor, materials, tools and equipment and doing all the work involved in constructing 8" median curb complete in place, including formwork, expansion joints, scoring, and all incidentals, as shown on the Plans and City of Ukiah Standard Plans, and specified in these Construction Details, and no additional allowances will be made therefor.

81. Full compensation for **Minor Concrete (Median Paving)** will be measured and paid for at the contract unit price per **linear foot**, which price shall include full compensation for furnishing all plant, labor, materials, tools and equipment and doing all the work involved in constructing median paving complete in place, including formwork, expansion joints, scoring,

and all incidentals, as shown on the Plans and City of Ukiah Standard Plans, and specified in these Construction Details, and no additional allowances will be made therefor.

82. Full compensation for **Minor Concrete (Bioretention Curb & Gutter)** will be measured and paid for at the contract unit price per **linear foot**, which price shall include full compensation for furnishing all plant, labor, materials, tools and equipment and doing all the work involved in constructing the bioretention curb and gutter complete in place, including formwork, rebar, utility penetrations, waterproofing, expansion joints, scoring, and all incidentals, as shown on the Plans and City of Ukiah Standard Plans, and specified in these Construction Details, and no additional allowances will be made therefor.

83. Full compensation for **Minor Concrete (Bioretention Vertical Curb)** will be measured and paid for at the contract unit price per **linear foot**, which price shall include full compensation for furnishing all plant, labor, materials, tools and equipment and doing all the work involved in constructing the bioretention curb and gutter complete in place, including formwork, rebar, utility penetrations, waterproofing, expansion joints, scoring, and all incidentals, as shown on the Plans and City of Ukiah Standard Plans, and specified in these Construction Details, and no additional allowances will be made therefor.

84. Full compensation for **Irrigation System** will be paid for at the contract **lump sum** price, which price shall include full compensation for furnishing all labor, materials, tools, equipment and incidentals for performing all work involved in constructing the landscape irrigation system, including but not limited to piping, sleeves, fittings, valves, controls, emitter assemblies, sprinkler assemblies and all other irrigation work shown on the Plans and as specified in these Construction Details, and no additional allowances will be made therefor.

85. Full compensation for **Street Tree** will be measured and paid for at the contract unit price per **each**, which price shall include full compensation for furnishing all plant, labor, materials, tools and equipment and doing all the work involved in providing new street trees, including excavation, backfill, import planting soil, fertilizer, root barriers and all other incidentals, as shown on the Plans and specified in these Construction Details, and no additional allowances will be made therefor.

86. Full compensation for **Decomposed Granite Tree Well** will be measured and paid for at the contract unit price per **square foot**, which price shall include full compensation for furnishing all plant, labor, materials, tools and equipment and doing all the work involved in constructing decomposed granite pavement complete in place, including excavation, subgrade preparation, setting and verification of grade, compaction, placing material, finishing, and all incidentals, as shown on the Plans and City of Ukiah Standard Plans, and specified in these Construction Details, and no additional allowances will be made therefor.

87. Full compensation for **Brick Band** will be measured and paid for at the contract unit price per **linear foot**, which price shall include full compensation for furnishing all plant, labor, materials, tools and equipment and doing all the work involved in constructing the brick band complete in place, including setting and verification of grade, placing and the base material and bricks, and all incidentals, as shown on the Plans and City of Ukiah Standard Plans, and specified in these Construction Details, and no additional allowances will be made therefor.

88. Full compensation for **Bench** will be measured and paid for at the contract unit price per **each**, which price shall include full compensation for furnishing all plant, labor, materials, tools and equipment and doing all the work involved in providing new benches, including concrete anchors and all incidentals, as shown on the Plans and specified in these Construction Details, and no additional allowances will be made therefor.

89. Full compensation for **Bike Rack** will be measured and paid for at the contract unit price per **each**, which price shall include full compensation for furnishing all plant, labor, materials, tools and equipment and doing all the work involved in providing new bike racks, including concrete anchors and all incidentals, as shown on the Plans and specified in these Construction Details, and no additional allowances will be made therefor.

90. Full compensation for **Planter Rail** will be measured and paid for at the contract unit price per **linear foot**, which price shall include full compensation for furnishing all plant, labor, materials, tools and equipment and doing all the work involved in preparing and installing new planter rail along the bioretention area and all incidentals, as shown on the Plans and City of Ukiah Standard Plans, and specified in these Construction Details, and no additional allowances will be made therefor.

91. Full compensation for **Planting Area** will be measured and paid for at the contract unit price per **square foot**, which price shall include full compensation for furnishing all plant, labor, materials, tools and equipment and doing all the work involved in preparing and installing new landscape planting, including but not limited to preparation, excavation, soil placement, fertilizer, placing plants, and all incidentals, as shown on the Plans and City of Ukiah Standard Plans, and

specified in these Construction Details, and no additional allowances will be made therefor.

92. Full compensation for **Plant Establishment Work** will be paid for at the contract **lump sum** price, which price shall include full compensation for furnishing all labor, materials, tools, equipment and incidentals for performing all work involved in maintaining the new landscape planting for a 125 day plant establishment period starting after Notice of Substantial Completion of the contract, including but not limited to irrigation system maintenance, replacement of damaged or defective irrigation system components, and replacement of damaged plants and trees, trimming of plants and trees, fertilizing, removal of weeds, pest control, debris removal, and all incidentals, as shown on the Plans and City of Ukiah Standard Plans, and specified in these Construction Details, and no additional allowances will be made therefor.

93. Full compensation for **Bioretention Area** will be measured and paid for at the contract unit price per **square foot**, which price shall include full compensation for furnishing all labor, materials, tools and equipment and doing all the work involved in preparing and installing the amended soil and drain rock, including but not limited to preparation, excavation, soil placement, and all incidentals, as shown on the Plans and City of Ukiah Standard Plans, and specified in these Construction Details, and no additional allowances will be made therefor.

94. Full compensation for **Survey Monument** will be measured and paid for at the contract unit price per **each**, which price shall include full compensation for furnishing all plant, labor, materials, tools and equipment and doing all the work involved in providing survey monuments at the locations shown on Plans, including the City furnished survey marker disk, concrete, frames and covers, granular materials, coordination with the City, and all incidentals, as shown on the Plans and specified in these Construction Details, and no additional allowances will be made therefor.

95. Full compensation for **Flagpole Sleeve** will be measured and paid for at the contract unit price per **each**, which price shall include full compensation for furnishing all plant, labor, materials, tools and equipment and doing all the work involved in providing flag pole sleeves in sidewalks at the locations shown on Plans, including all incidentals, as shown on the Plans and specified in these Construction Details, and no additional allowances will be made therefor.

96. Full compensation for **Remove Roadside Sign (Metal Post)** will be measured and paid for at the contract unit price per **each** and shall include full compensation for furnishing all labor, materials, tools, equipment and incidentals for performing all work involved in removal, salvage, relocation and disposal of roadside signs, including but not limited to poles, foundations, excavation, backfill, new metal posts, hardware, and concrete footings, as specified in these Construction Details and Standard Specifications, and shown on the Plans, and no additional allowances will be made therefor.

97. Full compensation for **Remove Roadside Sign Panel** will be measured and paid for at the contract unit price per **each** and shall include full compensation for furnishing all labor, materials, tools, equipment and incidentals for performing all work involved in removal, salvage, relocation and disposal of roadside signs mounted on existing poles including hardware, as specified in these Construction Details and Standard Specifications, and shown on the Plans, and no additional allowances will be made therefor.

98. Full compensation for **Thermoplastic Crosswalk and Pavement Marking** will be measured and paid for at the contract unit price per **square foot**, which price shall include full compensation for furnishing all plant, labor, materials, tools and equipment and doing all the work necessary for the installation of the pavement markings including but not limited to surface preparation, establishing layout and alignment, and temporary striping, as shown on the Plans and Standard Plans, and specified in the Standard Specifications and these Construction Details, and no additional allowances will be made therefor.

Parking Tees are included in this item.

99. Full compensation for **Two-Way Blue Retroreflective Pavement Marker** will be measured and paid for at the contract unit price per **each**, which price shall include full compensation for furnishing all plant, labor, materials, tools and equipment and doing all the work necessary for the installation of retroreflective pavement markers which are not included in standard details, including but not limited to surface preparation, establishing layout and alignment, adhesive, markers, and temporary striping, as shown on the Plans and Standard Plans, and specified in the Standard Specifications and these Construction Details, and no additional allowances will be made therefor.

100. Full compensation for **Metal Roadside Sign** will be measured and paid for at the contract unit price per **each**

which price shall include full compensation for furnishing all plant, labor, materials, tools, equipment, transportation, and incidentals for installing new roadside signs on new and existing poles and on existing and new posts that already have a sign, including but not limited sign panels, brackets, braces, straps, screws, bolts, washers, nuts, and all other required hardware and other incidentals as shown on the Plans and specified in the Standard Specifications and these Construction Details, and as directed by the Engineer, and no additional allowances will be made therefor.

101. Full compensation for **Roadside Sign – One Post** will be measured and paid for at the contract unit price per **each** which price shall include full compensation for furnishing all plant, labor, materials, tools, equipment, transportation, and incidentals for installing new roadside signs on new posts and concrete foundations, including but not limited excavation, backfill, concrete, disposal, sign panels, brackets, braces, straps, screws, bolts, washers, nuts, and all other required hardware and other incidentals as shown on the Plans and specified in the Standard Specifications and these Construction Details, and as directed by the Engineer, and no additional allowances will be made therefor.

102. Full compensation for **Traffic Stripe (Detail 1)** will be measured and paid for at the contract unit price per **linear foot**, which price shall include full compensation for furnishing all plant, labor, materials, tools and equipment and doing all the work necessary for the installation of traffic stripe per the Standard Detail, including but not limited to surface preparation, establishing layout and alignment, thermoplastic, adhesive, pavement markers, and temporary striping, as shown on the Plans and Standard Plans, and specified in the Standard Specifications and these Construction Details, and no additional allowances will be made therefor.

103. Full compensation for **Traffic Stripe (Detail 8)** will be measured and paid for at the contract unit price per **linear foot**, which price shall include full compensation for furnishing all plant, labor, materials, tools and equipment and doing all the work necessary for the installation of traffic stripe per the Standard Detail, including but not limited to surface preparation, establishing layout and alignment, thermoplastic, adhesive, pavement markers, and temporary striping, as shown on the Plans and Standard Plans, and specified in the Standard Specifications and these Construction Details, and no additional allowances will be made therefor.

104 Full compensation for **Traffic Stripe (Detail 22)** will be measured and paid for at the contract unit price per **linear foot**, which price shall include full compensation for furnishing all plant, labor, materials, tools and equipment and doing all the work necessary for the installation of traffic stripe per the Standard Detail, including but not limited to surface preparation, establishing layout and alignment, thermoplastic, adhesive, pavement markers, and temporary striping, as shown on the Plans and Standard Plans, and specified in the Standard Specifications and these Construction Details, and no additional allowances will be made therefor.

105. Full compensation for **Traffic Stripe (Detail 27B)** will be measured and paid for at the contract unit price per **linear foot**, which price shall include full compensation for furnishing all plant, labor, materials, tools and equipment and doing all the work necessary for the installation of traffic stripe per the Standard Detail, including but not limited to surface preparation, establishing layout and alignment, thermoplastic, and temporary striping, as shown on the Plans and Standard Plans, and specified in the Standard Specifications and these Construction Details, and no additional allowances will be made therefor.

106. Full compensation for **Traffic Stripe (Detail 27C)** will be measured and paid for at the contract unit price per **linear foot**, which price shall include full compensation for furnishing all plant, labor, materials, tools and equipment and doing all the work necessary for the installation of traffic stripe per the Standard Detail, including but not limited to surface preparation, establishing layout and alignment, thermoplastic, adhesive, pavement markers, and temporary striping, as shown on the Plans and Standard Plans, and specified in the Standard Specifications and these Construction Details, and no additional allowances will be made therefor.

107. Full compensation for **Traffic Stripe (Detail 32)** will be measured and paid for at the contract unit price per **linear foot**, which price shall include full compensation for furnishing all plant, labor, materials, tools and equipment and doing all the work necessary for the installation of traffic stripe per the Standard Detail, including but not limited to surface preparation, establishing layout and alignment, thermoplastic, adhesive, pavement markers, and temporary striping, as shown on the Plans and Standard Plans, and specified in the Standard Specifications and these Construction Details, and no additional allowances will be made therefor.

108. Full compensation for **Traffic Stripe (Detail 38)** will be measured and paid for at the contract unit price per **linear foot**, which price shall include full compensation for furnishing all plant, labor, materials, tools and equipment and doing all the work necessary for the installation of traffic stripe per the Standard Detail, including but not limited to surface preparation, establishing layout and alignment, thermoplastic, adhesive, pavement markers, and temporary striping, as shown on the

Plans and Standard Plans, and specified in the Standard Specifications and these Construction Details, and no additional allowances will be made therefor.

109. Full compensation for **Traffic Stripe (Detail 39)** will be measured and paid for at the contract unit price per **linear foot**, which price shall include full compensation for furnishing all plant, labor, materials, tools and equipment and doing all the work necessary for the installation of traffic stripe per the Standard Detail, including but not limited to surface preparation, establishing layout and alignment, thermoplastic, adhesive, pavement markers, and temporary striping, as shown on the Plans and Standard Plans, and specified in the Standard Specifications and these Construction Details, and no additional allowances will be made therefor.

110. Full compensation for **Traffic Stripe (Detail 39A)** will be measured and paid for at the contract unit price per **linear foot**, which price shall include full compensation for furnishing all plant, labor, materials, tools and equipment and doing all the work necessary for the installation of traffic stripe per the Standard Detail, including but not limited to surface preparation, establishing layout and alignment, thermoplastic, adhesive, pavement markers, and temporary striping, as shown on the Plans and Standard Plans, and specified in the Standard Specifications and these Construction Details, and no additional allowances will be made therefor.

111. Full compensation for **Traffic Stripe (Detail 40)** will be measured and paid for at the contract unit price per **linear foot**, which price shall include full compensation for furnishing all plant, labor, materials, tools and equipment and doing all the work necessary for the installation of traffic stripe per the Standard Detail, including but not limited to surface preparation, establishing layout and alignment, adhesive, pavement markers, and temporary striping, as shown on the Plans and Standard Plans, and specified in the Standard Specifications and these Construction Details, and no additional allowances will be made therefor.

112. Full compensation for **Green Bike Lane Pavement Markings** will be measured and paid for at the contract unit price per **square foot**, which price shall include full compensation for furnishing all plant, labor, materials, tools and equipment and doing all the work necessary for the installation of the pavement markings including but not limited to surface preparation, establishing layout and alignment, and temporary striping, as shown on the Plans and Standard Plans, and specified in the Standard Specifications and these Construction Details, and no additional allowances will be made therefor.

113. Full compensation for **Modify Signal (Gobbi St and S State St)** will be paid for at the contract **lump sum** price, which price shall constitute full compensation for furnishing all labor, materials, tools, equipment, and incidentals, and for doing all the work involved in furnishing and installing, modifying, and removing the traffic signal, including but not limited to all demolition, salvage and relocation work, conduit, conductors, pull boxes, cleaning existing conduits to remain, boxes and pull rope, excavation, backfill, compaction, signal poles and mast arms, cleaning and painting existing poles in place, painting of new poles, signal pole foundations, temporary traffic signals, luminaires, signs, signal heads, splicing, video detection system, functional testing and all other work required for a complete and operating system as shown on the Plans and Standard Plans, and specified in the Standard Specifications and these Construction Details, and no additional allowances will be made therefor.

114. Full compensation for **Modify Signal (Mill St and S State St)** will be paid for at the contract **lump sum** price, which price shall constitute full compensation for furnishing all labor, materials, tools, equipment, and incidentals, and for doing all the work involved in furnishing and installing, modifying, and removing the traffic signal, including but not limited to all demolition, salvage and relocation work, conduit, conductors, pull boxes, cleaning existing conduits to remain, boxes and pull rope, excavation, backfill, compaction, signal poles and mast arms, cleaning and painting existing poles in place, painting of new poles, signal pole foundations, temporary traffic signals, luminaires, signs, signal heads, splicing, video detection system, functional testing and all other work required for a complete and operating system as shown on the Plans and Standard Plans, and specified in the Standard Specifications and these Construction Details, and no additional allowances will be made therefor.

115. Full compensation for **Modify Signal (Scott St and N State St)** will be paid for at the contract **lump sum** price, which price shall constitute full compensation for furnishing all labor, materials, tools, equipment, and incidentals, and for doing all the work involved in furnishing and installing, modifying, and removing the traffic signal, including but not limited to all demolition, salvage and relocation work, conduit, conductors, pull boxes, cleaning existing conduits to remain, boxes and pull rope, excavation, backfill, compaction, signal poles and mast arms, cleaning and painting existing poles in place, painting of new poles, signal pole foundations, temporary traffic signals, luminaires, signs, signal heads, splicing, video detection system, functional testing and all other work required for a complete and operating system as shown on the Plans and Standard Plans, and specified in the Standard Specifications and these Construction Details, and no additional allowances will be made therefor.

116. Full compensation for **Lighting System** will be measured and paid for at the contract **lump sum** price, which price shall include full compensation for furnishing all labor, materials, tools, equipment, transportation and incidentals, and for doing all the work involved in furnishing and installing decorative street lighting standards, LED luminaires, photo cells and photo controls, foundations, pull boxes, electrical service connections, trenching, backfill, street light conduit, splicing, and conductors from luminaire to pull box, pole coating touchup, and coordination with the City of Ukiah Electric Department as shown on the Plans and Standard Plans, and specified in the Standard Specifications and these Construction Details, and no additional allowances will be made therefor.

117. Full compensation for **EXCAVATE, TRENCH, BACKFILL AND COMPACTION (12 INCH X 36 INCH TRENCH)** will be measured and paid for at the contract unit price per linear foot, which price shall include full compensation for furnishing full compensation for furnishing all labor, materials, tools and equipment and doing all the work involved in demolition of existing improvements, excavation, trench preparation, backfill and compaction of the utility joint trench including dewatering and groundwater disposal; hand digging to protect roots; root pruning; abandonment, backfill material, controlled low strength material if used; temporary and permanent trench paving; and any other items when required by the work or shown on the Plans, not specifically enumerated in the Plans or these specifications, and no allowance will be made therefor.

118. Full compensation for **EXCAVATE, TRENCH, BACKFILL AND COMPACTION (18 INCH X 48 INCH TRENCH)** will be measured and paid for at the contract unit price per linear foot, which price shall include full compensation for furnishing full compensation for furnishing all labor, materials, tools and equipment and doing all the work involved in demolition of existing improvements, excavation, trench preparation, backfill and compaction of the utility joint trench including dewatering and groundwater disposal; hand digging to protect roots; root pruning; abandonment, backfill material, controlled low strength material if used; temporary and permanent trench paving; and any other items when required by the work or shown on the Plans, not specifically enumerated in the Plans or these specifications, and no allowance will be made therefor.

119. Full compensation for **EXCAVATE, TRENCH, BACKFILL AND COMPACTION (24 INCH X 59 INCH TRENCH)** will be measured and paid for at the contract unit price per linear foot, which price shall include full compensation for furnishing full compensation for furnishing all labor, materials, tools and equipment and doing all the work involved in demolition of existing improvements, excavation, trench preparation, backfill and compaction of the utility joint trench including dewatering and groundwater disposal; hand digging to protect roots; root pruning; abandonment, backfill material, controlled low strength material if used; temporary and permanent trench paving; and any other items when required by the work or shown on the Plans, not specifically enumerated in the Plans or these specifications, and no allowance will be made therefor.

120. Full compensation for all **1 INCH PVC SCH 40 CONDUIT (COMCAST) INCLUDING INSTALLATION** will be measured and paid for at the contract unit price per **foot**, which price shall include full compensation for furnishing all labor, materials, tools and equipment and doing all the work involved in furnishing and installing the conduit including all fittings, complete in place, testing and acceptance and any other items when required by the work or shown on the Plans, not specifically enumerated in the Plans or these specifications and no additional allowance will be made therefor.

121. Full compensation for all **2 INCH PVC SCH 40 CONDUIT (COMCAST) INCLUDING INSTALLATION** will be measured and paid for at the contract unit price per **foot**, which price shall include full compensation for furnishing all labor, materials, tools and equipment and doing all the work involved in furnishing and installing the conduit including all fittings, complete in place, testing and acceptance and any other items when required by the work or shown on the Plans, not specifically enumerated in the Plans or these specifications and no additional allowance will be made therefor.

122. Full compensation for all **3 INCH PVC SCH 40 CONDUIT (COMCAST) INCLUDING INSTALLATION** will be measured and paid for at the contract unit price per **foot**, which price shall include full compensation for furnishing all labor, materials, tools and equipment and doing all the work involved in furnishing and installing the conduit including all fittings, complete in place, testing and acceptance and any other items when required by the work or shown on the Plans, not specifically enumerated in the Plans or these specifications and no additional allowance will be made therefor.

123. Full compensation for all **2 INCH PVC SCH 40 CONDUIT (AT&T) INCLUDING INSTALLATION** will be measured and paid for at the contract unit price per **foot**, which price shall include full compensation for furnishing all labor, materials, tools and equipment and doing all the work involved in furnishing and installing the conduit including all fittings, complete in place, testing and acceptance and any other items when required by the work or shown on the Plans, not specifically enumerated in the Plans or these specifications and no additional allowance will be made therefor.

124. Full compensation for all **4 INCH PVC SCH 40 CONDUIT (AT&T) INCLUDING INSTALLATION** will be measured and paid for at the contract unit price per **foot**, which price shall include full compensation for furnishing all labor, materials, tools and equipment and doing all the work involved in furnishing and installing the conduit including all fittings, complete in place, testing and acceptance and any other items when required by the work or shown on the Plans, not specifically enumerated in the Plans or these specifications and no additional allowance will be made therefor.

125. Full compensation for all **3 INCH PVC SCH 40 CONDUIT (Electric) INCLUDING INSTALLATION** will be measured and paid for at the contract unit price per **foot**, which price shall include full compensation for furnishing all labor, materials, tools and equipment and doing all the work involved in furnishing and installing the conduit including all fittings, complete in place, testing and acceptance and any other items when required by the work or shown on the Plans, not specifically enumerated in the Plans or these specifications and no additional allowance will be made therefor.

126. Full compensation for all **3 INCH PVC SCH 40 CONDUIT (Electric) INCLUDING INSTALLATION** will be measured and paid for at the contract unit price per **foot**, which price shall include full compensation for furnishing all labor, materials, tools and equipment and doing all the work involved in furnishing and installing the conduit including all fittings, complete in place, testing and acceptance and any other items when required by the work or shown on the Plans, not specifically enumerated in the Plans or these specifications and no additional allowance will be made therefor.

127. Full compensation for all **EXCAVATE, BACKFILL, COMPACT AND INSTALL CABLE SERVICE VAULTS B48 (COMCAST)** will be measured and paid for at the contract unit price per **each**, which price shall include full compensation for furnishing all labor, materials, tools and equipment and doing all the work involved in furnishing and installing the vaults, as shown on the plans, complete in place; all excavation & disposal of excavated materials; connecting to new or existing conduit; dewatering and groundwater disposal; controlled low strength material if used; frames and covers; testing; and any other items when required by the work or shown on the Plans, not specifically enumerated in the Plans or these specifications, and no allowance will be made therefor.

128. Full compensation for all **EXCAVATE, BACKFILL, COMPACT AND INSTALL CABLE SERVICE VAULTS N36 (COMCAST)** will be measured and paid for at the contract unit price per **each**, which price shall include full compensation for furnishing all labor, materials, tools and equipment and doing all the work involved in furnishing and installing the vaults, as shown on the plans, complete in place; all excavation & disposal of excavated materials; connecting to new or existing conduit; dewatering and groundwater disposal; controlled low strength material if used; frames and covers; testing; and any other items when required by the work or shown on the Plans, not specifically enumerated in the Plans or these specifications, and no allowance will be made therefor.

129. Full compensation for all **EXCAVATE, BACKFILL, COMPACT AND INSTALL CABLE SERVICE VAULTS N30 (COMCAST)** will be measured and paid for at the contract unit price per **each**, which price shall include full compensation for furnishing all labor, materials, tools and equipment and doing all the work involved in furnishing and installing the vaults, as shown on the plans, complete in place; all excavation & disposal of excavated materials; connecting to new or existing conduit; dewatering and groundwater disposal; controlled low strength material if used; frames and covers; testing; and any other items when required by the work or shown on the Plans, not specifically enumerated in the Plans or these specifications, and no allowance will be made therefor.

130. Full compensation for all **EXCAVATE, BACKFILL, COMPACT AND INSTALL SERVICE VAULTS 17" X 30" X 24" (AT&T)** will be measured and paid for at the contract unit price per **each**, which price shall include full compensation for furnishing all labor, materials, tools and equipment and doing all the work involved in furnishing and installing the vaults, as shown on the plans, complete in place; all excavation & disposal of excavated materials; connecting to new or existing conduit; dewatering and groundwater disposal; controlled low strength material if used; frames and covers; testing; and any other items when required by the work or shown on the Plans, not specifically enumerated in the Plans or these specifications, and no allowance will be made therefor.

131. Full compensation for all **EXCAVATE, BACKFILL, COMPACT AND INSTALL SERVICE VAULTS 2'6" X 4' X 3' (AT&T)** will be measured and paid for at the contract unit price per **each**, which price shall include full compensation for furnishing all labor, materials, tools and equipment and doing all the work involved in furnishing and installing the vaults, as shown on the plans, complete in place; all excavation & disposal of excavated materials; connecting to new or existing conduit; dewatering and groundwater disposal; controlled low strength material if used; frames and covers; testing; and any

other items when required by the work or shown on the Plans, not specifically enumerated in the Plans or these specifications, and no allowance will be made therefor.

132. Full compensation for all **EXCAVATE, BACKFILL, COMPACT AND INSTALL SERVICE VAULTS 3' X 5' X 4' (AT&T)** will be measured and paid for at the contract unit price per **each**, which price shall include full compensation for furnishing all labor, materials, tools and equipment and doing all the work involved in furnishing and installing the vaults, as shown on the plans, complete in place; all excavation & disposal of excavated materials; connecting to new or existing conduit; dewatering and groundwater disposal; controlled low strength material if used; frames and covers; testing; and any other items when required by the work or shown on the Plans, not specifically enumerated in the Plans or these specifications, and no allowance will be made therefor.

133. Full compensation for all **EXCAVATE, BACKFILL, COMPACTION AND INSTALL PEDESTAL BOX PAD (CITY TO PROVIDE)** will be measured and paid for at the contract unit price per **each**, which price shall include full compensation for furnishing all labor, materials, tools and equipment and doing all the work involved in installing the box, as shown on the plans, complete in place; all excavation & disposal of excavated materials; connecting to new or existing conduit; dewatering and groundwater disposal; controlled low strength material if used; frames and covers; testing; and any other items when required by the work or shown on the Plans, not specifically enumerated in the Plans or these specifications, and no allowance will be made therefor.

134. Full compensation for all **EXCAVATE, BACKFILL, COMPACTION AND INSTALL 504LA VAULT (CITY TO PROVIDE)** will be measured and paid for at the contract unit price per **each**, which price shall include full compensation for furnishing all labor, materials, tools and equipment and doing all the work involved in installing the vaults, as shown on the plans, complete in place; all excavation & disposal of excavated materials; connecting to new or existing conduit; dewatering and groundwater disposal; controlled low strength material if used; frames and covers; testing; and any other items when required by the work or shown on the Plans, not specifically enumerated in the Plans or these specifications, and no allowance will be made therefor.

135. Full compensation for all **EXCAVATE, BACKFILL, COMPACTION AND INSTALL PPB PRIMARY JUNCTION BOX (CITY TO PROVIDE)** will be measured and paid for at the contract unit price per **each**, which price shall include full compensation for furnishing all labor, materials, tools and equipment and doing all the work involved in installing the box, as shown on the plans, complete in place; all excavation & disposal of excavated materials; connecting to new or existing conduit; dewatering and groundwater disposal; controlled low strength material if used; frames and covers; testing; and any other items when required by the work or shown on the Plans, not specifically enumerated in the Plans or these specifications, and no allowance will be made therefor.

136. Full compensation for all **EXCAVATE, BACKFILL, COMPACTION AND INSTALL TRANSFORMER BOX PAD (CITY TO PROVIDE)** will be measured and paid for at the contract unit price per **each**, which price shall include full compensation for furnishing all labor, materials, tools and equipment and doing all the work involved in installing the pad, as shown on the plans, complete in place; all excavation & disposal of excavated materials; connecting to new or existing conduit; dewatering and groundwater disposal; controlled low strength material if used; frames and covers; testing; and any other items when required by the work or shown on the Plans, not specifically enumerated in the Plans or these specifications, and no allowance will be made therefor.

137. Full compensation for all **EXCAVATE, BACKFILL, COMPACTION AND INSTALL CONCRETE TRANSFORMER PAD (POUR IN PLACE)** will be measured and paid for at the contract unit price per **each**, which price shall include full compensation for furnishing all labor, materials, tools and equipment and doing all the work involved in installing the pad, as shown on the plans, complete in place; all excavation & disposal of excavated materials; connecting to new or existing conduit; dewatering and groundwater disposal; controlled low strength material if used; frames and covers; testing; and any other items when required by the work or shown on the Plans, not specifically enumerated in the Plans or these specifications, and no allowance will be made therefor.

138. Full compensation for all **EXCAVATE, BACKFILL, COMPACTION AND INSTALL SECONDARY SERVICE BOX (CITY TO PROVIDE)** will be measured and paid for at the contract unit price per **each**, which price shall include full compensation for furnishing all labor, materials, tools and equipment and doing all the work involved in installing the box, as shown on the plans, complete in place; all excavation & disposal of excavated materials; connecting to new or existing conduit; dewatering and groundwater disposal; controlled low strength material if used; frames and covers; testing; and any other items when required by the work or shown on the Plans, not specifically enumerated in the Plans or these specifications, and no allowance will be made therefor.

Engineer.

The Contractor will be required to keep all residents and businesses notified of the work schedule as it affects their access.

The Contractor shall maintain contact with the Ukiah Electric Utility Department dispatch office regarding start and completion of the following:

- Construction activity that may impede emergency vehicles, school buses, etc.
- Construction activity such as trenches or other excavation that prohibit access.
- Construction activity that removes a fire hydrant from service.

The Contractor shall provide the name and telephone number of a person directly responsible for the construction activity to the Ukiah Police and Fire Departments and Life Medical Paramedic Ambulance Service.

The Contractor shall be responsible for supplying, installing and maintaining such fences, barriers, lights, signs and flaggers as are necessary to give adequate warning to the public at all times that the road or street is under construction and of any dangerous conditions to be encountered as a result thereof.

All traffic control equipment shall be removed when it is no longer required

Replace section 12-1.03 with:

The Contractor shall be responsible for all costs of furnishing all flaggers, including transporting flaggers and furnishing all materials and equipment to provide passage of traffic through the work as specified in section 7-1.03 and 7-1.04.

Add to section 12-3.01A(1):

Construction area traffic control signs, equipment and devices shall be furnished, installed, maintained, and removed when no longer required in accordance with the provisions in Section 7-1.03 and Section 12 of the Standard Specifications, the latest edition of the California Manual on Uniform Traffic Control Devices (MUTCD), and as directed by the Engineer.

Notify Underground Services Alert (USA) at (800) 227-2600 or 811 a minimum of two (2) working days prior to installing signposts.

Attention is directed to Sections 7-1.03, "Public Convenience," 7-1.04, "Public Safety," and 12, "Temporary Traffic Control," of the Standard Specifications and to the Section entitled "Public Safety" elsewhere in these Special Provisions. Nothing in these Special Provisions shall be construed as relieving the Contractor from these responsibilities.

Replace section 12-3.20D with:

Attention is directed to "Public Safety" and "Order of Work" of these special provisions.

Temporary railing (Type K) placed in conformance with the provisions in "Public Safety" of these special provisions will be neither measured nor paid for. The cost to provide temporary railing (Type K) is included in the various items of work.

Add to section 12-3.32C:

Start displaying the message on the portable changeable message signs 15 minutes before closing the lane.

Provide four (4) portable changeable message signs.

Place the portable changeable message signs in advance of the 1st warning sign for each:

1. Stationary lane closure
2. Detour

For 5 days, starting on the day of Notice of Substantial Completion, place 1 portable changeable message sign in each direction of travel located 300 feet in advance of the northern and southern project limits and display the following message: "CHANGED CONDITIONS AHEAD."

Add to section 12-3.10:

If it becomes necessary for the City of Ukiah to replace or place additional barricades in order to provide adequate safety to the public, the Contractor will be charged \$1 per barricade per day or portion thereof plus the cost of placement and removal. The Contractor will also be charged for replacement of damaged City barricades. The Contractor shall furnish and place barricades within 3 working days. No removal charge will be made if the Contractor returns City barricades to the Municipal Service Center.

Add to section 12-3.10:

The contractor will provide and maintain ALL necessary signs and materials to ensure the public is aware of any limitation, including detours, on-way streets, street closure, turn movement restrictions, lane closures, and any other signage necessary. Contractor will also provide Business Open and similar signs as will be requested as part of the traffic plan approval.

Add to section 12-4.02A:

The Work Area shall be open to through vehicular traffic during non-working hours. All public traffic shall be permitted to pass through the work with as little inconvenience and delay as possible. Access to abutting property, businesses and driveways shall be maintained during the performance of the work. The Contractor is advised that commercial businesses about the entire Project Area. The Contractor shall provide advance written notification of the work and of temporary closures of driveways to the abutting owners or managers of the business at least five (5) business days prior to the start of the Work or the temporary closure of the driveway to the respective business property. The format and content of the Notice by the Contractor shall be approved by the Engineer prior to its issuance to the public. The Contractor shall provide trench plates at driveways and left turn pockets after the trench and roadway excavation has been made at those particular locations.

Full costs for "Traffic Control System," including "Flagging Costs" and providing and maintaining access to abutting property, shall be considered as included in the bid item for "Traffic Control System," and no additional compensation will be made therefor.

Designated holidays are shown in the following table:

Designated Holidays

Holiday	Date observed
New Year's Day	January 1st
Washington's Birthday	3rd Monday in February
Memorial Day	Last Monday in May
Independence Day	July 4th
Labor Day	1st Monday in September
Veterans Day	November 11th
Thanksgiving Day	4th Thursday in November
Christmas Day	December 25th

If a designated holiday falls on a Sunday, the following Monday is a designated holiday. If November 11th falls on a Saturday, the preceding Friday is a designated holiday.

Personal vehicles of your employees shall not be parked on the traveled way or shoulders, including sections closed to traffic.

For all work, if work vehicles or equipment are parked within 6 feet of a traffic lane, close the shoulder area with

fluorescent orange traffic cones or portable delineators. Place the cones or delineators on a taper in advance of the parked vehicles or equipment and along the edge of the traveled way at 25-foot intervals to a point not less than 25 feet past the last vehicle or piece of equipment. Use at least 9 cones or delineators for the taper. Use a W20-1, "Road Work Ahead," W21-5b, "Right/Left Shoulder Closed Ahead," or C24(CA), "Shoulder Work Ahead," sign mounted on a crashworthy, portable sign support with flags. The sign must be 48 by 48 inches and placed as ordered by the Engineer. If a cone or delineator is displaced or overturned, immediately restore the device to its original position or location.

No work shall commence until Contractor's Traffic Control Plan has been approved by the Engineer.

Exact locations of Project Identification signs and Advance Notice signs shall be determined in the field by the Engineer.

Except as noted elsewhere, only one lane may be closed at a time and no lanes shall be closed at any other hours unless specifically approved by the Engineer. The Contractor shall maintain vehicle access to adjacent streets, homes, businesses and other properties at all times while work is in progress except when necessary construction precludes such access for reasonable periods of time as determined by the Engineer.

When traffic cones or delineators are used to delineate a temporary edge of a traffic lane, the line of cones or delineators shall be considered to be the edge of the traffic lane, however, the Contractor shall not reduce the width of an existing lane to less than 12 feet without written approval from the Engineer.

The Contractor will be required to maintain vehicle access to homes, businesses and other properties within the block where work is in progress.

The Contractor shall maintain 2-way traffic for all work on State Street.

The Contractor shall keep the City of Ukiah Fire Department informed regarding the closure of any traveled way. At a minimum, the Contractor shall call the Fire Department at (707) 463-6261 **daily** to report any traveled way closure. This requirement applies immediately upon closure for that day and again immediately after removal of the closure. For closures over multiple days, the daily notification still applies. This requirement does not apply for single lane closures on multiple lane local streets.

If the Contractor has been given an approved Traffic Control Plan that includes road closures, they will be required to maintain vehicular access to homes, businesses and other properties where work is in progress within the closure area.

Existing and regulatory signs are to be temporarily relocated, as directed by the Engineer, until new traffic signals are in place and operable for two-way traffic.

Seventy-two (72) hours prior to construction, the Contractor shall place a notice on each front door, and attempt to notify each owner or tenant verbally that work will be underway within his block between stated hours, and request that cars be parked out of the roadway by 9:00 a.m. Service of notice shall not bar use of cars within the block; however, as individual plans change and emergencies may arise.

Cross streets will require maintenance of at least one-half ($\frac{1}{2}$) width of each street for traffic purposes, unless a parallel route is approved by the Engineer. Flagging will only be allowed between the hours of 9:00 a.m. and 3:00 p.m.

Existing traffic signals shall remain in service at all times.

Barricades and flaggers shall be positioned to allow safe turns at intersections.

Replace section 12-4.02A(3)(b) with:

Every Monday by noon, submit a closure schedule request of planned closures for the next week period. The next week period is defined as Friday midnight through the following Friday midnight.

Submit a closure schedule request not less than 25 days and not more than 125 days before the anticipated start of any activity that reduces:

1. Horizontal clearances of traveled ways, including shoulders, to 2 lanes or less due to activities such as temporary barrier placement and paving

2. Vertical clearances of traveled way, including shoulders, due to activities such as pavement overlays, overhead sign installation, falsework, or girder erection

Submit closure schedule amendments, including adding additional closures, by noon at least three (3) business days before a planned closure.

Cancel closure requests by notifying the City at least 48 hours before the start time of the closure.

You will be notified by the City of unauthorized closures or closures that require coordination with other parties as a condition for authorization.

The Engineer may reschedule a closure cancelled due to unsuitable weather.

If a closure is not opened to traffic by the specified time, suspend work. No further closures are allowed until the Engineer has reviewed and authorized a work plan submitted by you that ensures that future closures will be opened to traffic by the specified time. Allow 2 business days for review of your proposed work plan. The City does not compensate you for your losses due to the suspension of work resulting from the late opening of closures.

Notify the Engineer of delays in your activities caused by:

1. Your closure schedule request being denied although your requested closures are within the specified time frame allowed for closures. The City does not compensate you for your losses due to amendments to the closure schedule that are not authorized.
2. Your authorized closure being denied.

If you are directed to remove a closure before the time designated in the authorized closure schedule, you will be compensated for the delay.

Replace section 12-4.02C(3)(f) with:

Replace "Reserved" in section 12-4.02C(3)(j) with:

Add to section 12-4.02C(7):

12-4.02C(7)(a) General

Section 12-4.02C(7)(c) includes specifications for closing traffic lanes, with stationary lane closures on multilane highways. The traffic control system for a lane closure must comply with the details shown.

Traffic control system includes signs.

Each vehicle used to place, maintain, and remove components of a traffic control system on a multilane highway must be equipped with a Type II flashing arrow sign that must be in operation whenever the vehicle is being used for placing, maintaining, or removing the components. Vehicles equipped with a Type II flashing arrow sign not involved in placing, maintaining, or removing the components if operated within a stationary-type lane closure must display only the caution display mode. The sign must be controllable by the operator of the vehicle while the vehicle is in motion. If a flashing arrow sign is required for a lane closure, the flashing arrow sign must be operational before the lane closure is in place.

Whenever components of the traffic control system are displaced or cease to operate or function as specified from any cause, immediately repair the components to the original condition or replace the components and restore the components to the original location.

For a stationary lane closure made only for the work period, remove the components of the traffic control system from the traveled way and shoulder, except for portable delineators placed along open trenches or excavation adjacent to the traveled way at the end of each work period. You may store the components at selected central locations designated by the Engineer within the limits of the highway.

1. Stop all work within 100 feet of the discovery.
2. Protect the discovery area.
3. Notify the Engineer.

The City of Ukiah will provide a qualified archaeologist to assess the significance of the find and, if necessary, develop appropriate treatment measures in consultation with the City and other appropriate agencies.

Replace section 14-4.01 with:

If human remains of Native American origin are discovered during project construction, it is necessary to comply with state laws relating to the disposition of Native American burials, which fall within the jurisdiction of the Native American Heritage Commission (NAHC) (PRC 5097). If any human remains are discovered or recognized in any location other than a dedicated cemetery, there will be no further excavation or disturbance of the site or any nearby area reasonably suspected to overlie adjacent human remains until:

1. The county coroner has been informed and has determined that no investigation of the cause of death is required; and
2. If the remains are of Native American origin, the descendants of the deceased Native Americans have made a recommendation to the landowner or the person responsible for the excavation work for means of treating or disposing of, with appropriate dignity, the human remains and any associated grave goods as provide in the PRC 5097.98.

Or:

3. The NAHC was unable to identify a decedent, or the decedent failed to make a recommendation within 24 hours after being notified by the commission.

If human remains are discovered during any demolition/construction activities, all ground-disturbing activities within a 330 foot radius of the remains shall be halted immediately, and the Mendocino County coroner shall be notified immediately, according to Section 5097.98 of the state Public Resources Code and Section 7050.5 of California's Health and Safety Code. If the remains are determined by the County coroner to be Native American, the NAHC shall be notified within 24 hours, and the guidelines of the NAHC shall be adhered to in the treatment and disposition of the remains. The City shall consult with the Most Likely Descendant, if any, identified by the NAHC regarding the treatment and disposition of the remains.

Should paleontological resources be identified at any project construction site, the Contractor shall cease operation within a 330 foot radius of the discovery and immediately notify the City. The City will provide a qualified paleontologist to provide an evaluation of the find and to prescribe mitigation measures to reduce impacts to a less-than-significant level. In considering any suggested mitigation proposed by the paleontologist, the City shall determine whether avoidance is necessary and feasible in light of factors such as the nature of the discovery, project design, costs, land use assumptions, and other considerations. If avoidance is unnecessary or infeasible, other appropriate measures shall be instituted. Work may proceed on other parts of the project site while mitigation for paleontological resources is carried out.

Add to section 14-6.03B:

Construction shall not cause nest abandonment of special-status species of birds or destruction of active nests of species protected by the Migratory Bird Treaty Act or Section 3503 of the California Department of Fish and Wildlife (CDFW) Code (protection of nesting passerines). The following measures shall be implemented to avoid disturbing any special status species nesting above ground. Vegetation removal conducted during the nesting period shall require a pre-construction survey for active bird nests, conducted by a qualified biologist. No known active nests shall be disturbed without a permit or other authorization from the U.S. Fish and Wildlife Service (USFWS) and the CDFW.

1. For earth-disturbing activities occurring during the breeding season (March 1 through September 1), a qualified biologist shall conduct pre-construction surveys of all potential nesting habitat for all birds within 500 feet of earth disturbing activities.
2. If active special status bird nests are found during pre-construction surveys:
 - a. A 500 foot no-disturbance buffer shall be created around active raptor nests during the breeding season or until it is determined that all young have fledged.

- b. A 250 foot buffer zone will be created around the nests of other special status birds and of all other birds that are protected by CDFW Code 3503. These buffer zones are consistent with CDFW avoidance guidelines; however, they may be modified in coordination with CDFW based on existing conditions at the project site.
3. If preconstruction surveys indicated that nests are inactive or potential habitat is unoccupied during the construction season, no further mitigation is required. Shrubs and trees that have been determined to be occupied by special status birds or that are located 500 feet from active nests may be removed.
4. If vegetation removal activities are delayed or suspended for more than two weeks after the pre-construction survey, the areas shall be resurveyed.

The City of Ukiah will provide a qualified biologist. The Contractor shall coordinate with the City of Ukiah and the biologist and schedule all surveys sufficiently in advance so as to not cause delays in the Work. The Contractor shall anticipate and incorporate such surveys into the construction schedule.

Replace the 2nd paragraph of section 14-8.02 with:

The Contractor's attention is directed to the provisions of Section 14-8, "Noise and Vibration", of the Standard Specifications and Section 9.08, Saturday, Sunday, Holiday, and Night Work, of the General Conditions concerning the control of noise emissions and authorized work hours and days.

Do not exceed 86 dBA LMax at 50 feet from the job site activities from 7:00 p.m. to 7:00 a.m. except you may operate equipment within the project limits during these hours to:

1. Service traffic control facilities
2. Service construction equipment

The Contractor shall notify all residents within a 500-foot radius of the construction site about the proposed construction schedule. The notification shall be in writing and it shall be developed by the Contractor and submitted to the Engineer for approval a minimum of 5 working days prior to the proposed public notification.

The City shall provide a Noise Disturbance Coordinator who shall be responsible for acting on any local complaints concerning the construction noise being generated by reason of the work of the project. The Contractor shall conspicuously post a telephone number for the Noise Disturbance Coordinator at the construction site and he shall include it in the construction schedule notice to be provided to the residents. The Noise Disturbance Coordinator shall investigate the noise complaint allegations and shall require the Contractor to implement reasonable measures to mitigate the noise level in accordance with these requirements and of the Standard Specifications.

The Contractor shall locate all stationary noise generating construction equipment such as air compressors and generators as far as practical from the nearby residences and other noise sensitive land uses. The noise source shall be acoustically shielded when practical. The Contractor shall prohibit unnecessary idling of internal combustion engines.

Add to section 14-9.02:

The Contractor shall comply with the Mendocino County Air Quality Management District Rules 1-410 and 4-130.

Add to section 14-11.01:

Bidder's attention is directed to the fact that the proposed project is located in an area that contains no known subsurface petroleum hydrocarbon contamination.

The contractor shall maintain awareness of potential signs of soil and groundwater contamination throughout the project limits and shall notify the City immediately upon discovery. Conditions indicative of contamination may be either visual (staining in soil, sheen on water surface) or olfactory (petroleum hydrocarbon odors.)

Upon the discovery of suspected contaminated materials, the Contractor shall immediately provide 40-hour OSHA-HAZWOPER certified workers in the contaminated area. The Contractor shall also provide a field Site Safety Officer that is also an 8-hour OSHA-HAZWOPER Supervisor trained to directly oversee the contaminated materials removal and handling operation. All workers in this circumstance must have their initial and annual renewal refresher training, medical clearance and personal protection equipment in accordance with 8CCR Section 5192.

Soil: None of the excavated material shall be disposed of on the work site. All material excavated from trenches in the project area shall be the property of the Contractor. Prior to disposal of any excess material from the work site, the Contractor shall submit to the Engineer written authorization for such disposal and entry permission signed by the approved disposal site. Contractor shall comply with all disposal regulations such as City, County, and/or State permits and license, as may be required.

Water: Groundwater may be encountered during the course of excavation. If it is encountered, the Contractor shall immediately notify the City. The Contractor shall remove all water which accumulates in the excavation during the progress of work until the pipe or other structures are installed and until backfilling has progressed to a sufficient height to anchor the work against possible flotation or leakage. At all times, the Contractor shall have a minimum of 2 working pumps available for immediate use at all times.

Water accumulated in excavations shall be discharged to the sanitary sewer under the supervision of City staff. Said water shall be disposed of in a manner as to cause no injury to public or private property, or be a menace to public health. Sediment shall be removed from any water to be disposed of, prior to discharge, by placing the pump inlet hose into a sump filled with clean gravel, or a perforated bucket filled with clean gravel. The outlet of the pump shall have a filter sock installed to retain residual sediment.

If any odor, sheen or other visual discrepancy is noted during excavation or discharge, stop pumping and immediately notify the Engineer. Pumped groundwater will not be allowed into any watercourse or storm drain system.

Contractor shall be responsible for constructing, operating and maintaining all necessary features to complete the work including furnishing, installing and maintaining all pumping and other equipment required to dewater any trenches containing water as may be encountered during performance of the work. Dewatering plan for each occurrence shall be approved by the Engineer prior to implementation. At the permanent conclusion of dewatering operations, all dewatering equipment shall be removed from the job site.

Add to section 14-11.08E:

Dust control shall conform to the provisions of Section 14-11.08E and Section 18 of the Standard Specifications.

In accordance with the recommendations contained in the certified Project EIR, all active construction areas shall be watered at least twice daily and more often during hot or windy periods. The active areas adjacent to businesses and residential areas shall be kept damp at all times. Hauling trucks shall be covered or at least a two-foot freeboard shall be maintained.

Unpaved access roads, parking areas for construction equipment and construction employee vehicles, staging areas, and storage areas shall be paved with hot mix asphalt or have a stabilized access in accordance with the Plans and referenced details. Unpaved construction staging areas shall receive the application of either water twice daily or non-toxic soil stabilizers. All paved access roads, parking areas, staging areas, storage areas, and public roads impacted by the work of the project shall be swept daily with street sweepers equipped with water spray to remove soil materials that have been deposited on these surfaces by reason of the work.

The Contractor shall enclose, cover, or water twice daily or apply non-toxic soil stabilizers or install erosion control blankets to or on exposed stockpiles, embankment slopes, and cut slopes.

Traffic speeds on unpaved surfaces shall be limited to a maximum speed of 15 mph.

Add after the 2nd paragraph of section 14-11.12A:

This project includes removal of yellow thermoplastic that will produce hazardous waste residue.

Add after the 1st paragraph of 14-11.12E:

After the Engineer accepts the analytical test results, dispose of yellow thermoplastic and yellow paint hazardous waste residue at a Class 1 disposal facility located in California within 60 days after accumulating 220 lb of residue.

If less than 220 lb of hazardous waste residue and dust is generated in total, dispose of it within 30 days after the start of accumulation of the residue.

Replace section 20-2.01B(6) with:

Unions must be injection molded PVC, schedule 80.

Replace the 1st and 2nd paragraph of section 20-2.01B(7) with:

Valve boxes must be HDPE with T-Cover bolt down lids, color Black.

Replace item 1. in the 1st paragraph of section 20-2.02B(1) with:

Backflow preventer including brass ball valves, brass unions, fittings and supports.

Add to section 20-2.02B(3):

The color of the backflow preventer blanket must be [green](#).

Add to section 20-2.05B:

Flow sensor cable must be rated 600V and 194 degree F, be UL listed as Type TC, comply with specifications of ICEA/NEMA and:

1. Consist of 2 no. [16](#) minimum stranded copper conductors. Insulated conductor must be color coded with a PVC or nylon jacket.
2. Include a tinned cooper braid or aluminized polyester film shield. Where the film is used, a no. 18 or larger, stranded or no. 16 solid, tinned, copper drain wire must be placed between the insulated conductors and the shield and in contact with the conductive surface of the shield.
3. Include a black PVC jacket with a minimum nominal thickness of either 50 mils or 48 mils where capacitance of conductors to other conductors and the shield is 87 pF/ft or better. The cable jacket must be marked with the insulation type designation, conductor size, and voltage and temperature ratings.
4. Have an outside diameter of [0.19](#) to [0.20](#) inch.
5. Be UV resistant and direct burial type.

Replace the 1st paragraph of section 20-2.10B(2) with:

Each ball valve must be injection molded PVC, schedule 80.

Replace the section 20-2.10B(4) 2.1.1 with:

Can withstand a working pressure of 120 PSI.

Replace item 2 in the list in the 1st paragraph of section 20-2.10B(10)(a) with:

2. Be [glass-filled nylon](#).

add item 12 in the list in the 1st paragraph of section 20-2.10B(10)(a) with:

2. Each valve requires a decoder for communication with controller.

Add to section 20-10.02C(4):

An existing irrigation system is present within the project area. Remove all irrigation facilities when encountered during the course of the Work and in excavations. Remove and dispose of irrigation controller, backflow preventer, water meter, enclosure, foundation and related irrigation facilities. Plug abandoned irrigation pipes with concrete at the exposed limits of excavations prior to backfilling,

Replace section 20-3 with:

20-3.01 GENERAL

20-3.01A General Conditions

Drawings and General Provisions of the Contract, including General and Supplementary Conditions shall apply to all Work in this Section with the same force and effect as though repeated in full herein.

Site shall be free of weeds, native grasses, Bermuda grass, and Kikuyu grass prior to any planting or soil amendment placement.

All rock and other growth or debris accumulated throughout the duration of the project shall be removed from the Project Site by the Contractor.

Prior to excavation for planting or placing of plant materials, the Contractor shall locate all underground utility lines still in use and take proper precautions to avoid damage to such improvements. In the event of a conflict between such lines and plant material locations, the Contractor shall notify the Engineer who shall arrange for the relocation of one or the other. The Contractor assumes all responsibility for making any or all repairs for damages resulting from Work as specified herein.

Grading and soil preparation work shall be performed only during the period when beneficial and optimum results may be obtained. If the moisture content of the soil should reach such a level that working it would destroy soil structure or cause compaction, spreading and grading operations shall be suspended until, in the opinion of the Engineer, the moisture content is increased or reduced to acceptable levels and the desired results are likely to be obtained.

Contractor shall coordinate all drainage work with the other trades. Established site drainage shall be maintained by the Contractor during all phases of landscape construction.

Grade all areas by filling and/or removing surplus soil as needed to ensure proper grades and drainage as indicated on the plans. Unless otherwise noted, soil finish grades shall be below hardscape areas as follows:

Two inches (2") for all planting areas without decomposed granite.

All undulations and irregularities in the planting surfaces resulting from tillage, rototilling, and all other operations, and all ridges and rises which are visually evident and would affect the maintenance of any planting area, shall be leveled and floated out before planting operations are initiated.

Final finish grades shall insure positive drainage of the Project Site with all surface drainage away from buildings, walls, and toward driveways, drain inlets, and catch basins.

Final grades shall be acceptable to the Engineer before planting operations will be allowed to commence.

The above conditions shall also apply to the final finish grade at the time of project completion.

Actual planting shall be performed during those periods when weather and soil conditions are suitable in accordance with locally-accepted horticultural practice as approved by the Engineer.

All scaled dimensions are approximate. Before proceeding with any Work, the Contractor shall carefully check and verify all dimensions and shall immediately notify the Engineer of any discrepancy between the Contract Drawings and/or Contract Specifications and the actual Project Site conditions.

Quantities of plant materials are shown for the Contractor's convenience only and are not guaranteed. The Contractor shall check and verify count and shall furnish a sufficient number of plant materials as needed to fulfill the intent and complete the Work as shown in the Contract Drawings. Plan plant symbol quantities shall take precedence over quantities indicated in the Plant List and Plan callouts.

Contractor shall make arrangements to have a complete set of Contract Drawings and Contract Specifications at the Project Site at all times during Work under this Section.

As-Built Plans shall be prepared by the Contractor indicating any deviations in Work described herein and on the Contract Drawings, with respect to changes in materials, plant species, sizes, locations, and alignments. As-Built Plans shall be prepared by marking the changes on a conformed set of diazo prints in red ink. Provide As-Built Plans to the Engineer at the end of the contracted Maintenance Period.

20-3.01A(1) Summary

This Section includes all materials, labor, transportation, services, and equipment necessary to install landscape planting and landscape construction items as shown on the Contract Drawings, and as specified herein this Section.

This Section includes the following Scope of Work:

Fine Grading
Soil Preparation
Pre-Planting Weed Control
Tree, Shrub and Groundcover planting
Staking and Tying
Planting Soil
Import Rain-garden Soil
Soil Conditioners, Amendments, and Fertilizers
Mulches (wood products, aggregates)
Decorative Stone

20-3.01A(2)(a) Definitions

“**Engineer**” in this Section shall refer to the Agent designated by the City of Mill Valley.

Acceptance: Wherever the terms “acceptance”, “approved”, “acceptable” or “directed” are used herein, they mean acceptance by the Engineer in writing.

Plant Material(s) refers to all living plants, inclusive of trees, palms, shrubs, groundcovers, vines, turf, and grasses.

Planting Area (P.A.) as indicated on the Contract Drawings, shall mean all areas to be installed with plant material(s), or as areas where existing trees and/or vegetation shall be protected.

ASTM – American Society for Testing Materials.

USDA – United States Department of Agriculture.

ANSI – American National Standards Institute.

Plant Height: Measurement of main body height, not measurement to branch tip.

Plant Spread: Measurement of main body diameter, not measurement from branch tip to branch tip.

Finish Grade: Elevation of finished surface of planting soil.

Topsoil: Naturally occurring soil from the A horizon (top layer).

Planting Soil: Topsoil which has been amended to meet the specification for planting soil in this section. Import soil that meets the specification for planting soil in this section. Planting soil may also be referred to as Manufactured Topsoil.

Subsoil: Native soil below topsoil, native soil remaining after construction excavation or fill or backfill material in place after completion of excavation and rough grading, before placement of planting soil.

Bioretention: A planting area that will be receive stormwater runoff. Per the plans, these planters have a unique plant palette, boulders, and a soil mixture with a higher percolation rate in addition to regular planting soil. **Planter:** Isolated area of planting soil for trees, shrubs, and groundcover. May be raised and or partially surrounded by concrete sidewalk.

20-3.01A(2)(b) Reference Standards

All plant material shall be true to botanical and common name as indicated in the following:

Sunset Western Garden Book, Sunset Publishing Corporation, 2001.

American Standard for Nursery Stock, ANSI Z60.1-1966, edition approved November 6, 1996, American Association of Nurserymen, and American National Standards Institute.

All plant material shall conform to the California State Department of Agriculture’s regulations for nursery inspections, rules, and ratings.

20-3.01A(3) Submittals

Submit each item in this Article according to the Conditions of the Contract and this Specification Section.

Contractor shall submit no later than thirty (30) days after award of Contract, four (4) bound booklets. Each booklet under this Section shall be tabbed into specific sections, containing clearly identified (through yellow highlighter or other identification methods) and legible information on the following landscape information indicated in this Article:

Product certificates, legible, signed by manufacturer, certifying that their products comply with specified requirements. Certificates shall include grades, analysis, amount, supplier, species, type, size, and quantity where applicable.

Manufacturer's certified analysis for standard products.

Analysis for other materials by a recognized laboratory made according to methods established by the Association of Official Analytical Chemists, where applicable.

Label data substantiating that plants, trees, shrubs, and planting materials comply with specified requirements.

Soil amendment receipts containing analytical data.

Receipts from the soil supplier of all soil mixes specified in this Section.

Soil analysis and testing for soil fertility with recommendations and percolation tests by independent laboratory.

List of all proposed landscape materials indicated by description, manufacturer, and model number. Include catalog cuts and manufacturer's current printed instructions of all material items described herein this Section.

List of all trees, shrubs and ground covers, indicated by botanical name, common name, height, spread, caliper, container size, nursery, and location, contact person at nursery, and any specific remarks (i.e. "unable to locate", "photo submitted", etc.)

Color photographs of each tree type. Include a person or tape measurer in each photograph for scale purposes. Digital photographs may be acceptable or preferred. Approval of photographs does not indicate acceptance of plant material on site.

Planting schedule, indicating anticipated dates and locations for each type of planting.

The Contractor shall submit no later than thirty (30) days after the award of Contract the following two (2) sets of physical samples sent to the Engineer in resealable, labeled plastic bags (as applicable):

One (1) tree tie and/or tree guy of each type used.

½ cubic foot each of landscape mulch materials, i.e. shredded bark mulch, aggregate, etc.

½ cubic foot of planting soil.

½ cubic foot of import bioswale soil.

Qualification data for firms and persons specified in the "Quality Assurance" Article to demonstrate their capabilities and experience. Include lists of completed projects with project names and addresses, names and address of architects and owners, and other information specified.

Soils Analyses and Testing: Contractor shall submit agronomic analyses of existing soil if proposed to be used as planting soil, import soil if proposed to be used as planting soil, and raingarden soil as follows. Analyses shall be performed by independent testing agency.

Stockpiled Existing Soil and Import Soil before placement: Analysis of existing soil prior to application of amendment indicating soluble salts, pH, texture, and organic matter content. Analysis shall state recommended amendments and procedures required to create planting soil that meets this specification. Amendment recommendations shall prioritize use of Organic Compost and other organic amendments as needed. Analysis shall describe any other topsoil qualities which may be detrimental to plant growth and health. Provide one test per source.

Planting Soil after placement and amendment: Immediately following site fine grading (placement, integration, and grading of planting soil) and prior to commencing landscape planting, Contractor shall provide horticultural soils fertility test and percolation test results to the Engineer to verify that installed planting soil meets specifications. Provide (5) samples at the locations designated by the Engineer.

20-3.01A(4) Quality Assurance

Installer Qualifications for all items indicated herein this Section: Licensed Landscape Contractor, C-27, in the State of California.

Engage an experienced, licensed Contractor who has completed landscaping work similar in material, design, and extent to that indicated for this Project and with a record of successful landscape establishment.

Installer's Field Supervision: Contractor shall maintain an experienced, full-time landscape supervisor/superintendent at the Project Site during times that landscaping operations identified herein the Contract are in progress.

Superintendent shall be fluent in English and satisfactory to the Engineer. Superintendent shall not be changed except with the consent of the Engineer and shall be authorized to represent the Contractor.

Testing Agency Qualifications: To qualify for acceptance, an independent testing agency must demonstrate to Engineer's satisfaction, based on evaluation of agency-submitted criteria conforming to ASTM E 699, that it has the experience and capability to satisfactorily conduct the testing indicated without delaying the Work.

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

Selection of trees and shrubs purchased under allowances will be made by Engineer, who has the option to tag stock at their place of growth before the plant material is prepared for transplanting.

At least one (1) plant of each species delivered to the project site shall have an identification tag from supplying nursery showing botanical and common name of plant.

Measurements: Measure trees and shrubs according to ANSI Z60.1 with branches and trunks or canes in their normal position. Do not prune to obtain required sizes.

Take caliper measurements six inches (6") above ground for trees up to four-inch (4") size, and twelve inches (12") above ground for larger sizes.

Prior to installation of any items presented within this Measure main body of tree or shrub for height and spread; do not measure branches or roots tip-to-tip.

Pre-Installation Conference: Section or as indicated on the Contract Drawings, the Contractor shall conduct a Pre-Installation Conference at the Project Site.

Meeting minutes from the conference shall be the responsibility of the Contractor and shall be distributed to all parties in attendance for review and subsequent approval of the conference discussion items.

Regulatory Requirements: Contractor shall meet the requirements of applicable laws, codes, and regulations as required by the authorities having jurisdiction over the Work.

Manufacturer's Directions: Follow manufacturer's directions and drawings in all cases where the manufacturer's of articles used in this Section furnish directions covering points not shown in the Contract Drawings and Contract Specifications.

Permits, Fees, Bonds, and Inspections: The Contractor shall arrange and pay for any and all permits, fees, bonds, and inspections necessary to perform and complete his portion of the Work.

Contract Drawings and Contract Specifications:

Comply with the intent and meaning of Contract Drawings and Contract Specifications taken as a whole, not taking advantage of any readily perceived error or omission shall any exist.

Figures and dimensions on Contract Drawings shall take precedence over measurements by scale, and detailed drawings shall take precedence over general drawings.

Refer any errors and discrepancies in or between plans, specifications, lists, or notes to the Engineer for adjustments or clarification before proceeding with the Work. In the event of errors or discrepancies, the Contractor shall assume responsibility for work performed without referring to the Engineer for clarification.

The Engineer shall interpret the meaning of the Contract Drawings and Contract Specifications in the event of conflict, and his/her decision shall be final.

20-3.01A(5) Delivery, Storage and Handling

Packaged Materials: Deliver packaged materials in containers showing weight, analysis, and name of manufacturer. Protect materials from deterioration during delivery and while stored at site.

Anti-Dessicant: Spray plant materials in full leaf immediately before transporting with anti-dessicant. Meet requirements of anti-dessicant manufacturer's current printed application instructions.

Trees and Shrubs: Do not prune before delivery. Protect bark, branches, and root systems from sun scald, drying, sweating, whipping, and other handling and tying damage. Do not bend or bind-tie trees or shrubs in such a manner as to destroy natural shape. Provide protective covering during delivery.

Handling Plant Materials

Handle plant materials grown in containers only by their containers.
DO NOT handle plant materials by their trunks or stems.
DO NOT drop any plant materials.
DO NOT bind or handle plants with wire or rope.
Pad trunk and branches whenever using hoisting cables, chains, or straps.

Should the Contractor engage in handling any of the plant material(s) by any unacceptable method(s), then the Engineer shall reserve the right to reject any of the mishandled plant material(s). The Contractor shall replace all rejected plant material(s) with approved plant material(s) at no additional cost to the Owner.

Deliver trees, shrubs, ground covers, and plants after preparations for planting have been completed and install immediately. If planting is delayed more than six (6) hours after delivery, set planting materials in shade, protect from weather and mechanical damage, and keep roots moist. Anchor plants to prevent damage from winds.

DO NOT remove container-grown stock from containers before time of planting.

Water root systems of trees and shrubs stored on site with a fine-mist spray. Water as often as necessary to maintain root systems in a moist condition.

20-3.01A(6) Project Conditions

Utilities: Determine location of above grade and underground utilities and perform Work in a manner which will avoid damage. Hand excavate, as required. Maintain grade stakes until removal is mutually agreed upon by parties concerned.

Excavation: When conditions detrimental to plant growth are encountered, such as rubble fill, adverse drainage conditions, or obstructions, cease planting operations and notify Engineer for further direction.

Installation: Perform planting operations only when weather and soil conditions are suitable in accordance with locally accepted practices.

20-3.01A(7) Coordination, Scheduling, and Observation

Coordinate installation of planting materials during normal planting seasons for each type of plant material required. Coordinate with other trades on Project Site.

20-3.01A(7)(a) Permits

Contractor shall be responsible for obtaining all permits necessary to complete and install Work as specified herein.

20-3.01A(7)(b) Observation

Site observation for Scope of Work specified herein this Section shall be made by the Engineer. The Contractor shall request, in writing, at least one (1) week in advance of the time that observation is required. The Contractor and Engineer shall be in attendance at the Project Site at the time of each scheduled observation. Observation shall be required for the following Scope of Work:

Pre-Construction Meeting.

Placing of planting soil after rough grading and incorporation of planting soil into top layer of sub-soil as described in this section.

Upon completion of fine grading operations and prior to planting operations, verification of finish grades.

Inspection and approval of plant material.

Spotting trees prior to excavation of planting holes.

Placement of gravel mulch and stones.

Tree staking/guying.

20-3.01A(7)(c) Punch List Preparation

When planting and all other Work as specified in the Contract Drawings and Specifications is 100% complete and ready for Punch List Preparation, the Contractor shall seek acceptance of the installed Work by requesting an on-site visual inspection by the Engineer.

A "Punch List Preparation Request" shall be addressed to the Engineer, requesting a time and date for generating the Punch List Preparation:

Contractor shall provide written notification requesting the presence of the Engineer at least one (1) week prior to the scheduled date of the Punch List Preparation.

The Punch List Preparation Request shall be in the form of a letter, dated and signed by the Contractor, on letterhead.

The letter shall state as follows: "Work installed within Scope of Work identified on the Contract Drawings and Contract Specifications, prepared by the Landscape Architect, is 100% complete and ready for Punch List Preparation at the Project Site by the Engineer."

Should the Contractor's Work as installed at the Project Site is found to be incomplete during the Punch List Preparation (at the discretion of the Engineer upon observation at the Project Site), then the Engineer shall reserve the right to postpone the Punch List Preparation until a time when the Contractor fully executes and completes the Work as identified on the Contract Drawings and Specifications.

Should the Punch List Preparation be postponed due to the incomplete Work, then the Engineer reserves the right to charge the Contractor for the Engineer's time on an hourly basis, at the Engineer's current standard billing rate, plus expenses.

Should the Contractor be charged for time as indicated herein this Article, the Engineer reserves the right to withhold final approval of the Project until the Contractor provides full compensation to the Engineer accordingly.

Punch List Field Verification & Pre-Maintenance Review:

Following the Punch List Preparation, the Contractor shall request an on-site visual observation by the Engineer to verify completion of outstanding items identified in the Punch List for acceptance of the installed Work and subsequent commencement of the Maintenance Period.

A "Punch List Field Verification Request" shall be addressed to the Engineer, requesting a time and date for field review of the items identified in the Punch List Preparation.

Contractor shall provide written notification requesting the presence of the Engineer at least one (1) week prior to the scheduled date of the Punch List Field Verification.

The Punch List Field Verification Request shall be in the form of a letter, dated and signed by the Contractor, on letterhead.

The letter shall state as follows: "Work installed within Scope of Work identified on the Contract Drawings and Contract Specifications, prepared by the Landscape Architect, is 100% complete and ready for Punch List Field Verification Review at the Project Site by the Owner and Engineer."

Should the Contractor's Work as installed at the Project Site is found to be incomplete during the Punch List Field Verification (at the discretion of the Engineer upon observation at the Project Site), then the Engineer shall reserve the right to postpone the Punch List Field Verification until an time when the Contractor fully executes the Work identified in the Punch List Preparation.

Should the Punch List Field Verification be postponed due to the incomplete Work, then the Engineer reserves the right to charge the Contractor for the Engineer's time on an hourly basis, at the Engineer's current standard billing rate, plus expenses.

Should the Contractor be charged for time as indicated herein this Article, the Engineer reserves the right to withhold final approval of the Project until the Contractor provides full compensation to the Engineer accordingly.

Observation and subsequent written acceptance shall establish "Substantial Completion", and marks the commencement date of the Maintenance Period. Duration of the Maintenance Period shall be as specified herein this Section. This is not a final observation nor final acceptance of Work, and it does not relieve the Contractor from any of the responsibilities in the Contract Drawings and Contract Specifications for the Project.

20-3.01A(7)(d) Final Review

Following the completion of the scheduled Maintenance Period as indicated in Section Landscape Maintenance and Plant Establishment, the Contractor shall request a Final Review by the Owner and Engineer to verify, through on-site visual observation, the completion of Work as indicated in the Contract Drawings and Contract Specifications, and final acceptance of the installed Work.

A "Final Review Request" shall be addressed to the Owner and Engineer, requesting a time and date for final field review of the completed Work

Contractor shall provide written notification requesting the presence of the Owner and Engineer at least one (1) week prior to the scheduled date of the Final Review.

The Final Review Request shall be in the form of a letter, dated and signed by the Contractor, on letterhead.

The letter shall state as follows: *“Work installed within Scope of Work identified on the Contract Drawings and Contract Specifications, prepared by the Landscape Architect, is 100% complete and ready Final Review at the Project Site by the Owner and Engineer.”*

Should the Contractor’s Work as installed at the Project Site is found to be incomplete during the Final Review (at the discretion of the Engineer upon observation at the Project Site), then the Engineer shall reserve the right to postpone the Final Review until an time when the Contractor fully executes the Work.

Should the Final Review be postponed due to the incomplete Work, then the Engineer reserves the right to charge the Contractor for the Engineer’s time on an hourly basis, at the Engineer’s current standard billing rate, plus expenses.

Should the Contractor be charged for time as indicated herein this Article, the Engineer reserves the right to withhold final approval of the Project until the Contractor provides full compensation to the Engineer accordingly.

20-3.01A(8) Guarantee

Guarantee: Contractor shall guarantee installed landscape as outlined in Section 20-4 “Plant Establishment”.

20-3.01A(9) Maintenance

Maintenance: Contractor shall maintain installed landscape as outlined in Section 20-4 “Plant Establishment”.

20-3.01A(10) Samples and Tests

The Engineer reserves the right to take and analyze selected samples of plant material and/or products for conformity to the requirements as outlined in this Section at any time from the Project Site. Rejected plant materials and/or products shall be immediately removed from the Project Site by the Contractor at no cost to the Owner.

Laboratory soil tests are described in other sections.

20-3.01A(11) Substitutions

Specific reference to manufacturer’s names and products specified herein are used as standards of quality. This implies no right to the Contractor to substitute other materials without prior written approval by the Engineer for Work under this Section.

Any materials substituted and installed by the Contractor, without written approval by the Engineer may be rejected. Contractor shall not be entitled to be compensated by the Owner where the Contractor has installed rejected substitutions without receiving prior written approval.

Proposed substitutions shall be explicitly identified in the submittal documentation. Approval of a submittal package that contains multiple products or materials without explicit approval of a substitution does not imply approval of the substitution.

If an approval is granted for a substitution, adjustment in the Contract amount shall be made in accordance with the Contract Conditions.

20-3.01B MATERIALS

20-3.01B(1) General

Immediately upon award of Contract for Work, the Contractor shall locate and purchase or hold for purchase all plant material as required. Trees may be purchased and contract grown to ensure pruning practices are met.

Contractor shall verify with Engineer of any plant material stock that has been nursery contract grown by Owner for use within Work of this Contract.

Contractor shall review the condition of the plant material with the Engineer at the nursery maintaining the plant material, and at the time of delivery at the Project Site.

All plants shall have a growth habit typical for variety and species, symmetrical, with tightly knit branching, so trained or favored in development and appearance as to be superior in form, number of branches, compactness and symmetry, healthy, vigorous in growth. Plant materials shall also be free from insect pests, eggs and larvae, plant diseases, sun scalds, fresh bark abrasions, excessive abrasions, windburn, saltburn, or other objectionable disfigurements or conditions as determined by the Engineer.

Container stock shall be grown in containers in which delivered for at least six (6) months, but not over two (2) years.

Pruning of trees as grown at the nursery shall meet the requirements outlined by the International Society of Arboriculture's "Tree Pruning Standards."

Leaders of trees shall not have been pruned by the nursery. It is the contractor's responsibility to ensure these specifications are met regardless of practices by nurseries.

All plant material shall be subject per the California State Department of Agriculture Regulations for Nursery Inspections of Rules and Grading. Quantity and size of all plant shall be No. 1 Grade of Pinto Tag stock, or equal. Pinto tags shall be submitted to the Engineer upon delivery of the plant material to the Project Site.

All plant material shall have normal, well-developed branch systems, and vigorous, fibrous root systems, which are neither root- nor pot-bound, and are free of kinked, gnarled, or girdling roots.

20-3.01B(2) Plant Material

20-3.01B(2)(a) General

Furnish nursery-grown trees and shrubs conforming to ANSI Z60.1, with healthy root systems developed by transplanting or root pruning. Provide well-shaped, fully branched, proportional, healthy, vigorous stock free of disease, insects, eggs, larvae, and defects such as knots, sunscald, injuries, abrasions, and disfigurement. All trees shall be heavy caliper specimens, devoid of wounds, scars, or uncharacteristic blemishes on their trunks. Refer to the Plant List on the Contract Drawings for the specified plant material species, varieties, types, sizes, forms, and minimum required heights, spreads, calipers, and other requirements.

Grade: Provide plant material of sizes and grades conforming to ANSI Z60.1 for type of plant material required. Plant material of a larger size may be used if acceptable to the Engineer, with a proportionate increase in size of roots or balls.

Label each plant material of each variety with a securely attached, waterproof tag bearing legible designation of botanical and common name.

Plant Material shall have grown in boxed or containers for sufficient time to permit full rooting within the specified container to bind the planting soil, but not so long as to create a "rootbound" condition. No boxed or container plant material shall be planted which have cracked or broken balls of earth when separated from their boxes or containers. No plant material shall be planted with damaged roots, broken root balls, or which are found to be "rootbound" when separated from their containers.

20-3.01B(2)(a)(i) Plant Material Review and Tagging

At the discretion of the Engineer, trees and other plant material will be reviewed, photographed, and tagged by the Engineer at the nursery, or other place of growth prior to delivery of plant material to the Project Site. Contractor shall verify with the Engineer if tagging operations are required.

Tagging of plant material at the nursery or place of growth does not cancel the right of the Engineer to reject plant material at the Project Site, if damaged or unacceptable conditions are found that were not detected at the nursery, place of growth, or in the submitted photographs.

20-3.01B(3)(b) Shade and Flowering Trees

Shade Trees: Single-stem trees with straight trunk, well-balanced crown, and intact leader, of height and caliper indicated, conforming to ANSI Z60.1 for type of trees required. Container-grown trees will be acceptable and shall be subject to meeting ANSI Z60.1 limitations for container stock.

Branching Height: 1/3 to 1/2 of tree height, or as indicated.

Small Trees: Small upright or spreading type, branched or pruned naturally according to species and type, and with relationship of caliper, height, and branching recommended by ANSI Z60.1, Container-grown trees will be acceptable and shall be subject to meeting ANSI Z60.1 limitations for container stock. Stem form shall be as follows:

Form: Single stem, unless otherwise indicated.

20-3.01B(3)(c) Ground Covers

Provide ground covers and plants established and well rooted in removable containers or integral peat pots and with not less than the minimum number and length of runners required by ANSI Z60.1 for the pot size indicated.

20-3.01B(3) Planting Soil

For all planting areas except where Import Bioswale Soil is placed.

Planting Soil Characteristics:

pH: 6 to 7

Organic content: 4-6 percent

Soluble salts: less than 2 dS/m

Texture: 40-65% Sand, 25-60% Silt, 5-20% Clay.

Soil shall be free of stones and clods larger than 1/2", roots, trash, and other deleterious material not suitable for healthy plant growth.

Planting Soil Source:

Existing topsoil from existing planting areas, stockpiled for use in new planting areas. Existing topsoil may require amendment according to soil fertility laboratory test to meet these specifications.

Import topsoil from local, off-site retail source or manufactured site topsoil. Available import topsoil may require amendment according to soil fertility laboratory test to meet these specifications.

Approved Planting Soil Supplier: American Soils Products, Richmond, CA.

Placement Depth: 24" plus transition layer.

Provide recent laboratory soil test.

20-3.01B(4) Soil Amendments

Organic Compost: Composted organic soil amendment, "Soil Conditioner", manufactured by American Soils Products, Richmond, CA, or equal as approved by the Engineer.

Organic compost soil amendment shall be mature, stable, weed free, and produced by aerobic decomposition of organic matter. Compost feedstock may include: agricultural, food or industrial residuals; yard trimmings. The product must not contain any visible refuse or other physical contaminants, substances toxic to plants, or over 5% sand, silt, clay or rock material by dry weight. The product shall possess no objectionable odors. The moisture level shall be such that no visible water or dust is produced when handling the material. The material shall be certified by the US Composting Council. Biosolids shall not be included.

Contractor shall submit proof of the soil conditioner compost product use by providing a sample as identified herein this Section, and the most recent lab analysis. Substitution for "Soil Conditioner" must be requested in writing by the Contractor and approved in writing by the Engineer at least 30 days prior to installation. The organic amendment shall have (at a minimum) the following properties:

pH	6.0 – 8.5
Total Nitrogen (N)	1.0%
Phosphorus (as P2O5)	2.0%
Potassium (as K2O)	0.2%
Carbon-to-Nitrogen Ratio	<25-to-1
Soluble Salt Concentration	<10dS/m

Moisture	30-65% dry weight analysis
Organic Matter	30-65% dry weight analysis
Screen Analysis	98% passing 3/4" screen or smaller
Bulk Density	1,000 to 1,100 pounds/cubic yard
Stability	>80% relative to positive control
Maturity	>80% relative to positive control

Lime: ASTM C 602, Class T, agricultural limestone, containing a minimum 80% calcium carbonate equal, with a minimum 99 percent passing a No. 8 sieve and a minimum 75 percent passing a No. 60 sieve. Provide lime in the form of dolomitic limestone.

Aluminum Sulfate: Commercial grade, unadulterated.

Sand: Clean, washed, natural or manufactured sand, free of toxic materials.

Perlite: Horticultural perlite, soil amendment grade, 6.5 to 7.5 pH.

Peat Humus: Finely divided or granular texture, with a pH range of 6 to 7.5, composed of partially decomposed moss peat (other than sphagnum), peat humus, or reed-sedge peat.

Peat Humus: For acid-tolerant trees and shrubs, provide moss peat, with a pH range of 3.2 to 4.5, coarse fibrous texture, medium-divided sphagnum moss peat or reed-sedge peat.

Sawdust or Ground-Bark Humus: Decomposed, nitrogen-treated, of uniform texture, free of chips, stones, sticks, soil, or toxic materials. When site treated, mix with at least 0.15 lb of ammonium nitrate or 0.25 lb of ammonium sulfate per cu. ft. loose sawdust or ground bark.

Manure: Well-rotted, unleached stable or cattle manure containing not more than 25 percent by volume of straw, sawdust, or other bedding materials; free of toxic substances, stones, sticks, soil, weed seed, and material harmful to plant growth.

Herbicides: EPA registered and approved, of type recommended by manufacturer. Use only as approved by Engineer.

Water: Clean, fresh, and potable.

Gypsum: Commercially processed and packaged agricultural-grade (CaSO₄) Calcium Sulfate Product, 92.0% minimum, pH at 7.1. Ninety percent (90%) shall pass through a 50-mesh screen. The acceptable commercial grade product used shall be Domtar Gypsum, or equal as approved by the Engineer.

Iron Sulfate: Ferric or ferrous sulfate in dry application, pelleted or granular form, containing not less than 20% metallic iron, and 10% sulfur. It shall conform to the Agricultural Code of the State of California. The acceptable commercial grade product used shall be Cal Iron Plus, or equal as approved by the Engineer.

Soil Sulfur: Elemental Sulphur (99%) commercially manufactured. Sizing on stacked screen shall be approximately: 8-mesh 4.3%; 20-mesh 7.8%; 50-mesh 46.9%; 100-mesh 39.3%; 200-mesh 1.7%. The acceptable commercial grade product used shall be Wil-Gro, Union Chemicals, or equal as approved by the Engineer.

Iron Oxide: 45% iron (expressed as metallic iron) derived from iron oxide with micronutrients.

Sulfate of Potash: Agricultural grade product containing 50% to 53% of water-soluble potash.

Single Superphosphate: Commercial grade product containing 20% to 25% available phosphoric acid.

Ammonium Sulfate: Commercial grade product containing approximately 21% ammonia.

Ammonium Nitrate: Commercial grade product containing approximately 34% ammonia nitrogen.

Iron: Commercial grade product containing approximately 45% Iron (Fe), non-staining, Gro-Power Premium Green Iron, or equal as approved by the Engineer.

Volcanic Rock: Clean, free of materials toxic to plant growth, 60 lbs. per cubic foot maximum damp weight, 0 to 1/4" diameter.

Water Storing Polymer: "Broadleaf P4", as manufactured by Broadleaf Industries, Chula Vista, CA 619-585-5000, or equal as approved by the Engineer.

Soil Conditioner: Composted organic soil amendment, "Soil Conditioner", manufactured by American Soils Products, Richmond, CA or equal as approved by the Engineer.

20-3.01B(5) Fertilizers

Composition: Nitrogen (N), phosphorous (P), and potassium (K) content.

Fertilizer shall be furnished in amounts recommended from the soil analysis, as reported from a qualified soil-testing agency. Refer to previous section.

Steamed Bone Meal: OMRI-certified, commercial, raw, finely ground; minimum of 4 percent nitrogen and 20 percent phosphoric acid.

Blood Meal: OMRI-certified, or equal.

Feather Meal: OMRI-certified, commercial, supplied mixed with chicken manure to encourage decomposition, pelletized; minimum of 12% nitrogen.

Mycorrhizal Inoculum for Plant Materials from Container Stock: In addition to providing Fertilizer, provide a dual soil-conditioning biological inoculum system of endo-and ecto- Mycorrhizal to further aid the plants ability to efficiently uptake available soil nutrients and also increase resistance to drought. Approved suppliers include:

7-gram Myco-Pak, Tri-C Enterprises LLC, Chino, CA, 800-927-3311

4 oz. Packet - Roots 1 Step, Roots, Inc., Independence, MO, 800-342-6173

Or approved equal.

20-3.01B(6) Structural Soil

The Contractor shall provide and place structural soil in the location as shown in the Plans. You shall coordinate the installation with the provisions of Section 11.24 CONCRETE WORK of these Special Provisions. Structural Soil shall comply with the following:

ASTM: American Society of Testing and Materials

USDA: United States Department of Agriculture

AASHTO: American Association of State Highway and Transportation Officials

Provide Structural Soil, complete as shown and specified.

Contractor shall submit certificates for clay loam soil and crushed stone components of Structural Soil. Certificates shall be prepared by an independent testing laboratory. Certificates shall state: name and address of laboratory, physical properties of material, and chemical properties of material.

Supplier of Structural Soil mix shall supply certificate of testing. Certificate shall be prepared by an independent testing laboratory. Certificates shall state: name and address of laboratory, California Bearing Ratio of 50 or greater (ASTM D1883; AASHTO T 193), and dry weight of stone in blend.

The clay loam soil shall have the following physical properties and proportions by volume compared to the USDA Soil Classification System:

Gravel, less than 1%

Sand, 20-50%

Silt 20-50%

Clay 20-40%

Chemical analysis to meet following criteria:

- pH 5.5-7.5
- Organic matter 2-5% by dry weight
- Free of toxic elements and compounds
- Soluble salt less than 1.0 millimho per cm.

Fertilizers of types and in proportions recommended by soils report generated by the manufacturers of the structural soil.

The crushed stone shall be angular crushed stone of a clean hard dense character that can withstand compaction without crumbling and will not disintegrate in water. Size of stones shall be between ¾" and 1½" and specific gravity between 2.5 and 3.

Sieve analysis:

2"	100%
1½"	94%
1"	43%
¾"	12%
½"	7%
3/8"	4%
#4	2%

Hydrogel shall be a potassium copolymer, with properties that will adhere soil to stone, such as Gelscape (manufactured by Amereq, Inc, New York, NY; phone: 800 832 8788) or Broadleaf P4 (manufactured by Broadleaf Industries, Costa Mesa, CA; phone: 800 628-7374).

A certified company shall blend the Structural Soil consisting of clay loam, crushed stone, tackifier and water in following proportions by volume:

Crushed stone	100 units
Clay loam soil	20 units
Tackifier	0.03 units
Water	As needed for soil to adhere to stone

Obtain a uniform mixture without clumps. Obtain a mixture within 1% of optimum moisture content as measured by AASHTO T 99 (ASTM D 698).

The Engineer offers the following companies who can mix the Structural Soil:

American Soil & Stone (Richmond Annex), 2121 San Joaquin Street, Bldg.A Richmond, CA 94804; (510) 292-3000

TMT Enterprises, 1996 Old Oakland Road, San Jose, CA; contact Matt Moore at (408) 432-9040

Gail Materials, 1256 Magnolia, Corona, CA; contact Nick Leinen at (909) 279-1095

Axner Excavating, Inc., 2900 Old Oregon Trail, Redding, CA; contact Ed Axner, Jr. at (530) 222-0539

20-3.01B(7) Weed Control Barrier / Filter Fabric

Type: Permeable weed barrier fabric, "Style 0040" by Amoco Fabrics and Fibers Company, or "Typar 3401" by Reemay, or equal as approved by the Engineer.

20-3.01B(8) Stakes

Trees without grate and at Tree Grate Type 2: Two lodgepole pine tree stakes, 3' diameter, driven into soil outside of the tree's rootball area. One pair of flexible black vinyl tree ties for each pair of tree stakes, attached with 1 1/4" galvanized screws.

Tree ties: Cinch-Tie (V.I.T. Products, Inc, 800-729-1314, www.vitproducts.com). Or approved equal.

Trees at Tree Grate Type 1: Mega Grate Stake system, bolt-on steel stake with adjustable height 'T' bar, UV resistant vinyl tubing, powder-coated black. Supplier: J. R. Partners, 47410 Via Florence, La Quinta, CA 92253, 209-634-7791.

20-3.01B(9) Miscellaneous Materials

Anti-Desiccant: Water-insoluble emulsion, permeable moisture retarder, film forming, for trees and shrubs. Deliver in original, sealed, and fully labeled containers and mix according to manufacturer's instructions. (Aquatrols Corporation, Cherry Hill, NJ (609) 751-0309, or equal as approved by the Engineer).

Water: Clean, fresh, and potable.

Stress Reducing Agent: Roots Concentrate, as manufactured by Roots, Inc., New Haven, CT 203-786-5295, or equal as approved by the Engineer.

Wetting Agent and Soil Penetrant: Roots NoBurn, as manufactured by Roots, Inc., New Haven, CT 203-786-5295, or equal as approved by the Engineer.

20-3.01C Construction

20-3.01C(1) General

Installation practices of the landscape plant materials shall be performed during those periods when weather and soil conditions are suitable and in accordance with locally accepted horticultural practice, as approved by the Engineer. Contractor shall notify the Engineer in writing the anticipated commencement date and length of duration of the landscape installation.

Examine areas to receive landscaping for compliance with requirements and for conditions affecting performance of Work of this Section. Do not proceed with installation until unsatisfactory conditions have been corrected. No planting shall be done in any areas until they have been satisfactorily prepared in accordance with this Section.

Soil moisture level prior to planting shall be no less than 75% of field capacity. The determination of adequate soil moisture for planting shall be the sole judgment of the Engineer, and their decision shall be final.

If the soil moisture level is found to be insufficient for planting, all planting pits shall be filled with water and allowed to drain before commencing planting operations.

No more plants shall be distributed in the planting area on any day than can be planted and watered on that day. All plants shall be planted and watered as specified herein immediately after the removal of their containers. Containers shall not be cut prior to placing the plants in the planting area. Lay out individual tree and shrub locations and areas for multiple plantings. Stake locations, outline areas, and secure Engineer's acceptance before the start of planting work. Make minor adjustments as may be required.

Prior to Work in this Section, Contractor shall examine previously installed Work from other trades and verify that such Work is complete and as required, to the point where the installation of the landscape may commence properly.

Planting areas, which become compacted in excess of 85% relative compaction due to construction activities, shall be tilled and thoroughly cross-ripped to a minimum depth of 9" to alleviate the condition, taking care to avoid all existing subsurface utilities, drainage, etc.

20-3.01C(1) Protection of site

Contractor shall protect existing and new improvements and systems installed prior to planting installation. Maintain protection in place until completion of Work and maintenance period.

Protect concrete paving, headers, and drainage from staining due to contact with wet nitrogen stabilized mulch/sawdust or contact with chelated iron. Correct any stained concrete.

20-3.01C(2) Agronomic Soils Report Recommendation

Planting operations shall not commence until the results of the Agronomic Soils Report are reviewed by the Engineer.

The Agronomic Soils Report Recommendation shall take precedence over the amendment and fertilizer application rates specified herein or on the Contract Documents.

20-3.01C(1) Percolation Tests

Prior to installing any plant material, the Contractor shall perform a minimum of four (4) percolation tests in representative areas of the project site to verify acceptable natural drainage for the planting pits of the plant material. The Contractor shall verify the locations of the percolation tests through the direction of the Engineer. Each test shall be performed as follows:

Dig a hole 2'-0" wide x 2'-0" long x 2'-0" deep.

Fill the hole with water to top and cover with plywood and barricade. Allow hole to drain and fill again to top.

Make daily observations, noting the depth of water each day.

Report findings, in writing, to the Engineer. Include the length of time the water takes to drain completely from each hole, date of test, location, and other information, which may be useful in providing further recommendations.

Based on the combined results of the Soil Fertility Test and the Percolation Test, the Contractor may be required to install additional tree drainage sumps or other drainage methods at each planting pit for trees larger than 15-gallon container stock. Should additional tree drainage sumps or other methods be needed, based on the results of the soil fertility and percolation tests, per the direction of Engineer, then fair and adequate compensation shall be awarded to the Contractor to provide these additional measures.

20-3.01D Payment

Not used.

20-3.02 PLANTING WORK

20-3.02A General

Section 20-3.02 includes specifications for planting plants.

20-3.02B Materials

Not used.

20-3.02C Construction

20-3.02C(1) Preparing Planting Areas

Planting Soil Depth: Full depth of 24" plus transition layer wherever planting occurs.

Excavate and remove existing soil to 2' depth from final finish grade.

Loosen subgrade of planting bed areas to a depth of 8". Hand-scarify existing site soil on sides of planting beds to encourage lateral root growth.

Spread planting soil mixture in 6" lifts to depth required meeting thickness, grades, and elevations shown, after light rolling and natural settlement. Place first lift of planting soil mixture and work into the top 6" of loosened subgrade to create a 1' transition layer and then place remainder of planting soil mixture.

If amendment is required after placement of planting soil, spread amendments evenly on surface and incorporate using mechanical rotary and hand tools to achieve depth required meeting thickness, grades, and elevations shown, after light rolling and natural settlement.

Incorporate mycorrhizal inoculum into planting soil.

Where excavation and bed preparation practices are determined by the Engineer to cause damage to roots of existing trees to remain, a revised depth of 6"-12" for planting soil plus transition layer may be approved.

20-3.02C(2) Finish Grading

Finish grading shall be as indicated on the Civil Engineer Drawings, unless otherwise noted on the Contract Drawings prepared by the Engineer or noted herein this Section. Contractor shall report discrepancies (if any) to the Engineer and Civil Engineer for clarification and resolution.

Finish grades shall be measured at the top surface of surface materials. The finish grade below adjacent paving, curbs, or headers shall be two inches (2") in shrub and/or groundcover areas.

Remove all rocks two inches (2") and larger to a depth of four (4") inches below finish grade of shrub and groundcover areas and all other growth or debris from the site.

Fill gullies or ruts in excess of one (1") inch deep on areas to be planted with shrubs and groundcovers using adjacent soil, and compact soil to adjacent finish grade of soil.

Contractor shall take every precaution to protect and avoid damage to sprinkler heads, irrigation lines, drainage lines, improvements by other trades, and all underground utilities during grading and conditioning operations. The Contractor shall maintain established site grades and drainage during all stages of landscape construction.

The finish grading shall be smooth, uniform, and free from abrupt grade changes and depressions to insure positive drainage of the site. All surface drainage shall drain away from buildings, walls, and walks, and shall drain towards roadways, streets, gutters, drains, and catch basins.

Final grades shall be acceptable to the Engineer before commencement of planting operations. Planting or other landscape site construction improvements installed without prior approval of finish grades by the Engineer shall be re-installed under requirements of this Section and other Sections of the Contract Specifications, with no additional cost to the Owner.

20-3.02C(3) Planting Plants

20-3.02C(3)(a) Excavation for Trees and Shrubs

Pits and Trenches: Excavate with vertical sides and with bottom of excavation slightly raised at center to assist drainage. Loosen hard subsoil in bottom of excavation.

Container-Grown Trees and Shrubs: Excavate to three times (3x) the container width and depth, plus the following setting-layer depth, or as further directed by the Engineer:

Setting Layer: Allow three (3") inches of planting soil.

Set top of rootball even with finish grade.

Dispose of subsoil removed from landscape excavations. Do not mix with planting soil or use as backfill.

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

Drill twelve-inch (12") diameter holes three feet (3') deep, or to water table, whichever is less, and backfill with planting soil.

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

Fill excavations with water and allow to percolate out, before placing setting layer and positioning trees and shrubs.

20-3.02C(3)(b) Planting Trees and Shrubs

Set container-grown stock plumb and in center of pit or trench with top of ball raised above adjacent finish grades as indicated.

Carefully remove containers so as not to damage root balls.

Place stock on setting layer of compacted planting soil.

Place backfill around ball in layers, tamping to settle backfill and eliminate voids and air pockets. When pit is approximately 1/2 backfilled, water thoroughly before placing remainder of backfill. Repeat watering until no more is absorbed. Water again after placing and tamping final layer of backfill.

Dish and tamp top of backfill to form a three inch (3") high mound around the rim of the pit. Do not cover top of root ball with backfill.

Plant Settling: Any tree or shrub that has settled deeper than the surrounding grade shall be raised to the correct level, to the satisfaction of the Engineer.

20-3.02C(3)(b)(i) Pruning Plant Material

At no time shall any plant material be pruned, trimmed, thinned, shaped, or topped prior to delivery. Any pruning, trimming, thinning, shaping, or topping of plant material shall be only conducted on the Project Site, and under the presence and direction of the Engineer. Any plant material that has been pruned and delivered to the Project Site without prior approval by the Engineer or approved Certified Arborist shall be rejected.

When directed by the Engineer or an approved certified Arborist, Contractor shall prune, thin, and shape plant material according to standard horticultural practice to preserve the natural character of the plant material.

Prune trees to retain required height and spread. Unless otherwise directed by the Engineer or Certified Arborist, do not cut tree leaders; remove only injured or dead branches from flowering trees.

All pruning and remedial work shall be done under continuous supervision of the Engineer or approved Certified Arborist, and per ANSI A-300 Pruning Standards. The Arborist shall be certified by the International Society of Arborists (ISA); or the Certified Arborist who is a member of the American Society of Consulting Arborists, in compliance with ISA and ANSI Standards.

Provide pruning, cabling and bracing, irrigation, pest and disease control and other remedial treatments as recommended by the Engineer or approved Certified Arborist, as required, to assure the long-term health of the trees and existing vegetation, and the safety of persons and property.

20-3.02C(3)(b)(ii) Tree Staking and Tying

Upright Staking and Tying: Stake all trees unless directed otherwise by Owner's Authorized Representative. Install Mega Stake per manufacturer's specifications. Orient tree with nursery stake on same side as Mega Stake. Remove nursery stake.

Provide additional tree ties, as directed by the Engineer, to tree trunks and stakes, to firmly support tree trunk and canopy.

20-3.02C(3)(c) Groundcovers and Plants

Spacing: Space ground cover and plants at spacing indicated on the Contract Drawings. Plants shall be triangular spaced, or as indicated on the Contract Drawings.

Dig holes large enough to allow spreading of roots and backfill with planting soil. Work soil around roots to eliminate air pockets and leave a slight saucer indentation around plants to hold water. Water thoroughly after planting, taking care not to cover plant crowns with wet soil.

Plant Settling: Any groundcover or other plant that has settled deeper than the surrounding grade shall be raised to the correct level.

20-3.02C(3)(d) Installation of Miscellaneous Materials

When deciduous trees or shrubs are moved in full-leaf, spray with anti-desiccant at nursery before moving and again two (2) weeks after planting. Apply anti-desiccant using power spray to provide an adequate film over trunks, branches, stems, twigs, and foliage.

20-3.02C(3)(e) Cleanup and Protection

During landscaping operations, keep pavements clean and Work area in an orderly and safe condition. Contractor shall remove all trash caused from his Work on a weekly basis throughout the duration of the Work.

Protect landscaping from damage due to landscape operations, operations by other Contractors and trades, and trespassers. Maintain protection during installation and maintenance periods. Treat, repair, or replace damaged landscape work as directed.

Upon completion of his Work under this Section, the Contractor shall remove all rubbish, waste, debris, excess construction materials, and other items resulting from construction operations offsite as described herein this Section and directed by the Engineer.

All scars, ruts, or other marks in the ground caused by the Contractor's Work shall be repaired.

Remove all equipment and implements of service and leave the entire Project Site area in a neat, clean, and Owner-approved condition. All sidewalks, driveways, pavements, and site areas shall receive a broom-clean treatment or other cleaning treatment as directed by the Engineer.

20-3.02C(3)(f) Disposal of Surplus and Waste Materials

Disposal: Contractor shall remove surplus soil and waste material, including excess subsoil, unsuitable soil, trash, and debris, and legally dispose of it off the Owner's property.

20-3.02C(3)(g) Final Review

A Final Review shall be performed upon completion of the Maintenance Period.

Contractor shall request attendance at the review by the Owner, Engineer, and other parties designated by the Owner of not less than one (1) week prior to the end of the Maintenance Period.

At the time of Final Review, planting areas shall be free of weeds and neatly cultivated. Contractor shall perform all necessary corrective work and replacement of materials as identified.

Work requiring corrective measures by the sole judgment of the Engineer shall be completed within ten (10) days of the Final Review.

Corrective Work and materials replacement shall be in accordance with the Contract Drawings and Contract Specifications and shall be made at no expense to the Owner.

Maintenance Period shall be continued at no expense to the Owner as determined by the Engineer until final acceptance of the completed Work is accomplished.

Contractor shall request a review upon completion of corrective Work and materials replacement.

If, after review, the Engineer finds the Work has been performed in accordance with the Contract Drawings and Contract Specifications, and plant materials are in satisfactory growing condition, a written notice of acceptance at the end of the Maintenance Period shall be issued by the Engineer.

20-3.02D Payment

Not used.

Replace section 20-4 with:

20-4.01 GENERAL

General Landscape Maintenance: Work Specified in this Section- furnish all labor, material, equipment and services required to maintain the landscape as specified herein for a period of one (1) year (365 days). General Landscape maintenance includes providing an operable irrigation service.

Tree Maintenance: Work Specified in this Section- furnish all labor, material, equipment and services required to maintain the trees as specified herein for a period of two (2) years. Tree maintenance includes providing an operable irrigation service.

The Contractor shall continuously maintain all areas involved in this Contract during the progress of the work. Improper maintenance or possible poor condition of any planting at the termination of the scheduled maintenance period may cause postponement of the final completion date of the Contract. Maintenance shall be continued by the Contractor until all work is accepted by the Engineer.

Start of Maintenance Criteria - Maintenance Period shall not start until all elements of construction, planting, and irrigation for the entire project are completed and accepted in writing.

The Contractor shall request an inspection to begin the plant maintenance period after all planting and related work has been completed in accordance with the Contract documents. All groundcover areas shall be planted. If such criteria are met to the satisfaction of the Engineer, a field notification will be issued to the Contractor to establish the effective beginning date of the period.

The Contractor's Maintenance Period will be extended if the provisions required within the plans and specifications are not filled.

Prior to start of maintenance period, the Contractor shall submit a schedule of all activities planned during the maintenance period. This shall be accepted by the Engineer prior to the start of maintenance. All schedule changes shall be documented and accepted by the Engineer.

The Contractor shall provide protection of all planting areas against traffic or other damage by erecting fencing or other protection devices immediately after planting is completed. Warning signs, flags, and/or barricades shall be placed in high-traffic areas. Damaged areas shall be repaired immediately by the Contractor at no cost to the Owner.

All plant material installed under the Contract shall be guaranteed against any and all poor, inadequate or inferior materials and/or workmanship for a period of one (1) year. Any plant found to be dead or in poor condition due to faulty materials or workmanship, as determined by the Engineer, shall be replaced by the Contractor at his expense.

General Landscape: The start of the Guarantee Period shall commence upon completion of the 1-year Maintenance Period.

Tree Maintenance: The start of the Guarantee Period shall commence upon completion of the 2-year Maintenance Period.

Any materials found to be dead, missing, or in poor condition during the maintenance period shall be replaced immediately. The Engineer shall be the sole judge as to the condition of the material. Material to be replaced within the Maintenance Period shall be replaced by the Contractor within fifteen (15) days of written notification by the Engineer.

Replacement trees covered by the Discretionary Tree Replacement shall be installed in or near the project area within twenty-one (21) days' notice at the direction of the Engineer.

Normal progress inspection shall be requested by the Contractor from the Engineer at least seven (7) working days in advance of an anticipated inspection. Inspections shall be at the commencement and completion of the maintenance period.

All conditions noted in Landscape Planting section shall apply herein.

20-4.02 MATERIALS

All materials used shall either conform to Landscape Planting specifications in other sections

or shall otherwise be acceptable to the Engineer. The Engineer shall be given monthly record of all herbicides, insecticides, and disease control chemicals used.

20-4.02A Maintenance Fertilizer

Commercial grade complete fertilizer of neutral character, consisting of fast and slow release nitrogen. Uniform "beaded" homogeneous mixture, 100% passing through #4 mesh screen, composition suitable for application with approved equipment and shall contain the following minimum available percentages by weight of plant food. Chemical analysis shall include 50% Humus, 15% Humic Acids, 1% Soluble Metallic Iron, and soil bacteria.

Nitrogen	5% minimum
Phosphoric acid	3% minimum
Potash	1% minimum

20-4.02B Controlled Release Fertilizer

Commercial grade complete fertilizer of neutral character, consisting of fast and slow release nitrogen. Uniform "beaded" homogeneous mixture, 100% passing through #4 mesh screen, composition suitable for application with approved equipment and shall contain the following minimum available percentages by weight of plant food. Chemical analysis shall include 25% Humus, 5% Humic Acids, and 2% Iron

Nitrogen	12% minimum
Phosphoric acid	8% minimum
Potash	8% minimum

20-4.02C Irrigation

Provide replacement irrigation parts per irrigation plans as necessary.

20-4.03 CONSTRUCTION

20-4.03A Maintenance

All areas shall be kept free of debris and all planted areas shall be weeded and cultivated at intervals of not more than ten (10) days. Watering, mowing, rolling, edging, trimming, fertilization, spraying, and pest control, as may be required, shall be included in the Maintenance Period.

The Contractor shall be responsible for maintaining adequate protection of the planting areas. Damaged areas shall be repaired at the Contractor's expense.

20-4.03B Shrub and Groundcover Care

20-4.03B(1) Watering

Ensure proper irrigation system operation. If required for supplemental watering, provide and maintain a large enough water basin around plants so that enough water can be applied to establish moisture through the major root zone. When hand watering, use a water wand to break the water force. Use mulches to reduce evaporation and frequency of watering.

20-4.03B(2) Weed Control

Keep basins and areas between plants free of weeds using hand and tool methods. Avoid frequent soil cultivation that destroys shallow roots. Use mulches to help prevent weed seed germination. Non-toxic treatments such as white vinegar may be used to control weeds in cracks. Use recommended legally approved herbicides only with written approval of the Engineer. Use of herbicides is discouraged in accordance with Alameda County Bay Friendly guidelines.

20-4.03B(3) Insect and Disease Control

Apply non-toxic insecticidal soaps and other natural treatments. Refer to the Alameda County Bay Friendly guidelines for appropriate treatments. If infestation persists, maintain a reasonable control with insecticides after receipt of written approval by Engineer.

20-4.03B(4) Fertilization

Fertilize all planting areas with the following: At the end of the maintenance period: 20 lbs. per 1,000 sf. of controlled release top-dress fertilizer.

Avoid applying fertilizer to the root ball and base of main stem; rather, spread evenly under plant to drip line.

Replacement of Plants: Replace dead, dying, and missing plants with plants of a size, condition, and variety acceptable to Engineer at Contractor's expense.

20-4.03C Tree Care

20-4.03C(1) Watering

Ensure proper irrigation system operation. If required for supplemental watering, provide and maintain a 3 foot diameter or larger water basin around trees so that enough water can be applied to establish moisture through the major root zone. When hand watering, use a water wand to break the water force. Use mulches to reduce evaporation and frequency of watering.

20-4.03C(2) Weed Control

Keep basins and areas below tree free of weeds using hand and tool methods. Avoid frequent soil cultivation that destroys shallow roots. Use mulches to help prevent weed seed germination. Use recommended legally approved herbicides only with written approval of the Engineer. Use of herbicides is discouraged in accordance with Alameda County Bay Friendly guidelines.

20-4.03C(3) Insect and Disease Control

Apply non-toxic insecticidal soaps and other natural treatments. Refer to the Alameda County Bay Friendly guidelines for appropriate treatments. If infestation persists, maintain a reasonable control with insecticides after receipt of written approval by Engineer.

20-4.03C(4) Fertilizing

Fertilize as specified under Shrub care.

20-4.03C(5) Pruning

Pruning shall be performed only under the supervision of a certified arborist. The following on-line information is useful: <http://www.urbantree.org/index.html>

20-4.03C(6) Maintenance Every Three Months

Inspect for and remedy any wear on trunk and branches against stakes, tree grate, or other item near tree.

Inspect tree stake and ties.

Check irrigation to each tree for clogging, flooding, erosion, breakage, or other harmful conditions.

During fall and winter seasons, provide selective pruning of trees under the direction of a certified arborist to eliminate poor branching structure, broken branch stubs, and branches below six feet that conflict with vehicular/pedestrian access and visibility. Do not prune leaders.

20-4.03C(7) Tree Stakes

Provide additional staking of trees as required to prevent leaning and damage. Material costs shall be reimbursed by the Owner.

Relocate stakes to better brace tree against wind and to provide proper support.

Provide additional or replacement ties for tree stakes.

Remove tree stakes from each tree as directed by the Engineer. Deliver stakes to County corporation yard as directed.

20-4.03D Final Acceptance of the Project

Prior to the date of the Final Inspection, the Contractor shall acquire from the Engineer approved, reproducible prints and final record from the job record set of all changes made to the all plans during construction, label said prints "As-Builts", and deliver to the Engineer and as required to any Local Agency. Prior to the date of Final Inspection, the

Contractor shall deliver to the Engineer the "Landscape and Irrigation Guarantee" as required. Said guarantee shall be on the Contractor's letterhead and dated the final acceptance date.

All turn-over items noted in other specification sections shall be delivered prior to a Final Inspection.

20-4.04 PAYMENT

Not used.

Replace section 20-5.03C(2) with:

Gravel mulch must be:

Type: To be selected by Engineer. Bid shall include "Pea Gravel" or similar.

Size: 3/8"

Color: Gray, uniform color

Shall be from only 1 source.

Suppliers: American Soils Products, Richmond, CA; Lynsco Construction Materials, San Carlos, CA; Or equal.

Replace the first sentence of section 20-5.03C(3) with:

Apply 2" of Gravel Mulch to entire planting area indicated for Gravel Mulch and compact it by rolling.

Replace sections 20-5.04B(2) through 20-5.04B(4) with:

20-5.04B(2) Organic Mulch

Organic Mulch shall be well composted. Suitable as a top dressing of trees, shrubs and groundcovers, consisting of following:

Type: Shredded recycled wood products consisting of 100% recycled, hand sorted, chipped and screened urban lumber. Color stained to dark brown using UV resistant organic mineral. Mulch shall be graded to average dimensions of one-half inches (1/2") to two inches (2") in length, and flat in cross section.

Coverage depth shall be a minimum of two inches (2"), or as indicated on the Contract Drawings.

Acceptable Products & Manufacturers: Dark Brown Decorative Mulch, American Soils Products, Richmond, CA, or equal.

Replace item 1 in the list in the 1st paragraph of section 20-5.03D(2)(a) with:

1. Uniform tan color

Replace section 20-5.05 with:

20-5.05 SITE FURNISHINGS

20-5.05A General

20-5.05A(1) Summary

This Section includes all materials, labor, transportation, services, and equipment necessary for and reasonably incidental to perform the installation of site and street furnishings as shown on the Contract Drawings, and as specified herein this Section. The Work under this Section consists of furnishing and installing the following:

Trash Receptacle

Bicycle Rack

Bench

Tree Grate Type 1

Tree Grate Type 2

Planter Rail

20-5.05A(2) Quality Assurance

Installer Qualifications: Engage an experienced Installer who has completed in the last five (5) years and at least five (5) installations similar in material, design, and extent to that indicated for this Project. Installer will assign mechanics from these earlier applications to this Project, of which one will serve as lead mechanic.

Single-Source Responsibility: Obtain each type of unit of furnishings from a single source with resources to provide products and materials of consistent quality in appearance and physical properties without delaying the Work.

20-5.05A(3) Submittals

Contractor shall submit shop drawings to show component parts, fabrication, installation, and dimensions for all units indicated herein this Section. Show vandal resistant mounting hardware. Submit shop drawings for review by the Engineer.

Submit manufacturer's product data for review by the Engineer.

For installed products indicated to comply with design loads, include structural analysis data signed and sealed by the qualified professional engineer responsible for their preparation.

Submit samples for each material and finish. Provide powdercoat sample for each separate manufacturer.

20-5.05A(4) Coordination

The Contractor shall coordinate the installation of all furnishings in this Section with all other related Work of this Contract.

The Contractor shall be responsible for verifying the dimensions and required hardware of the furnishings prior to commencing installation Work.

Particular attention shall be given to coordinating furnishing footings with utility locations to avoid any conflicts.

20-5.05A(5) Storage and Handling

All new furnishings shall be stored as necessary to prevent damage and shall be in new condition when ready for installation. It shall be the responsibility of the Contractor to install "factory condition" furnishings

20-5.05B Materials

20-5.05B(1) Trash Receptacle

Approved Manufacturer: Victor Stanley. (Representative: Rebecca Casey, 800.430.6206x1313, email rebeccac@landcapeforms.com)

Approved Design: RSDC-45. Provide shop drawings or manufacturer's cut-sheet.

Powdercoat Color: per plans, or equal manufacturer's standard powdercoat color if approved by Engineer.

Surface mount.

20-5.05B(2) Bicycle Rack

Custom bicycle rack per drawings.

Manufacturer: Creative Pipe, Inc. P.O. Box 2458, Rancho Mirage, California 92270-1087, 800.644.8467, Email: sales@creativepipe.com, or equal.

Color and Finish: powdercoat color per plans, or equal manufacturer's standard powdercoat color if approved by Engineer.

20-5.05B(3) Bench

Approved Manufacturer: Victor Stanley. (Representative: Rebecca Casey, 800.430.6206x1313, email rebeccac@landcapeforms.com)

Approved Design: FM-324 6-ft length. Provide shop drawings or manufacturer's cut-sheet.

Powdercoat Color: per plans, or equal manufacturer's standard powdercoat color if approved by Engineer.

Surface mount.

20-5.05B(4) Tree Grate Type 1

Each Grate Unit of all types shall consist of the complete assembly, including the frame, grate (2 pieces), and anchor bolts

Approved Manufacturer: Neenah Foundry, Inc. (Representative: Park Pacific, Ted Jonsson, 888.460.7275, ted@parkpacific.com)

Approved Design: Avenue Collection R-8810. Size 36" x 60" with 16" dia. tree opening. Shall include City of Ukiah Logo, approx. 10" diameter, cast into 2 diagonally opposite corners of grate. Provide shop drawings or manufacturer's cut-sheet. Refer to plans for all types.

Material – Ferrous castings content shall range from 75% post industrial metal (scrap castings, industrial steel scrap) to 100% post consumer scrap (old engine blocks, brake drums, flywheels, etc).

Castings – shall be free of blow holes, flashing, grind marks, and other surface blemishes. Castings shall be per ASTM A-45 class 35 or better

ADA Compliancy- castings shall have holes no greater than ½" in the dominant direction of motion, no vertical rise of greater than ¼", and minimum coefficient of .6 or better in wet or dry conditions.

Sustainability: manufacturer shall comply with MACT (Maximum Achievable Control Technology) standards, which mandate the use of the latest air filtration technology in the manufacturing process. Production shall include recycled content as described herein.

Color and Finish:

Frame – Steel, painted black with rust resistant flat finish.

Grate – raw finish. Contractor shall coordinate delivery so that grates may be seasoned to develop patina in advance of installation.

Or equal (no known equal).

20-5.05B(5) Tree Grate Type 2

Each Grate Unit of all types shall consist of the complete assembly, including the frame, grate (4 pieces), and anchor bolts

Approved Manufacturer: Neenah Foundry, Inc. (Representative: Park Pacific, Ted Jonsson, 888.460.7275)

Approved Design: Boulevard Collection R-8816. Size 60" x 96" with 24" dia. tree opening. Shall include City of Ukiah Logo, approx. 10" diameter, cast into 2 diagonally opposite corners of grate on extension pieces. Provide shop drawings or manufacturer's cut-sheet. Refer to plans for all types.

Material – Ferrous castings content shall range from 75% post industrial metal (scrap castings, industrial steel scrap) to 100% post consumer scrap (old engine blocks, brake drums, flywheels, etc).

Castings – shall be free of blow holes, flashing, grind marks, and other surface blemishes. Castings shall be per ASTM A-45 class 35 or better

ADA Compliancy- castings shall have holes no greater than ½" in the dominant direction of motion, no vertical rise of greater than ¼", and minimum coefficient of .6 or better in wet or dry conditions.

Sustainability: manufacturer shall comply with MACT (Maximum Achievable Control Technology) standards, which mandate the use of the latest air filtration technology in the manufacturing process. Production shall include recycled content as described herein.

Color and Finish:

Frame – Steel, painted black with rust resistant flat finish.

Grate – raw finish. Contractor shall coordinate delivery so that grates may be seasoned to develop patina in advance of installation.

Or equal (no known equal).

20-5.05B(6) Planter Rail

Brackets, Flanges, and Anchors: Same metal and finish as tubing, unless otherwise indicated.

Stainless Steel:

Tubing: ASTM A 554, Grade MT 316L.

Pipe: ASTM A 312/A 312M, Grade TP 316L.

Plate and Sheet: ASTM A 666, Type 316L.

Bars and Shapes: ASTM A 276, Type 316L.

Steel and Iron:

Tubing: ASTM A 500 (cold formed) or ASTM A 513, Type 5 (mandrel drawn), as approved.

Bars: Hot-rolled, carbon steel complying with ASTM A 29/A 29M, Grade 1010.

Plates, Shapes, and Bars: ASTM A 36/A 36M.

Castings: Either gray or malleable iron, unless otherwise indicated.

Gray Iron: ASTM A 48/A 48M, Class 30, unless another class is indicated or required by structural loads.

Malleable Iron: ASTM A 47/A 47M.

Fasteners: Provide concealed fasteners, unless otherwise indicated.

Stainless-Steel Components: Type 316 stainless-steel fasteners.

Steel Components: Plated-steel fasteners complying with ASTM B 633, Class Fe/Zn 25 for electrodeposited zinc coating.

Anchors: Provide cast-in-place or torque-controlled expansion anchors, fabricated from corrosion-resistant materials with capability to sustain, without failure, a load equal to six times the load imposed when installed in unit masonry and equal to four times the load imposed when installed in concrete, as determined by testing per ASTM E 488.

Universal Shop Primer: Fast-curing, lead- and chromate-free, universal modified-alkyd primer complying with MPI#79.

Zinc-Rich Primer: Complying with SSPC-Paint 20 or SSPC-Paint 29 and compatible with topcoat.

Shop Primer for Galvanized Steel: Zinc-dust, zinc-oxide primer compatible with finish paint systems indicated and complying with SSPC-Paint 5.

Grout and Anchoring Cement: Factory-packaged, nonshrink, nonmetallic grout complying with ASTM C 1107, or water-resistant, nonshrink, anchoring cement; recommended by manufacturer for exterior use.

Provide rails capable of withstanding the effects of gravity loads and the following loads and stresses within limits and under conditions indicated:

Uniform load of 50 lbf/ ft. (0.73 kN/m) applied in any direction.

Concentrated load of 200 lbf (0.89 kN) applied in any direction.
Uniform and concentrated loads need not be assumed to act concurrently.

Control of Corrosion: Prevent galvanic action and other forms of corrosion by insulating metals and other materials from direct contact with incompatible materials.

Finishes: shall be powdercoated, color per plans.

20-5.05C Construction

20-5.05C(1) Inspection

Examine the areas and conditions under which site furnishing units are to be installed and remedy any 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 Engineer.

20-5.05C(2) Installation

Unit(s) shall be furnished and located as shown on the Contract Drawings, and as directed by the Contract Specifications.

Use actual Unit(s) to establish all dimensions for installation.

Erect and install Unit(s) in accordance with manufacturer's instructions and recommendations. Install unit(s) plumb, accurately, and in the correct orientation and relationship with other site furnishings, elements, and/or paving as shown on the Contract Drawings. Verify prior to installation with the Engineer.

Install all footings, anchorage, and mounting hardware, as applicable, in strict accordance with manufacturer's instructions and contract drawings.

Use vandal resistant hardware or industry standard epoxy resin application to nut.

20-5.05C(3) Protection

Protect all furnishings against damage throughout the duration of the construction period, complying with manufacturer's directions.

Touch-up Painting (if applicable): Immediately after erection, clean field welds, bolted connections, and abraded areas of the work. Paint exposed areas with paint or galvanizing material as supplied by the manufacturer. Apply by brush, to thickness recommended by paint manufacturer.

20-5.05C(4) Planter Rail

20-5.05C(4)(a) Fabrication

General: Fabricate railings to comply with design, dimensions, and details indicated, but not less than that required to support structural loads. Form ornamental metal true to line and level with true curves and accurate angles and surfaces. Finish exposed surfaces to smooth, sharp, well-defined lines and arris.

Welded Connections: Cope components at connections to provide close fit, or use fittings designed for this purpose. Weld all around at connections, including at fittings. Comply with AWS for recommended practices in shop welding. Clean exposed welded joints of flux, and dress exposed and contact surfaces.

Mechanical Connections: Connect members with concealed mechanical fasteners and fittings.

Form changes in direction by bending.

Form curves by bending in jigs to produce uniform curvature; maintain cross section of member throughout bend without cracking or otherwise deforming exposed surfaces.

Close exposed ends of hollow railing members.

20-5.05C(4)(b) Installation

Perform cutting, drilling, and fitting required for installing railings. Set railings accurately in location, alignment, and elevation.

Set posts plumb within a tolerance of 1/16 inch in 3 feet (2 mm in 1 m).

Align rails so variations from level for horizontal members and variations from parallel with rake of steps and ramps for sloping members do not exceed 1/4 inch in 12 feet (5 mm in 3 m).

Anchor posts in concrete by inserting into formed or core-drilled holes and grouting annular space.

Provide anchorage devices and fasteners where necessary for securing to in-place construction.

20-5.05D Payment

Not used.

Add after section 20-5.10:

20-5.11 BRICK PAVING

20-5.11A General

20-5.11A(1) Summary

Section 20-5.11 includes general specifications for constructing and installing brick paving.

20-5.11A(2) Quality Assurance

Source Limitations: Obtain each type of brick paver and setting material from one source with resources to provide materials and products of consistent quality in appearance and physical properties.

Mockups: Build one 5' x 5' (minimum size) mockup for each paver type and pattern to verify selections made under sample submittals and to demonstrate aesthetic effects and set quality standards for materials and execution. Mockups may become part of final work if approved by Architect.

Preinstallation Conference: Conduct conference at Project site to with Engineer.

20-5.11A(3) Submittals

Contractor shall submit the following for review by the Engineer:

Product data

Sieve analysis for aggregate setting-bed materials, according to ASTM C 136

Samples for initial selection by the Engineer, including full-size units of brick pavers.

20-5.11A(4) Delivery, Storage, and Handling

Store pavers on elevated platforms in a dry location. If units are not stored in an enclosed location, cover tops and sides of stacks with waterproof sheeting, securely tied.

Store aggregates where grading and other required characteristics can be maintained and contamination avoided.

20-5.11B Materials

20-5.11B(1) Brick Pavers

McNear Brick and Block, Commercial Series Clay Brick

Color: To be selected by Engineer from a range of standard colors.

Dimension: "Standard Solid Paver" 3 7/8" x 8 1/8" x 2 7/16"

Or equal.

20-5.11B(2) Aggregate Setting-Bed Materials

20-5.11B(2)(a) Graded Aggregate for Base

Sound, crushed stone or gravel complying with requirements in Division 2 Section "Earthwork" for base course.

20-5.11B(2)(b) Sand for Leveling Course

Sound, sharp, washed natural sand or crushed stone complying with gradation requirements in ASTM C 33 for fine aggregate.

20-5.11B(2)(c) Sand for Joints

Fine, sharp, washed natural sand or crushed stone with 100 percent passing No. 16 (1.18-mm) sieve and no more than 10 percent passing No. 200 (0.075-mm) sieve.

20-5.11B(3)(d) Separation Geotextile

Woven geotextile fabric, manufactured for separation applications; made from polyolefins or polyesters, with elongation less than 50 percent; complying with AASHTO M 288 and the following, measured per test methods referenced:

Survivability: Class 2; AASHTO M 288.

Apparent Opening Size: No. 60 (0.250-mm) sieve, maximum; ASTM D 4751.

Permittivity: 0.02 per second, minimum; ASTM D 4491.

UV Stability: 50 percent after 500 hours' exposure; ASTM D 4355.

20-5.11B(2)(e) Herbicide

Commercial chemical for weed control, registered with the EPA. Provide in granular, liquid, or wettable powder form.

20-5.11C Construction

20-5.11C(1) Examination

Examine areas indicated to receive paving, with Installer present, for compliance with requirements for installation tolerances and other conditions affecting performance.

Proceed with installation only after unsatisfactory conditions have been corrected.

20-5.11C(2) Preparation

Proof-roll prepared subgrade according to requirements in Division III Section 19 "Earthwork" to identify soft pockets and areas of excess yielding. Proceed with unit paver installation only after deficient subgrades have been corrected and are ready to receive base course for unit pavers.

20-5.11C(3) Installation

20-5.11C(3)(a) General

Do not use unit pavers with chips, cracks, voids, discolorations, and other defects that might be visible in finished work.

Mix pavers from several pallets or cubes, as they are placed, to produce uniform blend of colors and textures.

Cut unit pavers with motor-driven masonry saw equipment to provide clean, sharp, unchipped edges. Cut units to provide pattern indicated and to fit adjoining work neatly. Use full units without cutting where possible. Hammer cutting is not acceptable.

Joint Pattern: As indicated on contract drawings.

Tolerances: Do not exceed 1/32-inch (0.8-mm) unit-to-unit offset from flush (lippage) nor 1/8 inch in 10 feet (3 mm in 3 m) from level, or indicated slope, for finished surface of paving.

Expansion and Control Joints: Provide joint filler at locations and of widths indicated. Install joint filler before setting pavers. Make top of joint filler flush with top of pavers.

20-5.11C(3)(b) Aggregate Setting-Bed and Paver Installation

Compact soil subgrade uniformly to at least 95 percent of ASTM D 698 laboratory density.

Proof-roll prepared subgrade to identify soft pockets and areas of excess yielding. Excavate soft spots, unsatisfactory soils, and areas of excessive pumping or rutting, as determined by Owner's Authorized Representative, and replace with compacted backfill or fill as directed.

Place separation geotextile over prepared subgrade, overlapping ends and edges at least 12 inches (300 mm).

Place aggregate base, compact to 95 percent of ASTM D 1557 maximum laboratory density, and screed to depth indicated.

Place leveling course and screed to a thickness of 1 to 1-1/2 inches (25 to 38 mm), taking care that moisture content remains constant and density is loose and constant until pavers are set and compacted.

Treat leveling course with herbicide to inhibit growth of grass and weeds.

Set pavers with a minimum joint width of 1/16 inch (1.5 mm) and a maximum of 1/8 inch (3 mm), being careful not to disturb leveling base. Use string lines to keep straight lines.

Vibrate pavers into leveling course with a low-amplitude plate vibrator capable of a 3500- to 5000-lbf (16- to 22-kN) compaction force at 80 to 90 Hz. Perform at least three passes across paving with vibrator. Vibrate under the following conditions:

After edge pavers are installed and there is a completed surface or before surface is exposed to rain.

Before ending each day's work, fully compact installed concrete pavers to within 36 inches (900 mm) of the laying face. Cover pavers that have not been compacted, and leveling course on which pavers have not been placed, with nonstaining plastic sheets to protect them from rain.

Spread dry sand and fill joints immediately after vibrating pavers into leveling course. Vibrate pavers and add sand until joints are completely filled, then remove excess sand. Leave a slight surplus of sand on the surface for joint filling.

Do not allow traffic on installed pavers until sand has been vibrated into joints.

Repeat joint-filling process 30 days later.

20-5.11C(3)(d) Repairing and Cleaning

Remove and replace unit pavers that are loose, chipped, broken, stained, or otherwise damaged or that do not match adjoining units. Provide new units to match adjoining units and install in same manner as original units, with same joint treatment and with no evidence of replacement.

Cleaning: Remove excess grout from exposed paver surfaces; wash and scrub clean.

20-5.11D Payment

Not used.

21 EROSION CONTROL

Add to section 21-2.02G:

Fertilizer shall have a guaranteed chemical analysis of 10 percent nitrogen, 10 percent phosphoric acid and 10 percent water soluble potash.

Add to section 21-2.03A:

Remove sediment deposits from inside of existing storm drains and culverts shown on the Plans.

asphalt mixes. ADSR is calculated by comparing the mass of aramid in the individual state to the total mass of extracted aramid fibers, expressed as a percentage.

Add to section 39-2.01A(3)(b)(i):

5. Representative fiber product sample.
6. Fiber product data sheet and certification from the Manufacturer that the fiber product supplied meets the requirements of this specification.
7. Manufacturer's instructions and general recommendations.
8. Performance results of ADSR testing from a minimum of three (3) separate laboratory trials to validate Dispersion Efficiency.
 - a. Perform ADSR test based on modified ASTM D2172 procedures as provided in the document entitled "Extraction of Aramid Fibers from Fiber Reinforced Asphalt Concrete – Special Test Method". A copy of the modified extraction methodology can be obtained by making an inquiry to the Pavement and Materials Laboratory at Arizona State University at NCE@asu.edu.
 - b. To validate ADSR results, average extracted aramid fiber quantity must equal 0.007 percent by total sample weight with no individual result less than 0.005 percent of the total sample weight.
 - c. All tested fiber mixes must achieve a minimum ADSR of 85%.
9. Performance results of Pavement Condition Index (PCI) testing from a minimum of three (3) separate side-by-side field trials with a minimum in-service pavement age of four (4) years to validate Cracking Resistance.
 - a. PCI surveys shall be performed according to ASTM D6433.
 - b. Tests results shall include a control and a fiber reinforced pavement section. FRAC mix shall be identical to control mix except for the inclusion of fibers added at the same dosage as proposed on the project.
 - c. In field performance sections shall be subject to the same environmental and traffic conditions. A minimum surface area of 500 yd² per FRAC and control section is required.
 - d. PCI results from fiber sections shall show a minimum 10 PCI points greater than the control section after a minimum of 4 years.
10. Performance results of FN testing from a minimum of three (3) separate laboratory trials to validate Rutting Resistance. ****NOTE: Testing is NOT required on samples from the job mix, submit previously completed lab testing only.**
 - a. Perform FN tests using the protocol from AASHTO TP79.
 - b. Tests results shall include a control and a fiber reinforced mix. FRAC mix shall be identical to control mix except for the inclusion of fibers added at the same dosage as proposed on the project.
 - c. Results from fiber specimens shall each show an average FN increase of at least 75% over control specimens.
11. Submit a minimum of five (5) public project examples within the State of California with references (name, phone number and email address) where the reinforcing fiber product was used.

All historical test results submitted to validate the fiber's performance in asphalt mixes shall be from previously completed laboratory and field trials using plant-produced FRAC from a documented source only. Results from lab-produced FRAC or FRAC from an undocumented source will not be accepted.

Fiber dosage rate in all submitted test reports must be equal to the rate proposed for this project. Only testing performed by an AASHTO accredited laboratory or nationally recognized university testing lab will be considered.

Add to section 39-2.01A(4)(b):

In the Engineer's presence and from the same production run, take the following samples:

1. Aramid Dispersion Visual Test: Collect a 10kg sample of mix from the discharge chute during first 50 tons of production. Visually assess the state of aramid fibers in the sample according AASHTO TP79 and rate the sample as "Pass" or "Fail".
 - a. "Pass" = All fibers exist in an Individual State and no Undistributed Clips or Agitated Bundles of fiber are detected.
 - b. "Fail" = One or more Undistributed Clips or Agitated Bundles are detected.
2. If a sample is rated as "Fail", adjust mixing operations to improve fiber dispersion and repeat Step 1 above.
3. If Visual Test results in three consecutive "Fail" ratings, plant mix samples should be sent to a third party laboratory for complete ADSR testing before production is allowed to commence.
4. In addition to Visual Test, use a shovel to inspect FRAC mix in the back of first three (3) trucks and every tenth truck thereafter to confirm adequate blending of the fiber.
5. Remove any observed fiber bundles from placed mixture and adjust operations per the manufacturer's recommendation to eliminate future fiber bundle development, and repeat Steps 1 through 3 above to confirm adequate aramid fiber dispersion.

New section 39-2.01B(6) Reinforcing Fibers

Provide a reinforcing fiber blend of Virgin Polyolefins and Virgin Aramids that meets the requirements in the tables below.

Reinforcing Fiber Material Properties			
Property	Test Method	Polyolefin	Aramid
Form	Manufacturer Certification	Serrated	Monofilament
Nominal Specific Gravity	ASTM D276	0.91	1.44
Tensile Strength (psi)	ASTM D7269	NA ¹	400,000
Length (in)	Manufacturer Certification	0.75	0.75

Reinforcing Fiber Performance Properties			
Performance Measure	Test Method	Standard	Requirement
Dispersion Efficiency	Aramid Dispersion State Ratio (ADSR)	Modified ASTM D2172	≥ 85%
Field Performance Cracking Resistance	Pavement Condition Index	ASTM D6433	≥ 10 PCI Points Increase, Minimum 4 Years

Resistance to Permanent Deformation (Rutting)	Flow Number (FN)	AASTHO TP79	≥ 75% increase
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Reinforcing fibers shall be FORTA-FI®, provided by the Forta Corporation, or an approved equivalent product and meets the specified submittal, performance and material properties outlined in these Special Provisions.

Replace section 39-2.01B(3) with:

Asphalt binder used in HMA Type A must be Grade PG 64-16.

Replace section 39-2.01B(10) with:

Tack Coat shall be Grade PG 64-16, conforming to the provisions of Sections 39 and 92 of the Standard Specifications and shall be used between layers of each lift of HMA, and on curbs, gutters and construction joints.

Replace the 2nd paragraph in section 39-2.02A(1) with:

Produce and place HMA Type A.

Add to section 39-2.02B(4):

Aggregate used in HMA Type A must comply with the 3/4-inch HMA Types A gradation for initial course.

Aggregate used in HMA Type A must comply with the 1/2-inch HMA Types A gradation for final course.

Add to section 39-2.01B(8)(a):

Deliver fiber-reinforcement in sealed, undamaged containers with labels intact and legible, indicating material name and lot number.

Deliver fiber-reinforcement to location where it will be added to each batch or loaded into the mixer.

Store materials covered and off the ground. Keep sand and dust out of boxes and do not allow boxes to become wet.

Add aramid and polyolefin reinforcing fiber blends at a dosage rate of one (1) pound fiber per one (1) ton of asphalt.

Add alternative aramid fiber blends at a rate proposed by the manufacturer that achieves the ADSR, PCI, and FN results required by Section D.

A fiber manufacturer's representative shall be on site during mixing and production. This requirement may be waived by the City if fiber manufacturer and asphalt producer can supply evidence of manufacturer's brand of fiber being successfully produced a minimum of three (3) times at the asphalt plant to be used for the project.

Batch Plant. When a batch plant is used, add fiber to the aggregate in the weigh hopper and increase both dry and wet mixing times. Ensure that the fiber is uniformly distributed before the injection of asphalt cement into the mixture.

Drum Plant: Inject fibers through the RAP collar manually or by feeding them with a metered air blown system to promote rapid and complete fiber dispersion. Rate the feeding of fibers with the rate the plant is producing asphalt mix. If there is any evidence of fiber bundles at the discharge chute, increase the mixing time and/or temperature or change the angle of the fiber feeder line to increase dry mixing time.

1. Add fibers continuously and in a steady uniform manner. Provide automated proportioning devices and control delivery within ±10% of the mass of the fibers required. Perform an equipment calibration to the satisfaction of the fiber manufacturer's representative to show that the fiber is being accurately metered and uniformly distributed into the mix.
2. Include the following with the air blown system:
 - a. Low level indicators

- b. No-flow indicators
- c. A printout of feed rate status in pounds/minute
- d. A section of transparent pipe in the fiber supply line for observing consistency of flow or feed.
- e. Manufacturer's representative's approval of fiber addition system

Replace section 39-2.01C(3)(g) with:

Where shown, place geosynthetic pavement interlayer over a coat of asphalt binder and in compliance with the manufacturer's instructions. Do not place the interlayer on a wet surface. If the interlayer, in compliance with the manufacturer's instructions, does not require asphalt binder, do not apply asphalt binder before placing the interlayer.

Before placing the interlayer or asphalt binder:

- 1. Repair cracks 1/4 inch and wider, spalls, and holes in the pavement. This repair is included in the work.
- 2. Clean the pavement of loose and extraneous material.

If the interlayer requires asphalt binder, immediately before placing the interlayer, apply asphalt binder at a rate specified by the interlayer manufacturer; at 0.25 ± 0.03 gal per square yard of interlayer; or at a rate that just saturates the interlayer; whichever is greater. Apply asphalt binder the width of the interlayer plus 3 inches on each side. At an interlayer overlap, apply asphalt binder on the lower interlayer the same overlap distance as the upper interlayer.

If asphalt binder tracked onto the interlayer or brought to the surface by construction equipment causes interlayer displacement, cover it with a small quantity of HMA.

If the interlayer placement does not require asphalt binder, apply tack coat prior to placing HMA at the application rates specified under section 39-2.01C(3)(f) based on the condition of the underlying surface on which the interlayer was placed.

Align and place the interlayer with no overlapping wrinkles, except a wrinkle that overlaps may remain if it is less than 1/2 inch thick. If the overlapping wrinkle is more than 1/2 inch thick, cut the wrinkle out and overlap the interlayer no more than 2 inches.

Overlap the interlayer borders between 2 to 4 inches. In the direction of paving, overlap the following roll with the preceding roll at any break.

You may use rolling equipment to correct distortions or wrinkles in the interlayer.

Before placing HMA on the interlayer, do not expose the interlayer to:

- 1. Traffic, except for crossings under traffic control and only after you place a small HMA quantity
- 2. Sharp turns from construction equipment
- 3. Damaging elements

Pave HMA on the interlayer during the same work shift. The minimum HMA thickness over the interlayer must be 0.12 foot including at conform tapers.

Add to section 39-2.01B(11):

HMA shall be 1/2-inch Type A.

The minimum asphalt binder content must be 6.0 percent for 1/2-inch aggregate.

Add to section 39-2.02C:

During the entire construction period, the Contractor shall take care to protect existing pavement and concrete surfaces. Surfaces scarred by cleanup or equipment shall be repaired in a manner satisfactory to the Engineer. Any and all damage caused by the Contractor's operations to existing roads and streets shall be repaired by the Contractor to at least the original condition and to the satisfaction of the Engineer, at no additional cost to the City.

If pavement is damaged (excessive loading, grouser marking, scarring/scraping of pavement, etc.) outside the limits of the work, a full lane width grinding and overlay will be required as directed by the Engineer at no additional compensation to the Contractor.

Ensure the area is clean and dry. All material accumulations which would interfere with the adhesion of the tack coat or with the placing and performance of the HMA shall be removed, including dust, loose aggregate, soil, leaves, and pieces or lumps of other foreign material deposited on the surface.

A tack coat shall be applied to existing pavement including planed surfaces, between HMA layers, and to vertical surfaces of curbs, gutters and construction joints at the minimum residual rates specified in Section 39-2.01C(3)(f) "Tack Coat" of the Standard Specifications.

Before placing HMA, a tack coat shall be furnished and applied uniformly to contact surfaces of all cold pavement joints, curbs, gutters, pavement reinforcing fabric and all existing pavement to be surfaced in conformance with Section 39 of the Standard Specifications.

Tack coat shall be applied to any course in advance of spreading the next course unless the surface temperature is at least 140 °F.

Hot mix asphalt shall not be placed until tack coat has cured.

Immediately in advance of placing HMA, apply additional tack coat to damaged areas or where loose or extraneous material is removed.

Close areas receiving tack coat to traffic. Do not track tack coat onto pavement surfaces beyond the job site.

Placing HMA shall be done under suitable weather conditions for such operations. Rain, snow or other inclement weather will be cause for discontinuing paving Work. The Engineer shall have the authority for determining whether weather conditions are sufficient cause to postpone work.

Spreading and compacting shall be performed in accordance with Section 39-2.01C and Section 39-2.02C of the Standard Specifications.

HMA shall be transferred from the trucks into the hopper of the paving machine by means of a shoulder machine equipped with a conveyor belt. Any equipment used to transfer asphalt concrete to the paving machine shall not exceed the load capacity of any surface it is driven over and, therefore, shall not produce rutting or pumping of the existing roadway surface or newly placed HMA at any time. No trucks or other rubber tired construction equipment are allowed on the subgrade at any time except when proofrolling in the presence of the Engineer.

Longitudinal joints in the top layer must match specified lane edges shown on the striping Plans. Longitudinal joints in lower HMA layers shall be offset at least 0.5 feet from each side of the specified lane edges.

Finish rolling shall be completed before pavement surface temperature is below 150 degrees F.

Traffic shall not be allowed on HMA until mid-depth temperature is below 160 degrees F and the pavement surface temperature is below 140 degrees F.

The completed surfacing shall be true to grade and cross section, of uniform smoothness and texture, compacted firmly and free from depressions, humps or irregularities.

Dikes shall be shaped and compacted with equipment capable of shaping and compacting the material to the required cross section.

Add to section 39-3.04:

39-3.04 Cold Planing Asphalt Concrete Pavement

39-3.04A General

Existing asphalt concrete pavement shall be removed by cold-plane methods at the locations and to the dimensions shown on the Plans, including conform grinding. Striping and markings located within cold-plane limits shall be removed with cold planed asphalt concrete. Conform grinding asphalt concrete pavement shall be performed by the cold planing method. Planing of the asphalt concrete pavement shall not be done by the heater planing method.

Cold planing machines shall be equipped with a cutter head not less than 30 inches in width and shall be operated so as not to produce fumes or smoke. The cold planing machine shall be capable of planing the pavement without requiring the use of a heating device to soften the pavement during or prior to the planing operation.

The depth, width and shape of the cut shall be as indicated on the typical cross-sections, details, or as directed by the Engineer. The final cut shall result in a uniform surface conforming to the typical cross-sections and details. The outside lines of the planed area shall be neat and uniform. Planing asphalt concrete pavement operations shall be performed without damage to the surfacing to remain in place.

Planed widths of pavement shall be continuous except for intersections at cross-streets where the planing shall be carried around the corners and through the conform lines. Following planing operations, a drop-off of more than 0.15-foot will not be allowed at any time between adjacent lanes open to public traffic.

When transverse joints are planed in the pavement at conform lines, no drop-off shall remain between the existing pavement and planed area when the pavement is opened to public traffic. If asphalt concrete has not been placed to the level of existing pavement before the pavement is to be opened to public traffic, temporary asphalt concrete tapers shall be constructed. Asphalt concrete for temporary tapers shall be placed to the level of the existing pavement and tapers on a slope of 30:1, or flatter, to the level of the planed area.

Asphalt concrete for temporary tapers shall be commercial quality and may be spread and compacted by any method that will produce a smooth riding surface. Temporary asphalt concrete tapers shall be completely removed, including the removal of all loose material from the underlying surface, before placing the permanent surfacing. Such removed material shall be disposed of outside the highway right-of-way in accordance with the provisions of Section 14-10, "Solid Waste Disposal and Recycling," of the Standard Specifications.

Operations shall be scheduled such that not more than seven (7) days shall elapse between the time when transverse joints are planed in the pavement at the conform lines and the permanent surfacing is placed at such conform lines.

The material planed from the roadway surface, including material deposited in existing gutters or on the adjacent traveled way, shall be removed and disposed of outside the right-of-way in accordance with the provisions in Section 14-10, "Solid Waste Disposal and Recycling," of the Standard Specifications. Removal operations of cold-planed material shall be concurrent with planing operations and follow within 50 feet of the planer, unless otherwise directed by the Engineer. A cold planer may not be used for recycling asphalt concrete pavement into aggregate base.

Any concrete rings (i.e., at manholes) within the roadway shall be adjusted to cleanly accommodate new HMA pavement.

Schedule cold planing activities so that not more than 3 days elapses between the time the pavement is cold planed and the HMA is placed.

39-3.04B Materials

Use the same quality of HMA for temporary tapers that is used for the HMA overlay or comply with the specifications for minor HMA in Section 39.

39-3.04C Construction

39-3.04C(1) General

The machine used for planing shall have performed satisfactorily on similar work and shall meet the following requirements herein.

The planing machine shall be specifically designed and built for the planing of bituminous pavements without the addition of heat.

The machine shall be capable of being operated at speeds of zero to forty feet per minute, it shall be self-propelled, and have the capability of spraying water at the cutting drum to minimize dust. The machine shall be operated in such a way so that no fumes or smoke will be produced. The machine shall be capable of removing the paving material next to curbs or gutters and be designed such that the operator thereof can at all times observe the planing operation without leaving the controls. The machine shall be adjustable for slope and depth and shall be equipped with sonic sensing devices for controlling depth.

Prior to cold planing, all utility facilities shall be lowered to below the grinding planes.

Limits of cold planing are shown on the Plans. The depths and dimensions of the cold planing and edge grinds are designated on the Plans and may vary as required to achieve design finish grades.

Cold planing may require removal of existing asphalt concrete above gutter lips, in addition to the required depth below the gutter lip.

Pavement to be cold planed may contain pavement fabric.

Prior to cold planning, on streets to have a uniform depth of the existing surface removed, all utility covers shall be lowered such that the cutting teeth of the planing machine passes over the adjusted lid without causing damage to the lid or frame. Contractor will be responsible for maintaining any temporary asphalt fill material over these facilities until the final paving surface is installed. The Contractor shall clearly mark or reference lowered sanitary sewer manholes, storm drain manholes, and water valves in case emergency access is required by the agency responsible for operation of those systems.

All pavement areas designated for removal and replacement shall be cold planed to the full width of the roadway. Pavement against curb faces shall be removed to the full depth designated for that particular section of roadway. If pavement against curb faces cannot be removed by the planing machine, the Contractor shall use other means to remove this material.

If tear-out to the underlying layers occurs during the cold planing operation, the Contractor shall adjust his operation to minimize tear-out. Corrections shall include changing operation speed and replacing cutting teeth. Changes in cold planing depth shall only be made with approval of the Engineer.

Areas torn out by lack of diligence on the Contractor's part shall be corrected by placement of asphalt concrete conforming to the requirements of these special conditions. Areas torn out due to pre-existing adhesion problems in the existing asphalt concrete shall be corrected at the City's expense as directed by the Engineer.

Remove cold planed material concurrent with planing activities so that removal does not lag more than 50 feet behind the planer.

During the cold planing operation, the Contractor shall sweep the roadway with mechanical equipment and remove all loosened material from the project site until completion of the removal work.

All material removed shall be considered the property of the Contractor and shall be removed and disposed of in accordance with Section 14-10, "Solid Waste Disposal and Recycling," and all applicable laws at the Contractor's expense.

Contractor shall dispose of all asphalt concrete generated from removal or demolition activities on the project at a recycler for these materials. The Contractor shall provide receipts verifying delivery and approximate quantities (in tons) of the material delivered to a material recycler. All other excess materials from the project shall become the property of the Contractor and shall be disposed of by him at his expense.

In addition to removing the cold planned asphalt concrete, the Contractor shall remove any slurry seal or asphalt concrete which is adhered to the top of the adjacent gutter, cross gutter, or spandrel.

The Contractor shall take all necessary measures to avoid the dispersion of dust. Attention is directed to section 18, "Dust Palliatives," of the Standard Specifications and these special provisions.

State of California, Division of Industrial Safety and shall be submitted to the Engineer prior to starting the trench work. Proof of such permit shall be submitted to the Engineer prior to starting the trench work.

Prior to disposal of any materials or operation of any equipment on sites provided by the Contractor for disposal of excess trench excavation owned by him, the Contractor shall submit to the Engineer written authorization for such disposal of materials and entry permission signed by the owners of the disposal site and the required permits

The Contractor shall submit a bypass pumping and/or diversion plan for review by the Engineer at least 10 working days prior to planned commencement of bypass pumping and/or diversion. The Engineer shall approve the bypass pumping plan before commencing any bypass pumping work. The Contractor shall notify the Engineer 2 working days prior to commencing with the bypass pumping operation. The bypass pumping plan shall include design flow, documentation of pump and discharge line capacities, manufacturer, and age. Bypass pumping plan shall also include shop drawings that identify pumping location(s) and methods with sufficient detail to assure that the work can be accomplished without sewage spills. The plans shall include an emergency discharge response plan to be followed in the event of a failure of the bypass pumping system.

The Contractor shall submit a flow blockage plan, for review by the Engineer, identifying at a minimum the following:

1. What devices and/or material will be used,
1. Depth of upstream manhole(s),
3. Location of existing lateral cleanouts and how they will be monitored,
4. Address of all parcels along with name and operating hours of all businesses located upstream of blockage to the next upstream manhole.

Television inspection reports and video tapes made prior to and after pipe insertion.

77-1.01D Quality Assurance

77-1.01D(1) Contractor Experience

Fusion equipment shall be operated only by technicians who have been certified by the pipe manufacturer or supplier who have a minimum of two (2) years of experience fusion welding 4-inch or larger diameter pipelines. The technician's experience shall be documented in the HDPE pipe material.

The bidder, or his/her Sub-contractor, shall be properly licensed and trained to perform pipe bursting, having at least 10,000 lineal feet of successful installation in the United States within the last 2 years, in pipelines ranging from 4 to 12 inches. Documentation of the experience and details of two years minimum training of the on-site foreman and the installers who will perform the actual pipe bursting system, shall be provided with the bid.

77-1.01D(2) Materials

The City reserves the right to reject any material that may be supplied for use. If the City obtains information indicating that a listed item is not performing satisfactorily or is found to be defective, that item will be rejected and the Contractor shall submit a replacement for review at no additional cost to the City.

Any pipe delivered to the job site that, in the opinion of the Engineer, shows signs of contamination, damage and/or defect, may result in the rejection of any pipe that was delivered to the supplier on the same shipment.

Controlled Low Strength Material (if used) must comply with Section 19-3 of the Standard Specifications.

77-1.01D(3) Quality Control

77-1.01D(3)a Testing of Sewer Manholes

Testing of all portions of the sewer including manholes is required, and it's the Contractor's responsibility to coordinate all testing and inspections with the Engineer.

The Contractor, at their option, may conduct testing at any time during construction, however, final inspection and testing for acceptance shall take place only after all sewer facilities have been installed and all trenches backfilled and compacted, including roadway base rock as specified in the Standard Specifications

Manholes, after all inlets and outlets have been plugged, shall be filled with water to the rim of the frame casting and shall lose no more than 2 inches over a period of 30 minutes.

Even though the test for leakage is within the prescribed limits, the Contractor shall repair any obvious leaks.

In lieu of the water test, testing of sewer manholes may be done by vacuum testing as specified herein. If the vacuum testing method is used, all manholes shall be tested for leakage in accordance with ASTM C 1244-93 as modified herein.

Vacuum testing shall not take place until all paving is complete.

Installation and operation of vacuum equipment and indicating devices must be in accordance with manufacturer's recommendations and performance specifications, which must be provided by the manufacturer and approved by the Engineer. The equipment must be capable of testing the entire manhole, including the cast iron frame and grade adjustment rings.

All new or rehabilitated sanitary sewer manholes shall be tested unless otherwise directed by the Engineer. If the manhole fails the test, the manhole shall be repaired and retested at the Contractor's expense.

If manhole joint sealants are compromised during the vacuum test, the manhole must be disassembled and the joint sealants replaced. If there is reason to believe that the manhole has been disturbed after the initial vacuum test, additional tests may be requested by the Engineer and performed at the Contractor's expense.

The Contractor may pre-test manholes at any time during construction. Any pre-test results are solely for the Contractor's use and shall not be accepted as the final test.

Testing shall be done in the following manner:

1. All lift holes and joints shall be grouted and the entire manhole, including grade rings, sealed prior to testing.
2. All pipes entering the manhole shall be temporarily plugged, taking care to securely brace the pipes and plugs to prevent them from being drawn into the manhole.
3. The test head shall be placed in accordance with the manufacturer's recommendations. The test unit shall be braced against the manhole frame and not the grade ring(s) or taper.
4. The vacuum gauge and test equipment used for this test shall be supplied by the Contractor and shall be operated per manufacturer's specifications by qualified personnel. Accuracy and calibration of the gauge shall be certified by a reliable testing firm at six month intervals, or when requested by the Engineer.
5. A vacuum of 10 inches Hg (4.91 PS I) of mercury shall be drawn on the manhole, the valve on the vacuum line of the test head closed, and the vacuum pump shut off. The time it takes the indicator gauge to drop from 10 inches Hg (4.91 PSI) to 9 inches Hg (4.4 PSI) shall be measured. The manhole will pass the vacuum test if the time is greater than shown in the following table:

Minimum Test Time Based On 48" Manhole Diameter (sec.)

Manhole Depth in Feet	Time in Seconds
0-4	10
4-8	20
8-12	30
12-16	40
16-20	50
20-24	59
24-30	74

After the vacuum test, manholes shall be visually inspected for leaks and defects and repaired as required by the Engineer.

77-1.01D(3)b Testing of Sewer Pipelines

For either exfiltration or infiltration test on sewer lines, the maximum leakage shall not exceed 250 gallons per inch of pipe diameter per mile per 24 hours as measured over a period of 30 minutes minimum. Should the leakage exceed the maximum allowable rate, the contractor shall repair, overhaul, or rebuild the defective portion of the sewer line to the satisfaction of the Engineer at no additional cost to the City. After repairs have been completed by the Contractor, the line shall be retested as specified above, all at no cost to the City.

In the event that the exfiltration test prescribed above is impractical due to wet trench conditions, these portions of the sewer line where such conditions are encountered will be tested for infiltration. The Engineer shall determine whether the exfiltration or infiltration test will be used.

Low pressure air testing may be used on sewer lines in lieu of water testing at the option of the Contractor. Water testing may still be required by the Engineer for certain installations.

The following procedure shall be used for low pressure air testing:

1. Clean pipe to be tested by propelling a snug fitting inflated rubber ball through the pipe with water. Remove any debris.
2. Plug all pipe outlets with suitable test plugs. Brace each plug securely.
3. If the pipe to be tested is submerged in ground water, insert a pipe probe, by boring or jetting, into the backfill material adjacent to the center of the pipe, and determine the pressure in the probe when air passes slowly through it. This is the back pressure due to ground water submergence over the end of the probe. All gauge pressures in the test should be increased by this amount.
4. Add air slowly to the portion of the pipe installation under test until the internal pressure is raised to 5.0 p.s.i.g.
5. Check exposed pipe and plugs for abnormal leakage by coating with a soap solution. If any leakage is observed, bleed off air and make necessary repairs.
6. After an internal pressure of 5.0 p.s.i.g. is obtained, allow at least two minutes for air temperature to stabilize, adding only the amount of air required to maintain pressure.
7. After the two-minute period, disconnect the air supply and start stopwatch. The pressure of 5.0 p.s.i.g. shall be maintained for 5 minutes.
8. As an alternate, the Contractor may request the air testing procedure as presented in Section 306-1.4.4 of the 2012 edition of the "Greenbook" Standard Specifications.

After pipe installation and placement and compaction of backfill, but prior to placement of pavement, all PVC pipe shall be cleaned and then mandrel tested for obstructions, such as, but not limited to, deflections, joint offsets and lateral pipe intrusions. A rigid mandrel, as shown on the drawings shall be pulled through the pipe by hand. The minimum length of the circular portion of the mandrel shall be equal to the nominal diameter of the pipe. All obstructions encountered by the mandrel shall be corrected by the Contractor. Obstructions due to deflection shall be corrected by replacement of the over-deflected pipe. Mechanical re-rounding is not permitted.

If a section of pipe fails to meet the mandrel test and is reinstalled and fails the second time, said section(s) of pipe shall be replaced with an approved rigid pipe material.

The contractor shall furnish mandrel as shown on the Standard Drawings.

The Contractor shall retest PVC pipe using a mandrel as shown on the drawings after eleven (11) months of operation. Any pipe which fails to pass the mandrel test shall be replaced at the expense of the Contractor. The City reserves the right to determine the longitudinal limits of any pipe that is required to be replaced. Pipe replacement shall be guaranteed by the project maintenance bond.

77-1.01D(3)c Television Inspection

Prior to scheduling televising inspection work, all sanitary sewer construction, and any other underground work which, in the opinion of the City Engineer, has the potential to impact sanitary sewer work, shall be installed, their trenches compacted,

and all other testing and inspections completed and accepted. Final paving over the work shall not take place until all underground work, including television inspection, is completed and accepted by the Engineer.

The Contractor shall hire an independent television inspection service to perform a closed circuit television inspection of all newly constructed sewers lines, including laterals from the main to the cleanout, and if lateral line is a replacement, from cleanout to connection point of the existing lateral.

The Contractor shall notify the Engineer in writing 2 working days in advance of the date for television inspection. The Engineer or their authorized representative shall be given the opportunity to be present during the inspection. Upon receipt of the completed televising inspection digital video files and written logs, the Engineer shall be allowed 10 working days to review the video records and logs before giving written notice of acceptance and/or deficiencies of the lines to the Contractor.

The Contractor shall supply plans and specifications for this work to the televising subcontractor with manhole and mainline cleanout numbers, street names, addresses and any other information required to facilitate the work.

During this inspection, the Contractor or their authorized representative shall be present to observe the televising inspection. Acceptance of any portion of the sanitary sewer work shall not be given in the field at the time of televising.

The Engineer shall only receive video and written logs for areas not known by the Contractor to need correction. If while conducting the initial television inspection in the field, the General Contractor or their authorized representative discovers areas that need correction, these connections shall be made and the area televised again prior to submitting the logs to the Engineer for review. If footage of video that is not required for inspection, such as; areas known to need repair, stationary video footage in sanitary sewer lines other than where required and footage not of sanitary sewer facilities, the submittal will be rejected.

Any damage to facilities or obstruction to service caused by the televising operations shall be connected immediately by the Contractor at no cost to the City.

The Contractor shall obtain permission from the Engineer prior to the removal of any manmade or natural obstruction needed to complete this work. Any item removed shall be replaced in kind to the satisfaction of the Engineer, and will be done at the Contractor's expense.

All lines shall be flushed clean with a high-pressure commercial sewer flusher unit or by balling prior to televising. If required to televise an existing line it may be necessary to remove roots, grease or other obstructions prior to flushing per these Special Provisions. The equipment shall be appropriate for the type of obstruction being removed and shall not damage the pipe in any way.

All debris shall be trapped at the first downstream manhole and removed. Debris will be hauled to an appropriate disposal site at the Contractor's expense.

After flushing and prior to televising, an approved source of water will be discharged into the upstream manhole or mainline cleanout until water flows out of the downstream manhole. This is to be done no more than 24 hours before the video inspection takes place. High pressure flushing of the line is not to be considered as a substitute for this requirement. This shall be done to insure that all dips or sags are filled before televising, if the sanitary sewer has live flow, the Engineer may waive this requirement. Live flows that are greater than the depth of the gauge shall be temporarily plugged upstream and bypass pumped to allow for proper televising.

The televising of all lines shall be recorded in a digital color format that does not require the use of specialized equipment and/or programs not already in use by the City's Engineering Department. Video files shall be on non-rewritable DVD disc(s) or flash drive(s), and shall be delivered to the Engineer along with computer program generated written inspection logs. The video files and written logs shall become the property of the City of Ukiah. Every televised run (manhole to manhole, manhole to mainline cleanout, and laterals) shall be recorded as a separate video file, with the name of the file being the manhole and/or mainline cleanout numbers for the main, and the property address for the lateral. A lateral file shall consist of the run from the clean out to the connection at the main and the run from the clean out to the connection of the existing lateral.

A pan and tilt color camera shall be used for all video inspection of main lines and shall be one specifically designed and constructed for such inspections. The camera shall be mounted on adjustable skids, a tractor, or when approved by the

Engineer, a raft to keep it in the center of the pipe. Lighting for the camera shall be supplied by a lamp on the camera, capable of being dimmed or brightened remotely from the control panel. The lighting system shall be capable of lighting the entire periphery of the pipe. The camera shall be operative in 100% humidity conditions and shall have a minimum of 330 lines of resolution. The camera equipment shall produce a continuously monitored color picture, which will have the resolution capability to discern small hairline cracks and other minor and major defects in the sanitary sewer line. The camera equipment shall be capable of producing digital still pictures for permanent record as required. The camera shall be self-propelled or pulled by a cable winch from the downstream manhole, through the line along the axis of the pipe, at a uniform rate of 1/2 foot per second maximum.

Where infiltration in the sanitary sewer line is suspected, the camera shall be stopped for at least 30 seconds in the area of question and the camera shall pan and/or tilt as needed to ascertain that infiltration is occurring and the possible cause. The camera shall stop at all lateral connections, defects, sags, etc. for a period of at least 10 seconds and the camera shall pan and/or tilt as needed so that all portions of the connection or defect that is visible from within the main line can be completely inspected.

Each pipe run between manholes being inspected may be required to be isolated from the remainder of the line by the use of a line plug to insure total viewing of the inside periphery of the pipe. The inspection shall be performed in a forward and/or backward direction according to line conditions at the time of the inspection. Every effort shall be made by the Contractor to televise in the same direction as the flow, especially during live flow conditions. The Engineer must approve any video inspection that goes against the flow.

Televising subcontractor personnel shall be in constant communication during the televising operation. The Contractor shall keep a copy of the written logs on site that clearly show the exact location, in relation to the starting manhole/mainline cleanout or lateral cleanout, of each following item discovered during the television inspection; infiltration points, lateral locations, cracks, open/pulled joints, roots, broken or collapsed sections, grease, debris, location of dips (starting and ending footage plus depth), and any other discernible features. In addition to the items noted, the video and written logs shall also note; name of project, general contractor, date, line size, length of section, manhole condition and live flow. Measurement for location of defects shall be at ground level by means of a metering device. Markings on the cable, or the like, which would require interpolation for depth of manhole or lateral cleanout will not be allowed. Measurement meters will be accurate to plus or minus one foot in a thousand and must show on video. A one-inch depth gauge pulled or pushed in front of the camera is required for all main lines up to and including 12 inch. For any line larger the Contractor shall verify required gauge size with the Engineer prior to scheduling television inspection. Measurement of laterals must be recorded on video and written log from bottom of cleanout to main and bottom of cleanout to connection at existing lateral.

The following conditions shall exist prior to the television inspection:

1. All sewer lines shall be in installed, backfilled and compacted;
2. All structures shall be in place, all channeling complete and all pipelines accessible from structures;
3. All other underground facilities, utility piping and conduit within two feet of the sewer main, shall be installed, backfilled and compacted;
4. Pipelines to be video inspected shall have been flushed, and all other testing completed and accepted, including the mandrel test;
5. Immediately before the television inspection, turn fresh water into the sewer until it passes through the downstream manhole.

All work performed must meet the quality and clarity standards set by the City of Ukiah and is subject to City review and rejection.

Deficiencies revealed by the television inspection, in the opinion of the Engineer, shall be repaired by the Contractor to the satisfaction of the Engineer. After all required repairs are completed the areas of repair shall be televised again at the Contractor's expense.

The Contractor shall be notified in writing of any deficiencies revealed by the television inspection that will require repair, following which, the Contractor shall excavate and make the necessary repairs and perform a television re-inspection. Television re-inspection shall be at the Contractor's expense.

Although the final determination for required repairs will be made by the Engineer, the following observations are typical defects found in the construction of the sewer pipelines and will require corrections prior to acceptance whether or not there is a passing air test:

1. Off grade - deviation "down" from grade (sag) of 1" or more, unless otherwise allowed on mains larger than 12" in diameter. Any sag in the line greater than 15 linear feet, unless otherwise approved on specific installations. Any deviation "up" from grade, unless coming out of sag of less than 1" deep;
2. Separations in mainline pipe joints connected by a coupling shall be no more than 1" in length on mainline sizes of 12" or smaller, and no more than 2" on trunks 15" or larger;
3. Separations over 1/2" in lateral pipes connected by a coupling;
4. Any bell & spigot joint not installed per the pipe manufacturer's installation recommendations;
5. Offset joints;
6. Chips in pipe ends - none more than 1/4" deep;
7. Cracked or damaged pipe or evidence of the presence of an external object bearing upon the pipe (rocks, roots, etc.);
8. Infiltration;
9. Debris or other foreign objects;
10. Other obvious deficiencies when compared to Approved Plans and Specifications, these Standards and Standard Drawings.

The above list is not a complete list of items that may be considered as deficiencies. The final determination for any required repair shall be made by the Engineer.

77-1.02 MATERIALS

The City reserves the right to reject any material that may be supplied for use. If the City obtains information indicating that a listed item is not performing satisfactorily or is found to be defective, that item will be rejected and the Contractor shall submit a replacement for review at no additional cost to the City.

Any pipe that is delivered to the job site that, in the opinion of the Engineer, shows signs of contamination, damage and/or defect, may result in the rejection of any pipe that was delivered to the supplier on the same shipment.

The pipe manufacturer shall legibly mark pipe materials. Name and/or trademark of manufacturer, nominal pipe size and manufacturing standard reference number shall be printed on the pipe at 3 foot-intervals or less.

Pipe sizes for pipes other than High Density Polyethylene (HDPE) are nominal inside diameter (ID) unless otherwise noted. Pipe sizes for HDPE pipes are specified by outer diameter (OD).

The Contractor shall use a single manufacturer for pipe, fittings, manhole components, lateral cleanout plug unless otherwise approved by the Engineer.

All materials delivered to the job site shall be new and free from defects.

77-1.02A Polyvinyl Chloride (PVC) Pipe

Sewer pipe shall be SDR 26 polyvinyl chloride (PVC) pipe

PVC solid wall sewer pipe and fittings for gravity sewers shall be made from all new, rigid, unplasticized polyvinyl chloride in accordance with AWWA C900, ASTM D-3034 and ASTM F-679 and shall have a minimum pipe stiffness of 46 psi. Joints shall be gasketed and conform to the requirements of ASTM D-3212 and ASTM F-477.

Individual pipe lengths shall not exceed twenty (20) feet in length.

All pipe shall have a manufacturer marked insertion line to indicate proper insertion of the spigot into the bell when the joint is made. Bevel and lubricate all field cut PVC pipe per manufacturer's instructions before joining. Where field cutting of pipe removes the manufacturer's insertion line, the cut pipe shall be remarked per manufacturer instructions prior to installation.

All pipe, fittings, gaskets, joint lubricants and cements/solvents shall be supplied by the manufacturer and installed per the manufacturer's specifications and recommendations. Pipe joints that are not installed per manufacturer's instructions may be required to be removed and relayed at the discretion of the engineer.

All PVC pipe entering or leaving a concrete structure shall have an approved manhole gasket firmly fitted around the pipe exterior and cast into the structure base or near the structure wall center as a water stop.

77-1.02B HDPE

77-1.02B(1) HDPE Pipe and fittings

High Density Polyethylene (HDPE) pipe is permitted for sewer lateral rehabilitation projects installed by pipe bursting. HDPE pipe is not permitted for gravity sewer installed by open cut.

Pipe-bursting may be used for lateral rehabilitation/ replacement and shall conform to the latest editions of the UPC (IAPMO IS 26-2003) and the following requirements.

Pipe sizes for HDPE on the Plans are specified by outer diameter (OD). All pipe shall be made from virgin grade material

Only HDPE SDR 17 shall be used for pipe-bursting applications. Butt-fusion joints are not permitted.

Connections to existing laterals shall be made with a watertight non-shear coupling.

HDPE pipe shall be made to diameter and tolerances in accordance with ASTM D 3035. . The pipe shall be of the diameter as shown on the plans and furnished complete with all fittings, and other appurtenances as necessary for a complete and functional system.

Pipe and fittings shall be made in conformance with ASTM F 714 and ASTM D 3261 as modified for the specified material. The pipe shall contain no recycled compound except that generated in the manufacturer's own plant from resin of the same specification from the same raw material pipe

All HDPE pipes to be used shall not be black or any dark color in the interior. The inner wall shall be white, light green or natural. The outer wall shall be black, light green or natural. Orange, red, magenta or blue color are not acceptable.

Pipe shall be marked at 3-foot intervals or less with the manufacturer's name (or trade mark), the designation ASTM D3350 and ASTM 714, including the year of issue, the letters "PE" followed by the cell classification number of the raw material compound used, the nominal pipe size in inches, the dimensional ratio, and the manufacturer's code identifying the resin manufacturer, lot number, and date of manufacture. Pipe shall be color identified by stripes, a color shell, or solid color.

Fittings shall be marked with the following: ASTM D3261 (Butt type); manufacturer's name or trademark; material designation; date of manufacture or manufacturing code; size (including the sizing system used, such as IPS, CTS or OD). Where the fitting size does not allow complete marking, marking may be omitted in the following sequence: size, date of manufacture, material designation, manufacturer's name and trademark.
The pipes shall be stored and handled in accordance with the manufacturer's recommendations and shall be less than two (2) years old at the time of installation.

Pipe and fittings shall be homogeneous throughout and free of serious abrasion, cutting, or gouging of the outside surface extending to more than 10 percent of the wall thickness in depth. The pipe and fittings shall be free of cracks, kinking (generally due to excessive or abrupt bending), flattening, holes, blisters or other injurious defects

77-1.03 CONSTRUCTION

77-1.03A General

The Contractor shall provide the equipment, materials and personnel to maintain continuous sanitary sewer service to all customers, 24 hours a day and 7 days a week during construction, including but not limited to the installation of temporary lines and pumping equipment at no additional cost to the City unless otherwise specified. Any deviation from this requirement must first be approved by the Engineer.

Where ground water occurs, pumping shall continue until back filling has progressed to a sufficient height to prevent flotation of the pipe. Water shall be disposed of in such a manner as to cause no property damage or not be a hazard to public health.

Any proposed temporary main connection that may be in place longer than 24 hours, shall be submitted to the Engineer for approval prior to installation.

Both new and existing mains shall have the ability to be accessed individually for maintenance and emergency response by City personnel at all times. All temporary connection material shall be fully removed after its intended use.

77-1.03B Excavation

Excavation, backfill and shaped bedding must comply Standard Drawing No. 220, "Trench Detail Service Lateral/ Sewer Main" and Section 19-3 of these Special Provisions.

Trench resurfacing shall conform to Standard Drawing No. 220, "Trench Detail Service Lateral/ Sewer Main" and the Standard Specifications.

If existing utility crossings or other potential conflicts are shown on the plans or specified in other contract documents, the Contractor shall pot hole said areas as well as proposed connection points to the City's sanitary sewer system prior to the start of pipe laying. If conflicts are discovered during this investigation the Engineer shall be notified immediately.

It is the Contactor's responsibility to ensure that sewer components are laid and bedded on sound, stable material. All existing material that has been disturbed shall be removed from the trench prior to installation of new material. The Contractor shall promptly notify the Engineer of any field conditions that may affect alignment and/or grade.

Abandoned utilities found to reside in a common trench with sewer components shall be removed and disposed of prior to the installation of any new sewer facility unless otherwise directed by the Engineer. Any exposed pipe ends on abandoned lines that remain shall be plugged with Controlled Low Strength Material.

All excavations shall be able to accommodate equipment and personnel required for backfilling and compaction testing. If, in the opinion of the Engineer, typical compaction methods cannot be used, the Engineer may require the use of a pneumatic Pogo Stick/Powder Puff type compactor at no additional cost to the City. Excavations around new and existing manholes shall be a minimum of 24 inches wider than the outside of the barrel section.

Blasting shall not be permitted unless first approved of, in writing, by the City of Ukiah.

Controlled low-strength material shall be placed at the locations shown on the plans and where cover is less than 3 feet, unless otherwise specified herein, on the plans, or approved by the City of Ukiah. Controlled low-strength material shall conform to Section 19, 19-3.02G "Controlled low-strength material", and a material submittal is required for approval. All excavations in a traveled way with controlled low strength material backfill shall be plated or otherwise safely covered to allow for safe passage during curing.

All stumps and large roots encountered during trenching operations shall be removed to the satisfaction of the Engineer.

Trenching operations shall be conducted in such a manner that will not disturb existing facilities. The Contractor shall incur all costs associated with repairs needed, in the opinion of and to the satisfaction of the Engineer, by any such damage due to their operations.

The trench shall be opened sufficiently ahead of the pipe laying operations to reveal obstructions. Trench crossings shall be provided as necessary to accommodate public travel and to provide convenient access to adjacent properties. Flow shall be maintained in any sanitary sewers, storm drains, water lines, or water courses encountered in trenching.

Cutting of Asbestos Cement Pipe (ACP) shall be done utilizing a Pipe Cutter (snapper), of the proper type and size for the intended use. A ratcheting hand snapper shall only be used on ACP sizes of 6 inch and smaller. The "snapper", and all appurtenances shall have been inspected by the Contractor to ensure that it is in good working order prior to use.

If field conditions require an alternative method for cutting the ACP, the alternative method shall comply with all laws and requirements as specified by OSHA, the Contractor's State Licensing Board, and any other governing body for this type of work. All related disposal costs shall be borne by the Contractor.

In all cases, cutting, handling and disposal shall be done per the governing bodies. Cut pipe shall be properly enclosed as soon as possible after removed from the trench.

Unless otherwise specified, excess material from excavation shall become the property of the Contractor and shall be disposed of to the satisfaction of the Engineer. The excess material shall be removed from the site daily unless it has been preapproved for reuse.

All excavated material shall be removed from the jobsite at the end of each day unless otherwise approved by the Engineer.

Five days prior to cutting into any traffic detector loop the Contractor shall notify and coordinate with the Engineer.

77-1.03C Trench Bracing and Shoring

All bracing and shoring shall conform to the Division of Industrial Safety Construction Safety Orders. Prior to the excavation of trenches five feet or more in depth, the Contractor shall submit to the City Engineer, a detailed plan prepared by a licensed Civil or Structural Engineer 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 trenches. A permit must be obtained from the State of California, Division of Industrial Safety and shall be submitted to the Engineer prior to starting the trench work.

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.

Trench sheeting or boxes shall be withdrawn in such a manner as to prevent caving at the walls of excavations or damage to piping or other structures. Sheeting shall be completely removed from the trench and no backfill shall be installed against the sheeting before it is removed.

Trenching operations shall be conducted in such a manner that will not disturb the existing curb, gutter and existing utilities that are to remain in place.

77-1.03D Pipe Laying

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.

Where construction consists of constructing a new main or extension of an existing main, the downstream end of the new main shall be securely closed with a tight fitting plug until the construction is accepted by the Engineer.

Sewer pipe shall be installed on the alignment and grade as shown on the plans and in accordance with Special Provisions and the Standard Specifications, or as directed by the Engineer. Existing sewer laterals shall be removed and replaced at the locations shown on the plans, or as directed by the Engineer.

Sewer pipe shall be laid in straight lines and on uniform rates of grade between points where changes in alignment or grade are shown on the plans. The interior of the pipe shall be free of foreign matter before lowering into the trench.

If proper separation between new sewer lines and water mains, per the latest guidelines from the California State Water Resources Control Board cannot be maintained, the Contractor shall inform the Engineer immediately to get direction.

The pipe manufacturer's written instructions covering the installation of their pipe, and any related materials, shall be closely followed unless otherwise directed or approved in writing by the Engineer. The trench shall not be backfilled until authorized by the Engineer. Pipe laying shall proceed upgrade with the spigots pointing in direction of flow. The invert of the pipe shall be set at required line and grade as determined from batter boards set not over 25 feet apart.

Electro-optical grade setting devices may be used provided that the device will be operated by a person proficient in its operation.

Any section of pipe found to be defective or which has had grade or joints disturbed shall be re-laid by the Contractor at their expense.

Proper implements, tools and facilities satisfactory to the Engineer shall be provided and used by the Contractor for the safe and efficient execution of the work. All pipe, fittings and accessories shall be carefully lowered into the trench by means of

derrick, ropes, or other suitable equipment in such a manner as to prevent damage to pipe and fittings. Under no circumstances shall pipe or accessories be dropped or dumped into the trench. The pipe and accessories shall be inspected for visible defects prior to lowering into trench. Any visibly defective or unsound pipe shall be replaced.

The line and grade of existing utilities shall not be altered. Any leakage caused in existing utilities by reason of the Contractor's operations shall be immediately repaired at the Contractor's expense.

Existing storm drains shall be supported or removed and replaced at the Contractor's option and at no additional cost to the City. In any case, the Contractor shall be responsible for maintaining the existing line and grade of the storm drains. If the Contractor elects to remove and replace, it shall be done in conformance with all applicable Special Provisions, Standard Specifications and to the satisfaction of the Engineer.

Existing water lines shall be supported in place with service maintained during construction. The Contractor shall be responsible for any damage to the water lines during construction and any damage resulting from improper backfilling.

Existing sewer lines shall be supported in place with service maintained during construction. The Contractor may, at their option, remove and replace any sewer laterals which are not in use during construction. The Contractor shall be responsible for damage to sewer lines during construction and any damage resulting from improper backfilling.

Sewer lateral inverts shall be set above the midpoint of the sewer main unless otherwise directed by the Engineer in writing. Any lateral invert installed below the midpoint of the main without prior written approval shall be replaced and the lateral relayed at the Contractor's expense.

Any temporary connections between new and existing sewer mains and/or manholes required for the progress of work shall be made with approved rigid piping and sheer band and/or gasketed couplings. If bends are required to make the connection, the bends shall be long radius bends unless otherwise approved.

77-1.03E Sewer Laterals

The estimated locations of the existing laterals that are shown on the Plans are based on record information, television inspection, and field evidence. This information is available for review upon request. The City assumes no responsibility for the accuracy of this information or the inadvertent omission of any such information. Not all existing sewer laterals are guaranteed to be located through these means, the Contractor may, therefore encounter sewer laterals not shown on the Plans.

The Contractor shall have the sole responsibility for determining the exact location for all existing laterals. During sewer mainline construction but prior to the installation of each individual new sewer wye on the main, the Contractor shall determine the exact location of the existing sewer lateral 1 ft from the building property boundary. The acceptable method for locating a sewer lateral at the back of sidewalk is to insert a metallic electrician's "fish tape" into the existing lateral pipe after the pipe is exposed during sewer main excavation and tracing the "fish tape" to the back of sidewalk using a pipe and cable metal locator.

The Contractor shall confirm the current alignment with the Engineer. If the existing alignment and grades are acceptable, the pipe shall be constructed via use of a trenchless method approved by the Engineer. If not acceptable the new sewer lateral shall be installed via open cut trench or other method approved by the Engineer.

Typically, each active sewer lateral found to exist shall be replaced, unless specifically deleted by the Engineer. If a sewer lateral shown to be replaced appears to be inactive the Contractor shall notify the Engineer and then attempt to verify their conclusion.

Sewer laterals already constructed and parallel to the existing main sanitary sewer line may be constructed by use of a trenchless method approved by the Engineer, unless otherwise specified. New pipe constructed by trenchless methods shall maintain a thirty inch (30") minimum clearance for parallel utilities, sixty inch (60") for parallel high risk utilities, and a twelve inch (12') minimum vertical clearance for perpendicular (or crossing) utilities. Sewer laterals not already constructed parallel to the existing main sanitary sewer line may be constructed via open cut methods.

Due to the hazards associated with pipe-bursting near natural gas lines, all natural gas lines, including but not limited to distribution mains, transmission mains, and service lines, marked within four feet (4') of the existing sewer main, shall be uncovered (pot-holed) to confirm the required clearance exists. If the existing gas line is installed parallel and within

four feet (4') horizontally to the existing sewer main, the gas line shall be uncovered a minimum of once every one-hundred (100) feet along the length of the sewer main.

Boreholes shall be only large enough to allow for the size of pipe to be installed. If the Contractor's operations disturb the supporting soil, the Engineer may require the removal and replacement of any undermined curb, gutter or culvert; and/or the use of controlled low-strength material backfill at the Contractor's expense. The limits of the curb and gutter replacement and any required dowelling will be at the discretion of the Engineer at the Contractor's expense.

Excavation of launch pits shall be situated to provide minimum inconvenience to residents, businesses or traffic. Launch pits shall not be located in private property without permission of the homeowner and engineer.

A sump hole in the base of excavations may be required to allow for pumping of water from the excavation.

Sewer laterals shall be replaced at the locations shown on the Plans and in accordance with City Standards. The sewer lateral shall be replaced up to the location indicated on the Plans. Connections to existing laterals shall be located 1 ft from the property boundary.

All sewer laterals shall be installed perpendicular to the main sanitary sewer line unless otherwise shown on the Plans or approved by the Engineer.

Any change in alignment shall be accomplished using long radius bends. Any use of short bends in this area must first be approved by the City.

After the pipe has been installed, allow pipe manufacturer's recommended amount of time, but not less than four (4) hours, for cooling and relaxation due to tensile stressing prior to reconnecting to the lateral or sewer.

Any lateral that is not installed perpendicular to the curb shall tracer wire installed in the following manner:

1. Wrap wire two times around wye connection at main and secure.
2. Lay both ends on top of and along the lateral to the cleanout and up the cleanout riser. Both ends of wire shall extend approximately 6 inches beyond riser.
3. Secure wire to top of lateral pipe at approximately 5 foot intervals. Ends of wire must be easily accessible inside the cleanout box.

For tracer wire specifications see Sanitary Sewer System Design Standards.

Connections to existing laterals shall be made as shown on the Project Plans 1-ft from the property boundary unless otherwise specified herein or depicted on the Project Plans.

Active sewer laterals are to remain in service at all times, to facilitate this when removing and replacing an existing main the Contractor shall install a temporary connection between the new wye and the existing lateral until the new sewer lateral is constructed.

Plastic flex pipe may be used for temporary connections between active existing sewer laterals and the new wyes on the main. The flex pipe shall be the same size as the existing lateral pipe and shall be connected to the new wye and the existing lateral by means of an approved flexible sewer coupling. Squeezing the flex pipe and inserting it into the cut end of the existing lateral or into the lateral opening of the wye will not be allowed. All temporary connection material shall be removed from the trench prior to final compaction.

Temporary sewer lateral connections shall be replaced with permanent laterals after installation of the sewer mainline is completed for each block, or at a maximum of 20 calendar days, whichever is sooner.

Provide 1-foot minimum clearance between wyes on all sewer mains as measured between adjacent bell ends.

Sewer wyes installed at incorrect locations shall be removed and replaced with a 4-foot minimum length of pipe and approved couplings. Capping of wyes installed at incorrect locations will not be allowed. Prior to installing wyes on the main, the Contractor shall investigate to ensure that the proposed alignment of new laterals will not be in conflict with any other facilities, existing or proposed. The Contractor shall promptly notify the Engineer of any field conditions that prohibit installing the wye in accordance with City Specifications and/or Standards.

A minimum separation of 3 feet shall exist between new sewer laterals and existing water services. If this separation requirement cannot be met the Contractor shall notify the Engineer immediately for direction prior to continuing work on this lateral. In all cases, a minimum of 5 feet separation is required between new sewer laterals and new water services.

If open cut construction is required to realign an existing sewer lateral, the Contractor shall remove and replace existing sidewalk and concrete planter strips for the installation of sewer laterals to the nearest transverse score mark on both sides of the lateral. All concrete removed shall be backfilled and compacted level with temporary asphalt concrete or covered with 1 inch thick plywood, laid flat with ADA compliant tapers on both ends.

Where an excavation for a new sewer lateral occurs within the drip line of any tree the Contractor shall hand dig to protect tree roots as directed by the Engineer. Root pruning shall be done only when directed by the Engineer and shall be accomplished by use of sharp tools appropriate for the size of the root to be cut. Each cut shall be clean with no bark or splintered wood remaining on the root. At no time shall roots be pulled on by excavating equipment.

Existing irrigation facilities not shown on the plans may be encountered during sewer lateral installation. The Contractor shall repair any damage to existing irrigation facilities caused by their operations.

The Contractor shall notify and coordinate the replacement of individual sewer laterals with the effected resident or business.

77-1.03F Bypass Pumping and/or Diversion System

When bypass pumping and/or flow diversion is required to keep existing services active, the Contractor shall provide a system that furnishes and maintains all personnel, equipment, tools, power, piping and incidentals required to maintain existing sewer flows and services without interruption.

The Contractor shall submit a bypass pumping and/or diversion plan for review by the Engineer at least 10 working days prior to planned commencement of bypass pumping and/or diversion. The Engineer shall approve the bypass pumping plan before commencing any bypass pumping work. The Contractor shall notify the Engineer 2 working days prior to commencing with the bypass pumping operation.

Any proposed flow diversion plan that includes a temporary connection to existing sewer components shall also comply with other requirements stated herein.

The bypass pumping plan shall include design flow, documentation of pump and discharge line capacities, manufacturer, and age. Bypass pumping plan shall also include shop drawings that identify pumping location(s) and methods with sufficient detail to assure that the work can be accomplished without sewage spills. The plans shall include an emergency discharge response plan to be followed in the event of a failure of the bypass pumping system.

All components of the bypass pumping system shall be sound attenuated and produce noise emissions in accordance with City noise ordinances. All pumps shall be set into or surrounded by spill containment devices.

Bypass pumping shall be done in such a manner as not to damage private or public property or create a nuisance or public menace. The pumped sewage shall be in an enclosed hose or pipe system that is adequately protected from traffic and shall be redirected into the sewer system.

The Contractor shall take all necessary precautions including constant monitoring of bypass pumping to ensure that no private residences or properties are subjected to sewage backup or spills. Dumping, leaks or free flow of sewage onto private property, gutters, streets, sidewalks, or into storm sewers or waterways is strictly prohibited.

Except as otherwise specified herein for testing purposes, the Contractor must receive written approval from the Engineer prior to the use of pneumatic test plugs or any other means for blocking sewer flows. The Contractor shall submit a flow blockage plan, for review by the Engineer, identifying at a minimum the following:

1. What devices and/or material will be used,
2. Depth of upstream manhole(s),
3. Location of existing lateral cleanouts and how they will be monitored,
4. Address of all parcels along with name and operating hours of all businesses located upstream of blockage to the next upstream manhole.

The Contractor shall also provide name and cell phone number of the employee(s) that will have the sole duty of monitoring all active blockages. If multiple lines are simultaneously blocked, the Contractor's submittal must show how each blockage is to be continuously monitored. For multiple blockages, and at no additional cost to the City, the Engineer may also require devices for each blockage to give audible and/or visual alarm of a pending overflow.

The Contractor shall be liable for all cleanup, damages and resultant fines in the event of a spill.

Subsequent to removal of bypass pumping and/or diversion system, the Contractor shall verify existing sewer flows are restored to pre-existing condition.

The Contractor shall allow up to 10 working days for response from the City for any request regarding sewer system flows.

77-1.03G Sewer Structures

All active manholes shall be considered as confined spaces.

Manholes shall be constructed per an accepted submittal and any request and approval for alteration must be in writing.

Manholes shall be standard precast concrete manholes as detailed on City Standard 401.

Manhole bases may be poured-in-place concrete on undisturbed earth. The bases shall be poured full thickness against the side of the manhole excavation or to dimensions shown on City Standard 401. The manhole excavation site shall be dewatered before pouring.

Pre-cast manhole bases, conforming to City Standard 401 in dimensions and the requirements outlined below for materials may be used. Such pre-cast bases shall be placed on a minimum 6- inch-thick cushion of drain rock. The drain rock shall extend a minimum of 6 inches beyond the outside edges of the base.

Precast manhole bases shall be constructed per ASTM C478. Concrete for cast-in-place manhole bases shall be Portland cement concrete in compliance with Section 90 of the Standard Specifications

If a new manhole is to be installed on an existing asbestos cement main, the Contractor shall remove all asbestos cement piping to a minimum of 12 inches beyond the manhole trench and into the mainline trench, any visible joints up to 36 inches beyond the manhole trench shall also be removed. All replacement materials shall be per City Standards, and all removed asbestos cement material shall be disposed of in accordance with all laws and regulations.

Except as noted below, or where otherwise specified, all manholes regardless of diameter shall have concentric tapered sections.

Eccentric tapered sections shall be installed when the installation of an inside drop is required. Where a manhole has a single drop structure the opening of the eccentric tapered section shall be directly over the drop. When multiple drops are required, the alignment of the opening shall be determined by the City Engineer.

Where the constructed height of a precast base does not allow for the installation of a tapered section due to rim to invert elevation constraints, the Contractor shall submit for a cast-in-place base for review. Slab sections shall only be considered where the height of a cast-in-place base will not allow for the installation of a tapered section.

Where steel reinforcement is required in manhole base construction, such reinforcement shall be furnished and placed as shown on the plans and in accordance with the applicable provisions of Section 52 of the Standard Specifications.

The base slab and initial riser section shall be connected with integrally poured concrete to create a watertight joint. Flow channels shall be constructed as shown on the plans. Changes in size and/or grade shall be made gradually in constructed channels, and changes in direction shall have smooth curves with proper radiuses that direct flow toward the outlet pipe and minimizes turbulence. All finished surfaces shall be smoothly troweled with a steel trowel. All manhole barrels and taper section shall be precast concrete sections using Type V Portland cement complying with ASTM Designation: C 150 or low-alkali Type II cement meeting the requirements for Type V cement.

The 48-inch diameter barrels and taper sections shall be constructed in accordance with the applicable provisions of ASTM Designation: C 478 and shall be inspected by the Engineer to determine that the interior surfaces are smooth and free of pockets or depressions.

Manhole frames and covers shall be EJ 24" Black Composite Water Resistant Manhole Cover and Frame with two (2) Stainless Steel Titus Twistlift Security Lock System with "Sanitary Sewer" imprinted. Tops of manhole frames and covers shall be set accurately to finished grade in paved streets and 1 foot above finished grade in unimproved areas. The frames shall be evenly set on the manhole on a Portland cement mortar bed. Where manholes are set above finished grade, the earth shall be mounded up around the manhole in a neat and acceptable manner to the satisfaction of the Engineer.

The entire interior surface of all new manholes, and existing manhole being connected to, shall be coated including the flow channel down to the spring line after all cracks and/or chips have been patched and existing surfaces prepared. Xypex concrete waterproofing coating (or approved equivalent) shall be applied to the entire interior of all sewer manholes. Coating and patching materials shall be submitted to the City for approval and shall be applied in accordance with the manufacturer's recommendations

Each manhole shall be sealed with an external rubber sleeve similar to the Infi-Shield Gator Wrap as manufactured by Sealing Systems, Inc. (763-478-2057) or approved equivalent. The seal shall be made of a Stretchable, Self-Shrinking, Intra-Curing Halogenated Based Rubber with a minimum thickness of 30 mils. The back side of each unit shall be coated with a cross-linked re-enforced butyl adhesive. The butyl adhesive shall be non-hardening sealant, with a minimum thickness of 30 mils. The seal shall be designed to stretch around the substrate then overlapped creating a cross-link and fused bond between the rubber and butyl adhesive. The application shall form a continuous rubber seal that applies inward pressure on the protected area for the life of the application. The butyl adhesive and the inward pressure exerted on the substrate shall prevent the intrusion of water and soil through the joint sections of the manhole.

A sealing system shall be provided to prevent leakage of water into the manhole through the frame joint area and through the adjustment ring area. The sealing system shall be a Uni-Band sealing system as manufactured by Sealing Systems, Inc. (800-478-2054) or approved equivalent. The Uni-Band seal sealing system shall be installed according to the manufacturer's recommendations. The top section of the seal shall extend 3" attaching to the casting base/flange with the side section covering over the entire grade adjustment ring area and onto the cone section a minimum of 2".

All joints in manholes shall be sealed by means of a preformed, self-bonding, self-sealing gasket and be approved by the City prior to use. Ram-Nek joint sealant (or approved equivalent) shall be applied between manhole sections. Joint seals shall be installed in full compliance with the manufacturer's current recommendations.

The interior surface of all sanitary sewer main line cleanouts (area under frame and cover and around pipe), shall be troweled and brushed smooth and free of pockets or depressions.

Except as otherwise specified, all manholes on active mains shall be accessible at all times.

After placing the surface course of asphalt concrete, all manholes and cleanouts shall be located and marked with white paint before the close of that work day.

Within two working days of paving, all manholes and cleanouts shall be adjusted to grade and inspected.

77-1.03H Abandon or Remove Existing Sanitary Sewer System Components

77-1.03H(1) General

Abandonment of existing sewer components shall conform to direction provided on the Drawings, applicable City Standards, and any modifications specified in the Contract Documents.

Existing sewer system components shall be removed where shown on the Plans or to facilitate the progress of work. The Contractor must receive written approval from the Engineer prior to removing any component, fully or in part, that is active during construction. Any removed components from an active system shall be replaced with approved materials to the satisfaction of the Engineer.

77-1.04 PAYMENT

Refer to Section 9

77-2 WATER DISTRIBUTION SYSTEM

77-2.01 GENERAL

77-2.01A Summary

Section 77-2 includes general specifications for constructing water components and related items.

Excavation, backfill and shaped bedding must comply with Section 19-3. Work shall be constructed in accordance with these Special Provisions, Standard Specifications, the Plans and as directed by the Engineer. Any proposed deviations must first be approved in writing by the City of Ukiah Director of Public Works/ City Engineer.

The Contractor shall provide all means necessary, to the satisfaction of the Engineer, to ensure continuous service to all existing customers during and after work hours, weekends and holidays.

Paving (permanent and temporary) shall not take place until all underground work is finished, except as otherwise noted, and the Engineer has given written notice of acceptance to the Contractor

The Contractor shall provide a full size set of water distribution system "record plans" for their project to the Engineer within 7 calendar days from the final connection to the City's water distribution system. All deviations from the improvement plans shall be recorded on the plans in red ink.

77-2.01B Definitions

NOT USED

77-2.01C Submittals

The Contractor shall submit to the Engineer, in writing, a list of all materials proposed to be used on the project, showing manufacturer's name, product trade name, type, grade, and weight. Material list shall be submitted and approved before any installation occurs. Supporting documentation and/or samples may be requested to allow the Engineer to make an informed decision on acceptance or rejection of the material.

Submittals are required for all couplings.

The Contractor shall submit manufacturer's warranty on products and a certificate showing compliance with applicable ASTM Standards

Controlled Low Strength Material (if used) must comply with Section 19-3 of the Standard Specifications.

All bracing and shoring shall conform to the Division of Industrial Safety Construction Safety Orders. Prior to the excavation of trenches five feet or more in depth, the Contractor shall submit to the City Engineer, a detailed plan prepared by a licensed Civil or Structural Engineer 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 trenches. A permit must be obtained from the State of California, Division of Industrial Safety and shall be submitted to the Engineer prior to starting the trench work. Proof of such permit shall be submitted to the Engineer prior to starting the trench work.

Prior to disposal of any materials or operation of any equipment on sites provided by the Contractor for disposal of excess trench excavation owned by him, the Contractor shall submit to the Engineer written authorization for such disposal of materials and entry permission signed by the owners of the disposal site and the required permits

The Contractor shall submit the installation location for any proposed use of flange fittings. Use of flanged fittings other than those already specified herein must be approved by the City of Ukiah Director of Public Works/ City Engineer.

Methods and equipment used for hydrostatic testing shall be submitted to the Engineer for approval.

Methods, material and equipment used for disinfection of the water system shall be submitted to the Engineer for approval

The Contractor shall submit a separate written request to the Engineer to schedule each individual shutdown required to facilitate a tie-in connection or any other work where a shutdown may be necessary.

77-2.01D Quality Assurance

77-2.01D(1) Materials

The City reserves the right to reject any material that may be supplied for use.. If the City obtains information indicating that a listed item is not performing satisfactorily or is found to be defective, that item will be rejected and the Contractor shall submit a replacement for review at no additional cost to the City.

Any pipe that is delivered to the job site that, in the opinion of the Engineer, shows signs of contamination, damage and/or defect, may result in the rejection of any pipe that was delivered to the supplier on the same shipment.

77-2.01D(2) Quality Control

77-2.01D(2)a Hydrostatic Testing

Prior to being allowed to connect to the City of Ukiah's water distribution system, except where otherwise specified, all newly constructed water mains, and their appurtenances, shall be hydrostatically tested in accordance with AWWA C600, and any modifications herein.

Water service laterals 4" and larger that are installed on an existing water main by cut-in or hot tap requires that the disinfection and bacteria test sampling shall take place prior to hydrostatic testing. The Contractor shall request, and the Engineer shall provide the proper procedures for this operation.

Methods and equipment used for hydrostatic testing shall be submitted to the Engineer for approval.

The Contractor, at their option, may test the system at any time during construction. However, the final test, which will be witnessed by the City for acceptance, shall take only place after the system is fully constructed and trenches backfilled and compacted, but prior to final paving.

Each valved section of the system, or combined sections, as approved by the Engineer, shall be hydrostatically tested to a pressure of not less than 150 psi measured at the highest point along the section to be tested. Where the static pressure in the City's distribution system to be connected to is greater than 100 psi, the test pressure shall be 1.5 times the static pressure of the City's distribution system.

If complying with the above requirements it appears that the specified test pressure may exceed the new system's designed thrust restraint, valving or joint pressures at the lowest elevation, the Contractor shall request direction from the City Engineer.

Except where otherwise specified or approved by the City Engineer, pressure testing against closed gate valves shall not take place. Where testing against a closed gate valve is approved, the valves supplied by the Contractor shall be rated to exceed the specified test pressure. Any damage to gate valves shall be the responsibility of the Contractor and must be corrected to the satisfaction of the City Engineer, including up to full replacement.

Each section of the new system shall be slowly filled with water, and all air expelled through an opening(s) located at the highest point(s) of the system. If necessary, tap the main at point(s) of the highest elevation(s) and install corporation stops to assist in expelling during filling of the system. Unless the taps are located where combination air and vacuum valves have been designed into the system, the penetrations shall be sealed with stainless-steel full circle clamps once all air is expelled. All caps, plugs, fittings and any other appurtenance shall be properly braced prior to pressurizing the system.

After all air is expelled, the specified test pressure (150 psi) shall be applied by means of an approved pump connected to the new system in a manner approved of by the Engineer. The pump, connection fittings, pressure gauge and measuring devices and all other necessary apparatus shall be furnished by the Contractor. The Contractor shall construct all openings into the new system required for filling and expelling air, and shall furnish all necessary assistance for conducting the tests. Before applying the test pressure, all air shall be expelled from the pipe.

The gauge(s) used to measure pressure for the test shall be a liquid filled gauge with increments no greater than 5psi.

The duration of each pressure test shall be 2 hours, and the test pressure shall not vary by more than ±5psi.

The pressure shall be maintained within this tolerance by adding makeup water through the approved test pump into the system. The makeup water shall be accurately measured in gallons by a meter or by pumping from an approved vessel of known volume, and shall not exceed the applicable testing allowance as specified in Table 1.

**Table 1 - Hydrostatic testing makeup water allowances per 100 ft of pipeline.
Gallons per hour**

Avg. Test Pressure (psi)	Nominal Pipe Diameter									
	4"	6"	8"	10"	12"	14"	16"	18"	20"	24"
150	0.033	0.050	0.066	0.083	0.099	0.116	0.132	0.149	0.166	0.199
175	0.036	0.054	0.072	0.089	0.107	0.125	0.143	0.161	0.179	0.215
200	0.038	0.057	0.076	0.096	0.115	0.134	0.153	0.172	0.191	0.229
225	0.041	0.061	0.081	0.101	0.122	0.142	0.162	0.182	0.203	0.243
250	0.043	0.064	0.085	0.107	0.128	0.150	0.171	0.192	0.214	0.256
275	0.045	0.067	0.090	0.112	0.134	0.157	0.179	0.202	0.224	0.269
300	0.047	0.070	0.094	0.117	0.140	0.164	0.187	0.211	0.234	0.281

Leakage is defined as the quantity of water to be supplied into the newly constructed water system, or any valved section thereof, necessary to maintain the specified test pressure.

If at any time during the pressure and leakage testing the specified test pressure can be maintained ±3psi for a consecutive 30 minutes without adding makeup water, the test can be discontinued and the system considered as passing. Should any test of combined or individual sections of the new system show leakage greater than the specified limit, the Contractor shall, at their own expense, locate the cause and repair the defect until the leakage is within the specified allowance.

Regardless of test results, the Contractor shall repair any leaks detected.

77-2.01D(2)b Water Main Cleaning and flushing

Cleaning and flushing of new water system components purposed to be connected to the City of Ukiah's Water Distribution System shall conform to AWWA C651, all applicable City Standards, and any modifications herein and/or on the plans. To ensure the sanitary integrity of the new water system the Contractor shall practice proper sanitary technics during storage, handling and construction of the new water system.

All new water mains 4" and larger, installed with the intention of being dedicated to the City or being installed by contract for the City shall be cleaned and flushed prior to chlorination and sanitation.

During the installation of new water line(s), the Contractor shall insert an appropriately sized flexible polyurethane foam sweeping or cleaning style swab, with a density of 2 pounds per cubic foot, complete with polyurethane drive seal, into the beginning or ending segment of each pipe run. The swab shall stay in place until utilized for cleaning operations as specified.

Where tees or crosses are installed as part of the new system, swabs shall be placed where practical so both the run and branch segments are able to be swabbed. If determined by the Engineer that sanitary technics were practiced during construction, the Engineer may, at their discretion, allow segments of new pipe 80 linear feet or less to be cleaned by line flushing only. The City will not be responsible for extra time for locating lost swabs.

Unless otherwise approved by the City Engineer cleaning and flushing of all mainline pipes shall be accomplished by propelling the swab down the pipeline to an approved exit point (temporary or permanent blow-off) -with an approved source of potable water. After removal of the swab(s) a unidirectional flush of the new system shall continue until the

water is completely clear.

All temporary blow off assemblies installed for the purpose of removing foam swabs required for water main cleaning shall be constructed as shown on the drawings with a "same size as main" elbow and vertical stand pipe to prevent trench and dispelled water from flowing back into the main. The contractor shall provide the excavation and backfilling required to establish any temporary pig flush assemblies. The contractor shall be responsible for requesting and coordinating all utility locations prior to excavation. The pit shall be constructed in such a manner, and the temporary flush removed, so as to prevent the backflow of dirty water into the new main. It shall be the responsibility of the contractor under the supervision of City of Ukiah to flush the pig through.

Any excavation, main removal and repair required to extricate a trapped swab shall be the responsibility of the contractor. During the time any excavation is left open, the contractor shall provide all required safety barriers and fencing. When unattended, the area shall be surrounded with poly fencing. Taping off the excavated area is not considered sufficient.

After the swab is removed the end of the pipe shall be sealed watertight and all parts restrained to allow for testing. All temporary material shall be removed during operations to connect to the City's distribution system. In its place the contractor shall install a standard D.E. cap and flush

After swabbing, as specified above, is complete, any segment that may have been allowed to be omitted by the Engineer, and every lateral, shall be flushed until clean and free of air and debris.

Flushing shall be continued until the water leaving the system is clear and acceptable to the City of Ukiah, but in no case shall the flushing be performed for less than 10 minutes.

Water used for flushing shall be considered contaminated after exiting the new system and shall not be allowed to re-enter the system. If, in the opinion of the Engineer, the new system becomes contaminated the Contractor shall be required to re-disinfect the system, all or in part, at no additional cost to the City.

The Contractor shall provide a storage tank large enough to store the flushing water. Refer to Section 77-2.01D(2)d "Disposal of water used for flushing and chlorination", for discharge of water used for flushing.

77-2.01D(2)c Water Main Disinfection

Disinfection of new water system components purposed to be connected to the City of Ukiah's Water Distribution System shall conform to AWWA C651, all applicable City Standards, and any modifications herein and/or on the plans. To ensure the sanitary integrity of the new water system the Contractor shall practice proper sanitary technics during storage, handling and construction of the new water system.

Except as otherwise specified or permitted by the City Engineer, disinfection of the new system shall only take place after all lines have been cleaned and flushed, and each required hydrostatic test has been accepted by the Engineer.

All laterals, 2" and larger, including fire lines, installed on an existing main shall be disinfected and bacteriological test samples taken as specified herein.

All 1" and 1-1/2" service laterals components installed on an existing main shall be thoroughly swabbed with a 1 percent liquid chlorine solution during construction.

All laterals shall be thoroughly flushed just prior to being put into service.

Methods, material and equipment used for disinfection of the water system shall be submitted to the Engineer for approval.

Sodium hypochlorite (liquid chlorine) of 10%, 12.5% or 15% shall be utilized for disinfection operations and shall be applied as stated herein. The use of household bleach is not permitted for disinfection at any time.

The point of application of the disinfectant shall be through a permanent or temporary blow-off, or through a new fire hydrant installed as part of the new system. If none of the aforementioned components are available or practical for use, the Contractor may use a corporation stop of an approved size, if approved by the Engineer. Adequate venting must be allowed, and both filling and venting port elevations shall be a minimum of 6 inches higher than all components to be

disinfected.

Water from the City's existing distribution system shall be used to fill the new mains at a slow controlled rate of flow during the application of the disinfectant; this rate of flow shall not exceed the limits of any openings used to expel water and/or air, including installed air release valves. Precautions shall be taken to prevent back pressure causing a reversal of flow into the City's water distribution system. In the process of disinfecting, all valves and other appurtenances on the new water system shall be operated in such a way to allow the disinfectant solution to be fully distributed to all components of the new water system.

The rate of disinfectant feed shall be in such proportion to the rate of water entering the pipe that the disinfectant dose applied shall be between 100ppm and 200ppm. The disinfectant solution shall be retained in the pipe for a period of at least 24 hours but no longer than 72 hours. After 24 hours, disinfectant levels shall not be less than 50% of the initial dosage, as recorded by the Inspector. If the disinfectant level is less than 50% of the initial dosage, the system shall be flushed and the above disinfection procedures repeated. When disinfectant levels are acceptable after the retention period, the chlorinated water shall then be discharged as specified in Section 77-2.01D(2)d "Disposal of water used for flushing and chlorination", and all new mains and laterals shall be given a final flush and then filled with water from the City's distribution system.

While the final flush of the new system is taking place the Engineer, or their representative, will take a chlorine residual reading from the City's distribution system and note it. If the reading is higher than 0.5 ppm, the new system shall be flushed until residual readings taken at all locations, as determined by the Engineer, are between the residual noted from the City's distribution system and 1 ppm, but no higher. If the residual taken from the City's distribution system is less than 0.05 ppm, the new water system shall be flushed until all locations are between 0.5 ppm and 1 ppm.

After the disinfectant is flushed from the new water system and all residual readings are as specified, an initial set, consisting of two bacteria test samples per location, shall be taken where specified by the Engineer per one of the following methods;

Method A:

Take a first set of sample tests just after flushing is complete, and the second after a minimum of 16 hours, but not more than 72 hours after flushing.

Method B:

After flushing is complete let the system sit a minimum of 16 hours without any use, then collect both sets of sample tests from the same locations 15 minutes apart while allowing the sample port to maintain a slight flow in between samples.

The method used shall be determined by the Engineer at the time of sampling.

All residual readings and bacteria test samples specified herein shall be taken by the Engineer, or their designee, and witnessed by the Contractor.

The Engineer must receive written test results showing that all samples from both sets taken are negative for contamination prior to scheduling connection(s) to the City's water distribution system.

If bacteria test results indicate contamination the new water system shall be flushed and sampling shall take place again as specified above. If any results from the additional sampling still show indication of contamination the new system shall be disinfected and flushed again prior to any additional bacteria test sampling taking place.

Unless otherwise approved by City Engineer, the initial two sets of bacteria tests will be considered valid for up to 14 calendar days after the second set has been taken. All other sets taken will be valid for up to 10 calendar days. If more time passes than those specified before connecting to the City's distribution system, additional passing bacteria test samples will be required before connections are approved.

Costs for the collection and analysis of the initial sets of bacteria test samples will be paid for by the City. The exact location and quantity of the samples will be determined in the field by the Engineer. There shall not be more than 1200 feet between sample points. Samples taken from fire hydrants, new or existing, shall be avoided where possible, if samples must be taken from a fire hydrant the hydrant shall first receive a high-volume flush to clean the interior.

The City will pay labor and analytical fees for collecting and analyzing up to two additional sets of bacteria test samples. If additional testing is required, costs shall be borne by the Contractor. The City shall collect the samples and send it to their approved laboratory for testing at the Contractor's expense.

If deemed necessary by the City Engineer, due to unsanitary or other construction practices, as determined by the Engineer, the Contractor may be required to do additional sampling with satisfactory results prior to connecting to the City's distribution system.

77-2.01D(2)d Disposal of water used for flushing and chlorination

Water used for flushing and disinfection of newly constructed water systems 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 AWWA C655, all laws and regulations, and any modifications herein or specified on other contract documents.

Discharge to the storm drain system or a waterway is not permitted without a permit from the North Coast Regional Water Quality Control Board.

Discharges may be allowed to be disposed of into the sanitary sewer system.

77-2.01D(2)e Epoxy Coating Tests

All applied epoxy coating systems shall be tested for thickness and flaws by the Coating Inspector. Coating Inspector shall perform the visual inspection, dry film thickness measurement and the holiday detection. If there is sign of coating defect, Coating Inspector shall notify the Engineer and perform additional testing such as adhesion testing. Contractor shall touch up areas, where coating inspection were performed, to the satisfactory of the Engineer. Test results shall be made available for inspection by the City. When directed by the City, additional testing shall be conducted by the Contractor under the supervision of the District Inspector at the job site. The decision of the City regarding test results will be final.

Tests for flaws and holidays in the coating system shall be conducted using a low voltage wet sponge device acceptable to the City at a voltage setting which shall be properly adjusted to detect any coating holiday. The voltage setting may be performed as follows:

- Contractor shall make a known holiday (a tiny hole) on the coated surface.
- Slowly increase voltage setting of the holiday detector as recommended by NACE RP0188.
- The maximum voltage setting on the holiday detector, which does not burn through the coating, and the alarm, which comes on at the known holiday, will be the correct voltage setting.
- Repair the known holiday and conduct the high voltage holiday detection, any coating defect shall be repaired as specified below.

All areas failing to pass the electrical inspection shall be repaired at no expense to the City. In addition, any visible damage to the coating shall be repaired regardless of whether it passes the electrical detector test

77-2.02 MATERIALS

All materials used shall be lead free per California Health & Safety code, Section 116875.

The Contractor shall use a single manufacturer for pipe, fittings, valves, meter boxes (per sizes) unless otherwise approved by the Engineer.

All materials delivered to the job site shall be new and free from defects.

77-2.02A Pipe Materials

77-2.02A(1) Polyvinyl Chloride Pressure (PVC) Pipe

Polyvinyl Chloride (PVC) Pipe, 4" through 12", shall be new pipe, with a minimum pressure class (PC) rating of PC165, DR 25 conforming to the requirements of AWWA C900 "Polyvinyl Chloride (PVC) Pressure Pipe and Fabricated Fittings, 4" through 12" for Water Transmission and Distribution.

All PVC pipe shall be 20 foot laying lengths, unless otherwise shown on the Drawings.

The pipe manufacturer shall legibly mark pipe materials. Name and/or trademark of manufacturer, nominal pipe size in inches and OD base, Dimensional Ratio, AWWA Pressure Class, Test pressure for hydrotested pipe, AWWA Designation Number, and manufacturer's name and/or standard reference number shall be printed on the pipe at 3 foot-intervals or less.

An affidavit shall be provided that all delivered materials comply with the requirements of AWWA C900 and these specifications.

77-2.02A(2) Ductile Iron Pipe (DIP)

Ductile Iron Pipe (DIP) shall be cement lined, new pipe conforming to AWWA Standard C151, pressure class 350. The pipe shall be furnished with either "Tyton Joints" or Mechanical Joints unless otherwise approved by the City.

All Ductile Iron pipe buried underground shall be encased with 8 mil (minimum) polyethylene film in tube form. Polyethylene material and installation procedure for the encasement shall conform to AWWA C105 or most recent issue.

77-2.02B Pipe Joints and Fittings

In general, and unless otherwise specified or allowed by the City Engineer, all new water distribution system installations of 4" and larger shall be restrained with the use of thrust blocks. In lieu of, or in addition to concrete thrust blocks, approved mechanical restraint devices and/or harnesses may be used to restrain the system.

77-2.02B(1) PVC Pipe Joints

Joining of PVC pipe shall be with either elastomeric-gasket bell ends or couplings and shall comply with AWWA C900 pipe for 6-inch through 12-inch.

Elastomeric-Gasket Bell Ends: The bell ends shall be an integral thickened bell end (IB). When measured in accordance with ASTM D2122, the dimensions of the integral bell wall thickness at any point shall conform to the dimension ratio of the pipe except in the annular gasket ring groove and bell entry portions where the wall shall be at least the thickness of the pipe barrel.

All elastomeric gaskets shall be furnished by the PVC pipe manufacturer.

PVC Pipe Couplings: PVC pipe couplings shall be compatible with the PVC pipe. Couplings shall be furnished together with 2 elastomeric gaskets. All elastomeric gaskets shall be furnished by the coupling manufacturer.

Marking on the pipe couplings shall include the nominal size OD Base, PVC, AWWA Pressure Class, AWWA Designation Number, Manufacturer's name and/or standard reference number, seal of the testing agency verifying the suitability of the coupling/ fitting for potable water service (e.g. NSF 61).

77-2.02B(1)a PVC Joint Lubricants

Joint lubricants shall be compatible with the pipe and elastomeric gaskets materials.

Lubricants shall be non-toxic and shall not support the growth of bacteria, impart a taste or odor to the pipe or adversely affect in any way the quality of water transported by the pipe when used in accordance with AWWA C605. Lubricants shall be certified to NSF 61 for use with potable water. Lubricant containers shall be labeled with the following trade name of the lubricant; lubricant manufacturer's name; NSF 61 Certification mark.

77-2.02B(2) Fittings

All fittings for use with PVC pipe (except tees and crosses) shall be either thrust restrained using appropriately sized and designed concrete thrust blocks or mechanically restrained. Ductile-iron or gray-iron fittings may be used. The rubber rings shall be furnished by the manufacturer of the fitting.

All tees and crosses used with PVC pipe shall have all flanged ends.

Reducers and elbows shall have flanged ends at connections to another fitting or to a valve and shall have mechanical restrained fittings to PVC pipe. Flanged ends shall be flat-faced and shall conform to AWWA C110.

All fittings with flanged ends shall be made of ductile iron. No PVC fittings with flanged ends shall be allowed.

77-2.02B(2)b Ductile Iron Fittings

Ductile-iron fittings for PVC pipe shall conform to either AWWA C110 (standard-style) or AWWA C153 (compact-style) except as herein modified and shall be compatible with the type and pressure class of pipe used.

Ductile iron fittings shall be coated with an approximately 1 mil thick standard petroleum-asphaltic material on the exterior and cement-mortar lined on the interior and in accordance with ANSI/AWWA C104/A21.4.

Unless otherwise approved herein, or by the City of Ukiah all ductile iron fittings shall be mechanical joint type. Flanged fittings shall only be used on above ground installations or on tees or crosses when attached to a flange (FL) x mechanical joint (MJ) valve or approved fitting, or as otherwise approved by the City of Ukiah.

Ductile-iron fittings with flange-joint ends shall be rated for 250 psi working pressure, minimum. Ductile-iron fittings with mechanical restraint devices shall have a minimum working pressure of 350 psi.

Cast markings on ductile-iron fittings shall include the AWWA Designation Number (e.g., for compact fittings, ANSI/AWWA C153/A21.53); pressure rating; nominal diameters of openings; manufacturer's identification; country where cast; the letters "DI" or "Ductile"; number of degrees or fraction of the circle on all bends.

Restraint devices for mechanical joint fittings and appurtenances shall conform to either ANSI/AWWA C111/A21.11 or ANSI/AWWA C153/A2153. Mechanical joint restraint for PVC pipe such as "EBAA-Iron Series 2000V" manufactured by EBAA-Iron, or approved equivalent may be used for restrained joints. All restrained devices for mechanical joint fittings must be compatible by the pipe manufacturer. Requests and submittals for use shall be accompanied by supporting documentation. Information provided shall include, at a minimum, specifications of product, manufacturer's installation instructions, and compatibility acceptance from the pipe manufacturer.

All non-stainless-steel bolts, nuts and threads shall be coated with bitumastic paint or Permatex spray-on heavy duty rubberized under-coating or an approved equivalent. All nuts shall be fully tightened and surfaces to be coated dried prior to application. The use of an anti-galling agent is required on all stainless-steel bolts.

77-2.02B(2)c Steel Fittings

Steel fittings shall not be used with PVC pipe. To transition from PVC pipe to steel pipe, ductile-iron flange joint adapters shall be used.

77-2.02C Cut-in Tee or Cross

Contractor shall install a new tee or cross on an existing main, with or without valve(s), by "cut-in" at the location(s) shown on the Plans. In general, and to mitigate the necessity for prolonged shutdown times, the "cut-in assembly" shall be assembled as much as possible prior to shutting down the City's distribution system. Connection to the existing mains shall be by approved couplings as noted herein unless otherwise approved by the City Engineer.

77-2.02D Tracer Wire

Tracer wire shall be 12 AWG solid copper wire with a blue type IJF 60 mil insulation that is designed for use in the detection of underground utilities. Fasten the wire to the top of the pipe so as not to be displaced during backfilling operations, (one method of accomplishing this is to affix the wire to the top of the pipe with duct tape at approximately 10 feet intervals). Where splicing is required only watertight connectors shall be used, and shall be either Copperhead Snakebite, 3M DBR, or an approved equivalent.

77-2.02E High Density Polyethylene (HDPE) Water Service Tubing

All HDPE water service tubing shall be blue copper tubing size (CTS) SDR9 tubing, and shall conform to both AWWA C901 and ASTM D273 7, and shall be either PE3608 -200psi tubing or PE4710 -250psi tubing. Tubing shall be continuously marked at a minimum with; manufacturer, size, specification information and manufacturing codes.

If soil contamination is suspected during construction the Contractor shall notify the Engineer prior to the installation of HDPE material. Use of HDPE material within or adjacent to areas of known contaminated soils is strictly prohibited.

77-2.02F Couplings

Connections to cast iron (CI), polyvinyl chloride (PVC), or ductile iron (DI) pipe shall be made with mechanical joint solid sleeves. When connecting to asbestos cement (AC) and/or "over-sized" cast iron pipe, "wide range" style couplings from Ford, Smith-Blair, Romac or an approved equivalent shall be used.

Submittals are required for all couplings.

77-2.02G Gate Valves

Gate valves shall have ductile iron bodies and bonnets and resilient seated gates, and shall conform to AWWA Standard C509 and/or AWWA Standard C515 of the latest revisions. All gate valves, unless otherwise specified, shall be non-rising stem (NRS) type with O-Ring stem seals. Gate valves installed above grade or in vaults shall be equipped with an approved hand wheel. Outside screw and yoke (OS&Y) rising stem type gate valves shall only be installed where specified or approved by the Water Department.

All gate valves shall open in the counter clockwise direction. Where elevations on buried installations will not allow a minimum of six inches of cover over the valve nut, the Contractor shall submit for approval, by the Water Department, the installation of a horizontally installed gate valve with manufacturer installed bevel gearing. Bonnet direction of horizontally installed gate valves must be approved by the City and shall be recorded on the record plans.

The working pressure rating of gate valves shall meet or exceed the pressure rating of the pipe [C900 Class 165 (DR25)] Gate valve bolts and nuts shall be stainless-steel, and joint connection bolts and nuts shall be 304 stainless-steel or coated as specified herein.

Gate valves shall be mechanical joint for AWWA C900 PVC Pipe unless otherwise approved by the Engineer.

New gate valves shown to be installed by "cut-in" on an existing main shall be done by removing a section of the existing main and installing the required gate valve, pipe and couplers. Sections of pipe used shall be at least 18 inches in length.

All exposed valve surfaces shall be coated with fusion bonded epoxy coated in accordance with AWWA C116.

Valves shall be certified to NSF 61 to be suitable for contact with potable water. All wetted materials shall be suitable for service with line content containing chlorine or chloramines.

When any part of the new water system is pressurized, all affected gate valves shall be at grade and accessible to City personnel at all times. Valves that require "valve stem risers" shall not be considered accessible unless the riser is in place and operational.

77-2.02H Valve Boxes, Vaults and Pits

Each gate valve shall be covered by a precast 8" valve box set flush with street surface with cast iron ring and cover marked "WATER".

Valve box riser pipe shall be installed centered over and plumb with the valve nut prior to final paving. If riser pipe needs to be lowered for paving it shall be cut by hand perpendicular to the axis of the pipe and free of jagged edges. The riser pipe shall extend into the bottom of the valve box a minimum of 2 inches and the upper section shall be no shorter than 1-foot in length.

If valve stem risers are required they shall be installed and checked for operation prior to paving.

All meter boxes, vaults and pits shall be bedded on 3" minimum thick, 3/4" drain rock, or other approved clean material with minimum sand equivalent percent of 20, uncontaminated by native soil, against compacted or undisturbed base. The gravel bed shall extend to a 4" minimum beyond all sides of the meter box. Box shall be set flush with top of curb, sidewalk or ground, whichever is applicable. Addresses shall be clearly marked on top side lip of meter box with a permanent marking pen.

Meter boxes and vaults shall be set so that the reading lids are aligned over the meter registers as closely as possible.

77-2.02I Fire hydrants and Lateral Assembly

Unless stationing is specifically called out fire hydrant locations, as shown on the plans, are approximate and shall be field located with the Engineer's approval.

No bends are allowed in fire hydrant laterals without approval of the City of Ukiah.

Fire hydrants shall have two (2) 2-1/2" hose outlets and one (1) 4-1/2" steamer outlet. All hydrants shall be Clow No. 76, or approved equivalent.

Fire hydrants shall be provided with a break-off check valve Clow Model LBI 400A or approved equivalent.

Before a public fire hydrant may be placed in service, a high velocity flushing of the hydrant lateral shall be witnessed and approved by City of Ukiah engineering personnel.

77-2.02J Air Release Valve

Air release valves and air and vacuum release valves shall be combination air valves (air valves) and conform to AWWA C512 and requirements shown on the contract drawings.

All air valves shall be submitted for engineer's approval.

77-2.02K Coatings

77-2.02K(1) Gate Valves

All exposed valve and fitting surfaces shall be coated with fusion bonded epoxy in accordance with AWWA C116 except that the coating requirements specified therein shall apply to both interior and exterior surfaces. Fusion bonded epoxy coating shall be certified to NSF 61 for use with potable water. Coating dry film thickness shall be 8 mils minimum, 16 mils maximum.

Coated flange faces shall be uniformly coated and free of runs, blisters or other irregularities so as to not interfere with gasket sealing surfaces. Rejection of such valves shall be at the sole discretion of the City

77-2.02K(2) Hydrants

Hydrant interior surfaces shall be coated with fusion bonded epoxy in accordance with AWWA C550. Fusion bonded epoxy coating shall be certified to NSF 61 for use with potable water.

Coating thickness shall be 8 mils minimum, 15 mils maximum.

Hydrant buries and break-off spools with epoxy lining and coating shall be lined and coated in accordance with AWWA C116. Epoxy coating shall be certified to NSF 61 for use with potable water.

Paint all hydrants white.

77-2.02K(3) Air Valves

The interior shall be coated with fusion bonded epoxy in accordance with AWWA C550. Fusion bonded epoxy coating shall be certified to NSF 61 for use with potable water. Coating thickness shall be 8 mils minimum, 20 mils maximum.

77-2.02K(4) Ductile Iron Pipe

Buried ductile iron pipe shall be coated with an approximately 1 mil thick standard asphaltic material on the exterior and cement-mortar lined on the interior and in accordance with ANSI/AWWA C104/A21.4

77-2.03 CONSTRUCTION

77-2.03A General

77-2.03B Excavation, Trenching, Backfill and Pipe Laying

77-2.03B(1) Excavation

All existing material that has been disturbed shall be removed from the trench prior to installation of new material. The Contractor shall promptly notify the Engineer of any field conditions that may affect alignment and/or grade.

All stumps and large roots encountered during trenching operations shall be removed to the satisfaction of the Engineer.

Where excavations occur within the drip line of any tree, the Contractor shall hand dig to protect tree roots. If necessary for installations, roots one inch in diameter or smaller may be cut neat by hand tool. Unless otherwise specified, cutting roots larger than one inch in diameter shall only be done with City approval.

It is the Contactor's responsibility to ensure that water system components are laid and bedded on sound, stable material. Where the bottom of the trench is found to be unstable, to consist of rock or boulders, or to include material which, in the opinion of the Engineer, is unsuitable for proper bedding of the main, the Contractor shall over-excavate and remove such unsuitable material to the width and depth ordered by the Engineer. Before the main is laid, a new subgrade shall be prepared by backfilling with an approved material in layers of not more than 6-inches in uncompacted depth.

Unless otherwise specified, excess material from excavation shall become the property of the Contractor and shall be disposed of to the satisfaction of the Engineer. If the work is in existing City streets the excess material shall be removed from the site daily unless it has been preapproved for reuse.

Prior to disposal of any materials or operation of any equipment on sites provided by the Contractor for disposal of excess trench excavation owned by him, the Contractor shall submit to the Engineer written authorization for such disposal of materials and entry permission signed by the owners of the disposal site and the required permits.

All excavations shall be able to accommodate any typical compaction and testing equipment and personnel used to backfill the trench. If, in the opinion of the Engineer, typical methods cannot be used, the Engineer may require the use of a pneumatic Pogo Stick/Powder Puff type compactor at no additional cost to the City.

Blasting shall not be permitted unless fist approved of, in writing, by the City of Ukiah.

77-2.03B(2) Trenching, Backfill and Resurfacing

All trenching, backfill and resurfacing required for installation of water distribution system facilities shall be in accordance with all applicable City Standards, specifically Standard 320 and Section 19-3 of these Special Provisions or as modified on the plans, and approved by the City of Ukiah.

Trench resurfacing shall conform to Standard Drawing No. 320, the contract drawings and the Standard Specifications.

If existing utility crossings or other potential conflicts are shown on the plans or specified in other contract documents, the Contractor shall pot hole said areas prior to the start of pipe laying. If conflicts are discovered during this investigation the Engineer shall be notified immediately.

An air gap shall be in use at all times when dewatering to the sanitary sewer system.

The trench shall be opened sufficiently ahead of the pipe laying operations to reveal obstructions. Trench crossings shall be provided as necessary to accommodate public travel and to provide convenient access to adjacent properties. Flow shall be maintained in any sanitary sewers, storm drains, water lines, or water courses encountered in trenching.

All lateral services constructed under curb, gutter and driveway culverts shall be accomplished by use of a trenchless method approved by the Engineer, unless not practical due to existing utilities and other constraints in the field. Boring

under sidewalks and/or concrete filled planter strips will not be allowed. Boreholes shall be only large enough to allow for the size of pipe to be installed. If the Contractor's operations disturb the supporting soil, the Engineer may require the removal and replacement of any undermined sidewalk, curb, gutter or culvert; and/or the use of temporary HMA patch at the Contractor's expense. The limits of curb and gutter replacement and any required doweling will be at the discretion of the Engineer.

Controlled low-strength material shall be placed at the locations shown on the plans and where cover is less than 3 feet unless otherwise specified herein, on the plans, or approved by the City of Ukiah. Controlled low-strength material shall conform to Section 19, 19-3.02G "Controlled low-strength material", and a material submittal is required for approval. All excavations in a traveled way with controlled low-strength material backfill shall be plated or otherwise safely covered to allow for safe passage during curing.

Trenching operations shall be conducted in such a manner that will not disturb existing facilities. Existing utilities shall be supported in place with service maintained during construction. The Contractor shall incur all costs associated with repairs needed, in the opinion of and to the satisfaction of the Engineer, by any such damage due to their operations.

Five days prior to cutting into any traffic detector loop the Contractor shall notify and coordinate with the Engineer.

77-2.03B(3) Trench Bracing and Shoring

All bracing and shoring shall conform to the Division of Industrial Safety Construction Safety Orders. Prior to the excavation of trenches five feet or more in depth, the Contractor shall submit to the City Engineer, a detailed plan prepared by a licensed Civil or Structural Engineer 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 trenches. A permit must be obtained from the State of California, Division of Industrial Safety and shall be submitted to the Engineer prior to starting the trench work.

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.

Trench sheeting or boxes shall be withdrawn in such a manner as to prevent caving at the walls of excavations or damage to piping or other structures. Sheeting shall be completely removed from the trench and no backfill shall be installed against the sheeting before it is removed.

Trenching operations shall be conducted in such a manner that will not disturb the existing curb, gutter and existing utilities that are to remain in place.

77-2.03B(4) Removal of Water

Contractor shall provide and maintain at all times during construction ample means and devices with which to promptly remove and properly dispose of all water entering the excavations.

Where ground water occurs, pumping shall continue until back filling has progressed to a sufficient height to prevent flotation of the pipe. No main, valves, appurtenances, concrete foundations, or thrust blocks shall be laid in water. Water shall not be allowed to rise over concrete foundations or thrust blocks until the concrete has set not less than 24 hours. No water shall be drained into work built or under construction without prior consent of the City.

Water shall be disposed of in such a manner as to cause no property damage or not be a hazard to public health

77-2.03D(5) Pipe Laying

Prior to start of pipe laying, the Contractor shall expose the ends of the existing mains to determine individual lines and grades. New mains shall begin approximately 8 feet from and on the same line and grade as the existing main unless otherwise shown or approved. New mains shall be installed at minimum standard cover of 3 ft, or as shown on the Plans. Where, in the opinion of the Engineer, new mains cannot start on the same lines and grades and the existing main, restrained fittings shall be used to make grade and/or alignment transitions for tie-ins to existing mains. This does not eliminate the requirement for thrust blocking unless specifically specified elsewhere.

Tracer wire shall be laid on the top of and along the entire length of all water pipe and HDPE tubing and shall be extended to the surface at all valve locations, blow-offs and meter boxes sufficiently for locator equipment to be

attached. Except where otherwise directed by the City Engineer, fasten the wire to the top of the pipe so as not to be displaced during backfilling operations, (one method of accomplishing this is to affix the wire to the top of the pipe with duct tape at approximately 10 feet intervals). Where splicing is required only watertight connectors shall be used, and shall be either Copperhead Snakebite, 3M DBR, or an approved equivalent.

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.

Proper implements, tools, and facilities satisfactory to the Engineer shall be provided and used by the Contractor for safe, convenient, and workmanlike prosecution of the work.

All pipe fittings and valves shall be carefully lowered into the trench in such a manner as to prevent damage to pipe coatings. Under no circumstances shall pipe or accessories be dropped or clumped into the trench. Before lowering and while suspended, the pipe shall be inspected for defects and the cast iron pipe rung with a light hammer to detect cracks. Any defective, damaged, or unsound pipe shall be rejected and sound material furnished. Cutting of pipe for inserting valves, fittings, or closure pieces shall be done in a neat and workmanlike manner without damage to pipe. All pipe stockpiled on the job shall be stored with the ends covered to prevent the entrance of foreign matter.

Installation of all pipe joints shall be per manufacturer's recommendations and installation instructions, and all PVC bell and spigot joints, up to and including 8 inches, shall be assembled using the bar and block method. At any time and at no additional cost to the City the Engineer may require the use of a device to prevent "over-insertion" such as a Mega-Stop Series 5000 from EBAA Iron, or an approved equivalent. All joints that are, in the opinion of the Engineer, over-inserted, shall be pulled back to the proper insertion point or removed and replaced at the Engineer's discretion. Any adjacent joint that may have been disturbed due to the over-insertion shall be allowed to be inspected by the Engineer and if required shall be pulled back or removed and replaced.

Whenever it is necessary either in vertical or horizontal plane, to avoid obstructions or when long radius curves are permitted, the amount of deflection shall not exceed the maximum recommended by the pipe manufacturer or that required for satisfactory jointing.

Each length of pipe shall be free of any visible evidence of contamination, dirt, and foreign material before it is lowered into its position in the trench, and it shall be kept clean by approved means during and after laying. Whenever pipe laying is not in progress, the open ends of installed pipe shall be closed watertight by mechanical plug, cap or other means approved by the Engineer to prevent the entrance of foreign material or small animals. Trench water shall not be permitted to enter the pipe.

If proper separation between water mains and non-potable pipelines, per the latest guidelines from the California State Water Resources Control Board cannot be maintained, the Contractor shall inform the Engineer immediately to get direction, unless direction has been already provided in the contract documents.

Proposed water main elevations may need to be adjusted in the field to allow for the required separation between non-potable pipelines and other facilities. If water system components are proposed to be installed prior to sanitary sewer or storm drain components, the Contractor shall investigate for the possibility of conflicts or inadequate separation of facilities. The Contractor shall perform this investigation prior to water system installation and provide all relevant information in writing to the Engineer immediately upon discovery of any conflict.

77-2.03D(6) Water Main Lowering/ Over-Structure

Where shown on the Plans or as directed by the Engineer to lower or raise the alignment of the water main or 3" or larger service lateral using fittings, the alignment change shall be done in accordance with the drawings.

The lowering shall be installed as shown on the drawings and shall include restrained joints beyond the lowering to a calculated distance as directed by the Engineer.

The flame cutting of pipe by means of oxyacetylene torch shall not be allowed.

77-2.03E Water Service Laterals

The Contractor shall install new water service laterals per applicable City Standards at the locations shown on the Plans.

Service laterals other than those shown or noted on the plans shall not be installed prior to obtaining approval from the City of Ukiah. Service laterals encountered in construction that will not be used shall be abandoned.

If a new water service lateral is replacing an existing lateral, the work shall include abandoning the old service lateral pipe or tubing, removal of curb stop valve(s), removal and disposal of old meter boxes, and removal, disposal and replacement of any existing sidewalk, curb and gutter as needed.

The Contractor shall locate the lateral and service connection in the field.

HDPE water services shall be one continuous length (no splices), from the water distribution main to the water meter. For water service laterals of other material types, the Contractor shall minimize joints as much as possible.

Water service connections to existing building service lines of 3/4" or 1" in size shall be HDPE as per Contract Drawings.

When an existing service line is found to be galvanized iron, an approved dielectric fitting shall be required. The use of PVC material as dielectric protection is not acceptable.

Except as required to comply with City Standards, bends and/or fittings shall not be installed under sidewalk or concrete planter strips.

Connections to existing water service lines shall be made 1 ft from building boundary.

Submittals are required on all material used for service tie-ins.

Submittals are required for all angle meter ball valve,, and the meter box shall be per Standard 301.

After the new water system is connected to the existing City water distribution system the Contractor shall purge the new service of air and sediment prior to new meter installation or the transferring of the existing water meter.

Prior to transferring an existing water meter, the Contractor shall notify the affected customer before shutting down their service. The Contractor shall coordinate this work to provide minimum customer out-of-service time and inconvenience. All existing water meter transfers and service tie-ins shall be witnessed by the field Inspector, and it is the Contractor's responsibility to coordinate this inspection.

The Contractor shall shut off any available property side valve on the existing service prior to cutting into the line and after the meter transfer, but prior to activating the new service, the Contractor shall notify the customer that the water is coming back on, then open the property side valve and flush the new service for a minimum of 5 minutes and until the water is clear and free of all air and foreign matter.

The existing building service line to be connected to may be metal or plastic and may not be the same size as the new service. The Contractor shall provide couplings, adapters and fittings as necessary to complete the connection to the new water service line.

77-2.03F Backflow Device Installation

The Contractor shall install new backflow prevention devices and enclosures at the location shown on the Plans or as directed by the Engineer.

The backflow preventer shall be Wilkins 975XL or Febco 825Y or approved equivalent. The backflow preventer enclosure shall be Strong Box Model SBBC-30AL or SBBC-30SS or approved equivalent.

Backflow prevention devices shall be installed per Manufacturer's requirements. The Contractor shall purge the water service at the meter of air and sediment, prior to installation.

Submittals shall be required for all backflow devices and related materials.

After installation, the backflow prevention device shall be certified and tested by the City.

77-2.03G Concrete Thrust Blocks

Unless other arrangements are made that are acceptable to the Engineer, the Contractor shall coordinate notification, and allow for visual inspection by the City, of all concrete thrust blocks.

Regardless of restrained joint requirements specified elsewhere or actual installation, concrete thrust blocks shall be installed behind all tees, when connecting to any existing line larger than 2" in diameter, and all other locations shown on the construction drawings. ..

Concrete thrust blocks and/or harnesses shall also be installed per applicable City Standard, and in addition to restrained joints, where the water main is 12" in diameter or larger and the static water pressure in the distribution system is 90 psi or greater.

Permanent concrete thrust blocks and/or harnesses restraints shall be installed at least 24 hours prior to reactivation of the water system when reactivation is required immediately after completion of any operation where a water system shut down is needed and temporary blocking is not feasible. If a joint restraint system can be installed to alleviate the need for concrete thrust blocks and protects the existing and new water systems, it shall be used in place of this requirement.

Wherever concrete thrust blocking is required, it shall be installed per City Standards 311 and 312 unless otherwise specified on the plans.

77-2.03H Abandon or Removal of Water Distribution System Components

Water mains and service laterals larger than 1-1/2" shown on the plans to be abandoned shall be abandoned with concrete plug (8" min thick), compacted earth (12" min thick). . If the end of the pipe to be abandoned is connected in any way to an active main and allowed to stay in place with the approval from the City Engineer, the abandonment shall consist of a watertight cap or plug and proper restraint, and the location shall be recorded on the plans.

Existing water system components shall be removed where shown on the Plans, or to facilitate the progress of work. The Contractor must first receive written approval from the City Engineer prior to removing any component, fully or in part, that is active during construction, and the removed material shall be replaced to the satisfaction of the Water Department.

Prior to abandoning an existing main that will be replaced with a new main, all water services shall be transferred to the new and active main.

Leaded joints encountered on water mains that are to stay active within the limits of excavations shall be removed by the Contractor as directed by the Engineer. The Contractor shall remove the joints by cutting out the section of pipe containing the exposed joint and installing ductile iron pipe and approved couplers. The removed joint shall be handled, and disposed of according to the Contractor's State Licensing Law and all other applicable laws and regulations.

Tees or crosses shown to be removed on water mains that will remain in service, shall have the tee or cross, any related valves and thrust blocking removed, and the main shall be repaired with ductile iron pipe and approved couplers.

Barrels of existing fire hydrants to be removed shall be carefully separated from risers and buries by the Contractor, and the bury, if left in the ground, shall be capped or plugged in an acceptable manner. The hydrant only shall be delivered to the City's Public Works Corporation Yard located at 1320 Airport Road, unless the Contractor has obtained specific written approval by the City to otherwise dispose of the materials.

Remove all valve boxes and risers on abandoned mains and backfill and resurface using temporary AC. If any portion of a gate valve that is to be abandoned is in the structural section of the street, the valve must be fully removed and the pipe ends abandoned. Any valves not in the structural section of the street may be abandoned in place in the fully closed position.

All system components located behind curb and gutter, or edge of pavement where there is no curb or gutter, on laterals to be abandoned shall be fully removed to a minimum of 1' below grade, unless otherwise directed or approved by the Engineer. All voids shall be backfilled per City Standards and surfaced in an acceptable manner to match the surrounding area. Any sidewalk that must be replaced shall be temporarily patched with HMA Type A.

After a new water service lateral is installed on an existing main and the meter is transferred, the old service lateral shall be abandoned as specified herein.

Any abandonment that requires a system shutdown, such as removing an old water service from an active main, shall be done under inspection by authorized City personnel.

77-2.03I Water main connections and Shutdown/ Service Notifications

Upon completion of construction and testing of new water mains, service laterals and other appurtenances, tie-in connection(s) can be made by the Contractor under inspection by authorized City personnel.

Connections to the City's distribution system will not be scheduled until the Engineer has received documentation of all required passing bacteria tests.

77-2.03I(1) Notifications

The Contractor shall make a schedule request, to the Engineer, for any work which requires a City water distribution system shutdown, including, but not limited to, connection to the City's distribution system or a service hot tap.

The Contractor shall submit a separate written request to the Engineer to schedule each individual shutdown required to facilitate a tie-in connection or any other work where a shutdown may be necessary.

The Contractor shall submit written shut down requests at least 2 working days, and 3 working days in advance for residential and commercial shutdowns respectively. The City of Ukiah 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 work delays shall be considered.

All shutdowns and valve turning operations shall be performed by authorized City personnel only. Authorized City personnel must be present during any operation requiring a shutdown unless otherwise approved by the City Engineer and provided to the Contractor in writing. Connections to the City's distribution system shall not be performed without prior authorization by the Engineer.

Individual hot taps may be requested a minimum of 2 working days in advance, if the request is for multiple hot taps to be done on the same day the request shall be made a minimum of 5 working days in advance. The City will attempt to facilitate hot taps within these timeframes; however, extenuating circumstances may result in response times in excess of those mentioned herein. Under such conditions, no claims related to hot tap delays will be considered.

4" and larger hot taps or any size cut-in shall not be allowed within 4' of a joint unless first receiving written approval from the City Engineer. 4" and larger hot taps that are within 4' of a joint shall be replaced with a cut-in tee.

Any existing joint that is not specified to be replaced and is disturbed by the Contractor's operations may be require by the City Engineer to be removed and replaced with approved pipe and couplings under City inspection, and at no additional cost.

Excavations for individual tie-in connections and hot taps shall be completed as much as possible without causing damage to new or existing facilities and plated a minimum of 1 working day in advance of the scheduled work. If this requirement is not met the scheduled work will be cancelled. All connection materials shall be on site for inspection at the tie-in location the morning of the scheduled work.

Contractors who fail to keep field appointments shall be billed for City personnel and equipment time used, and the contractor shall bear the costs incurred by the City for notification of its customers for the subsequent appointment.

Interruption of service to commercial customers shall, as much as practical, be coordinated with the customer's needs. After notification by the Contractor for such a need, the City will contact commercial customers for service interruption needs and will inform the Contractor accordingly.

Contractors requiring work of any kind by City forces shall request such services a minimum of 48 hours in advance of the time such services are desired. Work requests, which will involve City forces for more than 8 hours or an extensive number of City supplied parts, shall be requested a minimum of 7 calendar days in advance.

If it is necessary to terminate service to any customer, the contractor shall make the request for such work an additional 72-hours (three additional working days for a total of five working days advance notice) in advance of the time such services are desired to allow the customers affected to have a minimum 72-hour notice.

77-2.03I(2) Tie-ins

77-2.03I(2)a General

When installing a cut-in-tee or cross that is larger than the existing pipe, the new assembly shall be installed at the depth appropriate to the size of the "cut-in" tee or cross, and shall include all fittings, pipe and couplers required to make the change in grade and connections unless otherwise directed by the Engineer. Depth shall also be sufficient to allow any valve(s) that may be part of the assembly to remain below the subgrade of the street.

When a connection is required to an existing water pipe, the contractor shall provide all excavation, shoring, backfill and trench resurfacing per Section 77-2.03B.

All joints of a tie-in connection to the City's distribution system shall be mechanically restrained.

Where the connection is to be a "hot tap", the contractor shall provide and install the tapping valve and sleeve, and any other hardware required.

Full circle tapping saddles shall be used when hot tapping 10" and Larger PVC pipe with a static pressure of 85psi or higher.

Where a "cut-in" tee or cross and valve(s) assembly is required to be installed, the contractor shall provide and install the entire assembly (including valves), and any other hardware necessary under City inspection, and shall provide all other work and materials necessary to complete the installation to City Standards.

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 appurtenances and shall conduct all operations in accordance with the most stringent sanitation practices. The interior of all appurtenances being installed, as well as the exterior of the pipe that will come into contact with the distribution water, shall be thoroughly swabbed with a 1 percent liquid chlorine solution prior to installation.

When connecting to an existing water main the Contractor shall install temporary and permanent thrust blocking, as necessary, for restraint and to allow for reenergizing of the water main immediately after all plumbing is complete.

When installing new components by "cut-in" to an existing PVC or ductile iron main, all new joints shall be mechanically restrained.

Pipe and fittings furnished for tie-ins shall be no smaller than the existing water main to which each tie-in is made.

77-1.03I(2)b Asbestos Cement Pipe (ACP)

Cutting of Asbestos Cement Pipe (ACP) shall be done utilizing a Pipe Cutter (snapper), of the proper type and size for the intended use. A ratcheting hand snapper shall only be used on ACP sizes of 6 inch and smaller. The "snapper", and all appurtenances shall have been inspected by the Contractor to ensure that it is in good working order prior to use.

If field conditions require an alternative method for cutting the ACP, the alternative method shall comply with all laws and requirements as specified by OSHA, the Contractor's State Licensing Board, and any other governing body for this type of work.

In all cases, cutting, handling and disposal shall be done per the above stated governing bodies. Cut pipe shall be properly enclosed as soon as possible after removed from the trench.

77-2.03J Construction Water

All water required for the performance of work shall be legally obtained and furnished by the Contractor. Construction water for the work under this contract will not be furnished by the City.

shall be removed by the Contractor prior to acceptance of the work. The Contractor shall contact the Engineer for review of tie downs.

The Contractor shall be responsible for accurately referencing out and replacing the lines and positions of all traffic lines, directional lines, arrows, and other markings in accordance with the Plans.

Temporary tab markers shall be placed not more than six (6') feet apart on curves nor more than twelve (12') feet apart on straight segments.

Temporary tab markers (floppies) shall be the same color as the permanent traffic stripe that they are replacing, shall measure two (2") inches tall by three and one-half (3-1/2") inches wide, and have a reflective lens across the width of the marker. Temporary tab markers shall be placed before the lane is opened to traffic, unless otherwise approved by the Inspector.

Cat tracking shall consist of stretching a rope on a straight line between control points on tangent alignment and on a true arc through control points on curved alignment and placing spots of paint along the rope.

Prior to application of permanent striping and markers, the Contractor shall call for review and approval of the proposed striping by the Engineer. The Engineer shall have the right to make changes in the location and alignment of line stripes. Striping and traffic markings shall not be applied until after approval is granted by the Engineer. The Contractor shall allow a minimum of three (3) working days for review of the layout by the Engineer.

Permanent traffic striping and markings including legends and arrows shall be placed within twenty-one (21) days after paving or surfacing, unless otherwise directed by the Engineer.

Temporary marking tape or temporary tab markers denoting crosswalks shall be placed the same day that the pavement surfacing is placed. Temporary tab markers denoting crosswalks or limit lines shall be placed at intervals not to exceed three (3') feet.

Failure to comply with these requirements shall result in a liquidated damage of \$150 per day for each street that has not received permanent installation of the required raised pavement markers, traffic striping, and markings.

Add to section 84-2.03B:

In areas adjacent to the reconstructed surfacing where existing striping must be changed to conform to a revised striping pattern, conflicting striping shall be removed by sand blasting, grinding, or other methods as specified in the Standard Specifications or by the Engineer. Removal of existing striping and markings shall not materially damage the underlying pavement.

Existing striping and markings that are to remain in place shall be protected from damage in accordance with Section 84-1.03B of the Standard Specifications. The Contractor shall replace all striping which has been damaged or obliterated by or during the work. This shall include striping replacement completely across the street even in the event that the Contractor's work may not extend that far. Both lines of each crosswalk shall be completely repainted even if only a portion of a line has been obliterated.

When the Contractor's work removes or reduces the visual appearance of a lane or center line, the Contractor shall replace all striping between the adjacent intersections in both directions. Where a median exists, this work will be required only in the roadway where the work has occurred, unless a detour which altered the pavement markings occurred in the other roadway. In such cases, the striping will be replaced in both directions.

Add to section 84-2.03C(2)(a):

No primer or thermoplastic shall be installed within forty-eight (48) hours from the last measurable rain report as provided by the Engineer.

**Add to section 84-2.03C(5)
Green Colored Pavement Markings**

Install per product manufacturers recommendations.

- b. All painted equipment which has been relocated shall be painted as directed by the City. All paint used on the job site shall be provided in the original container identifying the grade, trade name, number and manufacturer, and shall conform to the requirements of specifications on painting, or as directed by the City.
- c. All paint shall be applied evenly and smoothly by skilled craftsmen by either hand brushing or approved spraying equipment, allowing no surplus to accumulate, except that no spraying shall be done at the job site. The work shall be done in a neat and workmanlike manner, and the use of brushes for the application of paint shall be required when paint spraying proves to be unsatisfactory or otherwise objectionable. Poor workmanship resulting in spotting, peeling, cloudiness, discolorations, etc., shall be rejected and re-done by the Contractor at no cost to the City.
- d. The thickness of each paint coat (two required) shall be limited to that which will result in uniform drying throughout the paint film. Skips, holes, thin areas, or other deficiencies in any one coat of paint shall be corrected before the succeeding coat is applied.
- e. The final coat of paint shall present a sags or excessive brush marks, smooth surface, uniform in color, free of runs.
- f. Prime Painting
 - 1. First Coat: One application of a zinc dust-zinc oxide paint conforming to the requirements of Federal Specification TT-P641, Type II, applied immediately following the completion of all prepainted preparations.
 - 2. Second Coat: One application of a pre-treatment vinyl wash primer conforming to the requirements of the 2010 Caltrans Standard Specifications Section 86-2.16. The vinyl wash primer shall be applied by spraying or brushing to produce a uniform wet surface.
- g. Finish Painting
 - 1. Two separate and complete applications of finish paint shall be applied, unless otherwise noted on the plans or in these specifications. Paint for the first application shall be tinted with a compatible coloring agent to slightly contrast with the color of the final application.
 - 2. The finish paint color for all signal heads and visors shall be Dark Olive Green color (Caltrans Color Chip No. 68) in accordance with the 2010 Caltrans Standard Specifications Section 86-2.16.
 - 3. The inside of visors and louver vanes shall be painted a luster black in accordance with Caltrans Standard Specification.
 - 4. Steel signal standards and signal arms shall be painted, as noted on the plans, or these specifications.
 - 5. All poles shall be painted "Black" as selected by the Engineer.
 - 6. Contractor shall submit a paint sample to the Engineer for approval prior to ordering of factory-painted poles or application of paint to existing poles on State Street.

Replace section 86-1.02K(2) with:

Type 1 standard light fixture is a Sternberg Lighting Main Street Series Part Number: PT-MS805B-3-XRLED-12L35T4-MDL14-FHD. It shall be appointed with a cast aluminum 6 ½" spiked finial. The fixture shall be provided with a heavy wall cast aluminum fitter that can accept a 3", 4", 5", 6", or 7" OD pole. The fitter shall be attached by setscrew to the pole top.

Type 2 standard light fixture is a Philips Lumec Domus with mounting arm Part Number: DMS50-35W32LED3K-T-ACDR-240-DMG-PHXL-JR. Housing shall be round shape made of cast A380 aluminum with a watertight grommet. It shall mechanically assembled to the bracket with four bolts 5/16 18 UNC. This suspension system permits for full rotation of the luminaire in 90 degrees increments. Mounting arm shall feature two 2" by 3" rectangular aluminum extrusions, welded on both sides to the central pole adaptor and to the luminaire adaptor. Mounting arm shall have 4" OD extruded aluminum luminaire adaptor welded to the arm for luminaire mounting.

LED luminaire must:

- 1. Be self-contained, not requiring assembly.

2. Comply with UL 1598 for luminaires in wet locations.
3. Have a power supply with:
 - 3.1. ANSI/IEC rating of at least IP65.
 - 3.2. 2 leads to accept standard 0-10 V(dc).
 - 3.3. Dimming control compatible with IEC 60929, Annex E. If the control leads are open or the analog control signal is lost, the circuit must default to 100-percent power.
 - 3.4. Case temperature self rise of 77 degrees F or less above ambient temperature in free air with no additional heat sinks.
4. Weigh no more than 40 lb.
5. Have a minimum operating life of 63,000 hours when operated for an average time of 11.5 hours at an average temperature of 70 degrees F.
6. Be designed to operate over a temperature range from -40 to 130 degrees F.
7. Be operationally compatible with photoelectric controls.
8. Have a correlated color temperature range from 3,500 to 6,500 K and a color rendering index of 65 or greater.
9. Have a maximum-effective projected area of 1.4 sq ft when viewed from either side or end.
10. Be finished in the manufacturer's standard bronze polyester powdercoat.
11. Be provided with a color-matched twin-arm pole-top mount suitable for a round pole.
12. Be provided with a color-matched round, straight pole, height as scheduled.
13. Comply with LM-79, LM-80 and California Test 611.

The individual LEDs must be connected such that a catastrophic loss or a failure of 1 LED does not result in the loss of more than 20 percent of the luminous output of the luminaire.

The luminaire must be permanently marked inside the unit and outside of its packaging box. Marking consists of:

1. Manufacturer's name or trademark
2. Month and year of manufacture
3. Model, serial, and lot numbers
4. Rated voltage, wattage, and power in VA

An LED luminaire's onboard circuitry must include a surge protection device to withstand high-repetition noise transients caused by utility line switching, nearby lightning strikes, and other interferences. The device must protect the luminaire from damage and failure due to transient voltages and currents as defined in Tables 1 and 4 of ANSI/IEEE C64.41.2 for location category C-High. The surge protection device must comply with UL 1449 and ANSI/IEEE C62.45 based on ANSI/IEEE C62.41.2 definitions for standard and optional waveforms for location category C-High.

An LED luminaire and its associated onboard circuitry must comply with the Class A emission limits under 47 CFR 15(B) for the emission of electronic noise.

The fluctuations of line voltage must have no visible effect on the luminous output.

The operating voltage may range from 120 to 480 V(ac), 60 ± 3 Hz. Luminaire must operate over the entire voltage range or the voltage range must be selected from one of the following:

1. Luminaire must operate over a voltage range from 95 to 277 V(ac). The operating voltages for this option are 120 V(ac) and 240 V(ac).
2. Luminaire must operate over a voltage range from 347 to 480 V(ac). The operating voltage for this option is 480 V(ac).

LED luminaire must have a power factor of 0.90 or greater. The total harmonic distortion, current, and voltage induced into a power line by a luminaire must not exceed 20 percent. The L70 of the luminaire must be the minimum operating life or greater. Illuminance measurements must be calibrated to standard photopic calibrations.

An LED luminaire and its internal components must be able to withstand mechanical shock and vibration.

If the components are mounted on a down-opening door, the door must be hinged and secured to the luminaire's housing separately from the refractor or flat lens frame. The door must be secured to the housing to prevent accidental opening. A safety cable must mechanically connect the door to the housing.

An LED luminaire must have a barrier-type terminal block secured to the housing to connect field wires. The terminal screws must be captive and equipped with wire grips for conductors up to no. 6.

The conductors and terminals must be identified and marked.

Add to section 86-1.02M:

The photoelectric unit shall be installed on light standards.

Photoelectric control shall be Type IV.

Add section 86-1.02V Video Detection:

Each video vehicle detector system (VVDS) shall consist of one or more video detection devices mounted on traffic signal or luminaire mast arms as shown on the Plans; and including all wires, cables, connections, video detection processor (VDP), cabinet interface ICC modules in a standard detector rack, a pointing device, and related appurtenances for a complete and functioning system.

The system shall include software that detects vehicles and bicycles in multiple lanes using only the video image. Detection zones shall be defined using only an on board video menu and a pointing device to place the zones on a video image. Up to 8 detection zones per system shall be available. A separate computer shall not be required to program the detection zones.

86-1.02V(1) Functional Capabilities. Each video vehicle detector system (VVDS) shall be GRIDSMART System manufactured by GRIDSMART Technologies, Inc. The City of Ukiah has standardized around the GRIDSMART System VVDS.

The VVDS shall consist of one or more video detection devices mounted on traffic signal or luminaire mast arms as shown on the Plans; and including all wires, cables, connections, video detection processor (VDP), cabinet interface ICC modules in a standard detector rack, a pointing device, and related appurtenances for a complete and functioning system.

A VVDS for a single intersection must consist of either 1 or 2 fixed focal length omnidirectional view cameras and the VDP.

The system is composed of these principal items: the camera(s), the field communications link consisting of a single CAT5e cable between each camera and the VDP, add the VDP along with a PC, video monitor or associated equipment required to setup the VDP and software to communicate to the VDP.

The VDP must be either NEMA TS 2 Type 1 or Type 2. Type 2 must have RS 485 SDLC. The VDP must have at least four (4) processing cores of 2.8GHz or greater, a minimum of 3GB random access memory (RAM), and at least 32GB of onboard storage.

The system shall include software that detects vehicles and bicycles in multiple lanes using only the video image. Detection zones shall be defined using only an on board video menu and a pointing device to place the zones on a video image. Up to 8 detection zones per system shall be available.

86-1.02V(2) Definitions.

VVDS Processor. The electronic unit that converts the video image provided by the cameras, generate vehicle detection for defined zones and collects vehicular data as specified.

Central Control. A remotely located control center, which communicates with the VVDS Processor. The VVDS operator at the central control has the ability to monitor the operation and modify detector placement and configuration parameters. The equipment that constitutes central control is comprised of a workstation microcomputer along with the associated peripherals as described in this special specification.

Field Setup Computer. A portable microcomputer used to set up and monitor the operation of the VVDS Processor. If required to interface with the VVDS processor unit, the field setup computer with the associated peripherals described in this special specification and a video monitor, also described in this special specification, must be supplied as part of the VVDS.

Field Communications Link. The communications connection between the camera(s) and the VVDS Processor. This link will consist of one CAT5e cable for each omnidirectional camera.

Remote Communications Link. The communications connection between the VVDS Processor and the central control.

Camera Assembly. The complete camera or optical device assembly used to collect the visual image. The camera assembly consists of a CMOS camera, environmental enclosure, temperature control mechanism, and all necessary mounting hardware.

Occlusion. The phenomenon when a vehicle passes through the detection zone but the view from the sensor is obstructed by another vehicle. This type of occlusion results in the vehicle not being detected by the sensor.

Or

When a vehicle in one lane passes through the detection zone of an adjacent lane. This type of occlusion can result in the same vehicle being counted in more than one lane.

Detection Zone. The detection zone is an area selected through the VVDS Processor that when occupied by a vehicle, sends a vehicle detection to the traffic controller or freeway management system.

Detection Accuracy. The measure of the basic operation of a detection system (shows detection when a vehicle is in the detection zone and shows no detection when there is not a vehicle in the detection zone).

Live Video. Video being viewed or processed at 5 to 10 frames per second.

Lux. The measure of light intensity at which the camera may operate. A unit of illumination equal to one lumen per square meter or to the illumination of a surface uniformly one meter distant from a point source of one candle.

86-1.02V(3) Functional Capabilities. The system must be able to detect either approaching or departing vehicles in multiple traffic lanes. A minimum of 24 detector outputs per VVDS Processor. Each zone and output must be user definable through graphics by drawing arbitrarily shaped polygons using the Field Setup Computer or Central Control. The user must be able to redefine previously defined detection zones.

The VVDS Processor must provide real time vehicle detection (within 500 milliseconds (ms) of vehicle arrival).

The system must be able to detect the presence of vehicles in up to 64 detection zones per camera.

Detection zones must be provided that are sensitive to direction of vehicle travel. The direction at be detected by each detection zone must be user programmable.

The VSDS Processor unit must compensate for minor camera movement (up to 2% of the field of view at 400 feet) without falsely detecting vehicles. The camera movement must be measurable on the unprocessed video input to the VSDS Processor.

The camera must operate while directly connected to VSDS Processor Unit.

Once the detector configuration has been downloaded or saved into the VSDS Processor, the video detection system must operate with the monitoring equipment (monitor and/or laptop) disconnected or on-line.

When the monitoring equipment is directly connected to the VSDS Processor, it must be possible to view vehicle detections in real time as they occur on the field setup computer's color VGA display or the video monitor.

The VSDS Processor must support 1 or 2 omnidirectional view cameras. If equipped with 1 omnidirectional view camera, the VSDS processor must also be capable of simultaneously supporting up to four (4) more traditional view cameras for special needs such as advance detection or underpass detection.

86-1.02V(4) Vehicle Detection. Detection Zone Placement. The video detection system must provide flexible detection zone placement anywhere within the combined field of view of the image sensors. Preferred presence detector configurations shall be arbitrarily shaped polygons, including simple boxes drawn across lanes of traffic or placed in line with lanes of traffic. A single detector must be able to replace one or more conventional detector loops.

Detection Zone Programming. Placement of detection zones must be by means of graphical interface using the video image of the roadway. The monitor must show images of the detection zones superimposed on the video image of the traffic while the VVDS Processor is running. The displayed zones, when operating, must be able to be displayed outlined or filled, with a visible change indicating detection.

The detection zones must be created by using the mouse or keypad to draw detection zones on the monitor. The detection zones must be capable of being sized and shaped to provide optimal road coverage and detection. It must be possible to upload detector configurations to the VVDS Processor and to retrieve the detector configuration that is currently running in the VVDS Processor.

The mouse or keypad may be used to edit previously defined detector configurations so as to fine tune the detection zone placement size and shape. Once a detection configuration has been created, the system must provide a graphic display of the new configuration on its monitor. While this fine-tuning is being done, the detection must continue to operate from the detector configuration that is currently called.

When a vehicle occupies a detection zone, the detection zone on the live video must indicate the presence of a vehicle, thereby verifying proper operation of the detection system. With the absence of video, the VVDS Processor must have a display that will indicate proper operation of the detection zones.

Detection zones must be provided that are sensitive to the direction of vehicle travel. The direction to be detected by each direction zone must be user programmable. The vehicle detection zone should not activate if a vehicle traveling any direction other than the one specified for detection occupies the detection zone. Cross-street and wrong way traffic should not cause a detection.

Detection zones must have the option for the user to define that can be made with a side entrance (90° or less angled entrance).

Design Field of View. The video detection system must reliably detect vehicle presence in the design field of view. The design field of view must be defined as the sensor view when the image sensor is mounted 30-feet or higher above the roadway, when the camera is adjacent (within 15 feet) to the edge of the nearest vehicle travel lane, and when the length of the detection area is not greater than 5 times the mounted height of the image sensor. Within this design field of view, the VVDS Processor unit must be capable of setting up a single detection zone for point detection (equivalent to the operation of a 6 foot by 6 foot inductive loop). A single camera, placed at the proper mounting height, must be able to monitor up to and including 5 traffic lanes simultaneously. A single omnidirectional camera, placed at the proper mounting height, must be able to monitor detection zones in at least intersection approaches.

Detection Performance. Detection accuracy of the video detection system must be comparable to properly operating inductive loops. Detection accuracy must include the presence of any vehicle in the defined detection zone regardless of the lane, which the vehicle is occupying. Occlusion produced by vehicles in the same or adjacent lanes must not be considered a failure of the VVDS Processor, but a limitation of the camera placement. Detection accuracy (a minimum of 95%) must be enforced for the entire design field of view on a lane by lane and on a time period basis. When specified in the plans, furnish up to 24 continuous hours of recorded video of all installed intersection cameras within the 30 day test period for verification of proper camera placement, field of view, focus, detection zone placement, processor setup and operation. The video from each camera must show vehicle detections for all zones.

Equipment failure, either camera or VVDS Processor, must result in constant vehicle detection on affected detection zones.

86-1.02V(5) VSDS Processor.

Cabinet Mounting – The VSDS Processor must be shelf mountable.

Environmental Requirements – The VSDS Processor must be designed to operate reliably in the adverse environment found in the typical roadside traffic cabinet. It must meet the environmental requirements set fourth by the latest NEMA (National Electric Manufacturers Association) TS1 and TS2 standards as well as the environmental requirements for Type 170, Type 179 and 2070 controllers. Operating temperature must be from -30°F to +165°F at 0% to 95% relative humidity, non-condensing.

Electrical – The VSDS Processor must have a modular electrical design.

The VSDS Processor must operate within a range of 89 to 135 VACm 60 Hz single phase. Power to the VSDS Processor must be from the transient protected side of the AC power distribution system in the traffic control cabinet in which the VSDS Processor is installed.

Communications to the field setup computer must be through an Ethernet port. This port must be able to download the real time detection information needed to show detector actuations.

The VSDS Processor must have an Ethernet connection on the front of the unit for the connection to the 1st camera. If a second camera is installed at the intersection, the camera will connect with the VSDS Processor through a connector mounted on the side of the Processor.

The unit must be equipped with a single VGA video output. This output must be capable of displaying the operations and detections of the VSDS Processor.

The change log for all Software upgrades and/or changes must be presented on a readily assessable internet site with unencumbered public access.

The unit software and the supervisor software must include diagnostic software to allow testing of the VSDS functions. This must include the capability to set up and clear individual detector outputs and display the status of inputs to enable setup and troubleshooting in the field.

86-1.02V(6) Camera Assembly.

Camera. The video detection system must use high resolution, color image sensors as the video source for real time vehicle detection. The cameras must be approved for use with the VSDS Processor unit by the supplier of the VSDS. As a minimum, each camera must provide the following capabilities:

Images must be produced with a CMOS sensing element with horizontal resolution of at least 2580 lines and vertical resolution of at least 1920 lines. Images must be output in digital format as MJPEG image.

Useable video and resolvable features in the video image must be produced when those features have luminance levels as low 1.0 lux for color, for night use.

Useable video and resolvable features in the video image must be produced when those features have luminance levels as high as 10,00 lux during the day.

The camera must include an electronic shutter control based upon average scene luminance and must be equipped with fixed field of view and fixed focus lens which does not require opening the camera enclosure. The fixed focus lens must be always in focus without any required end-user adjustments.

Camera and Lens Assembly. The camera and lens assembly must be housed in an environment enclosure that provides the following capabilities:

The enclosure must be waterproof and dust tight to the latest NEMA 4 specifications.

The enclosure must allow the camera to operate satisfactorily over an ambient temperature range from -30°F to +165°F while exposed to precipitation as well as direct sunlight.

The enclosure must include a provision for connection of the CAT5e cable. Input power to the environmental enclosure must be included in the Ethernet interface.

A thermostatically controlled heater must be at the front of the enclosure to prevent the formation of ice and condensation. The heater must not interfere with the operation of the camera electronics, and it must not cause interference with the video signal.

The enclosure must be light colored or unfinished and must be designed to minimize solar heating. Any plastics used in the enclosure must include ultra violet inhibitors.

The total weight of the image sensor in the environmental enclosure must be less than 10 lb.

Use waterproof, quick disconnect connectors to the camera for the CAT5e connection.

A camera interface panel capable of being mounted to sidewalls of a controller cabinet must be provided for protection of the VSDS Processor, camera CAT5e connection. The panel must consist of, as a minimum, 2 CAT5e cable surge protection connections.

When the connection between the camera and the VSDS Processor is CAT5e cable, the cable used must be suited for outdoor installation.

Camera mounting hardware must allow for vertical or horizontal mounting to the camera enclosure.

86-1.02V(7) Field Communication Link. The field communication link must be a two way communications connection from the camera to the VSDS Processor. The primary communications link media must be burial grade CAT5e cable.

The following requirements must govern for the various types of field communications link media described on the plans.

CAT5e Cable. In locations where the plans indicate CAT5e cable is required as the primary communications link, this cable must be burial grade as well as suitable for above ground applications.

All connection cables must be continuous from the equipment cabinet to the camera connector.

Install lightning and transient surge suppression devices on the processor side of the field communications link to protect the peripheral devices. The suppression devices must be all solid state. The devices must present high impedance to, and must not interfere with, the communications lines during normal operation. The suppression devices must not allow the peak voltage on any line to exceed 300% of normal operating peak voltage at any time. The response time of the devices must not exceed 5 nanoseconds.

86-1.02V(8) VSDS Set-Up System. The minimum VSDS set-up system, as needed for detector setup viewing of vehicle detections, must consist of a field setup computer and Windows-based interface software (if required) for a video monitor with interface software built-in to the VSDS Processor. Live video (5 frames per second) must be available on the field setup computer to determine proper operation of detectors. The field set-up computer as a minimum, must have a network connection.

If a field setup computer is required for system set-up, it must be supplied by the supplier of the VSDS Processor.

The field setup computer must include all necessary cabling and a Windows-based program to interface with the VSDS Processor. This software must provide an easy to use graphical user interface and support all models/versions of the supplied VSDS.

Live video with the detection overlaid is required for field verification of the system.

86-1.02V(9) Temporary Use and Retesting. When shown on the plans, the VSDS equipment must be used to provide vehicle detection on a temporary basis. When the permanent vehicle detection system and related equipment are installed and made operational, the VSDS equipment must be carefully removed and delivered to the location shown on the plans.

86-1.02V(10) Operation from Central Control. The central control must transmit and receive all information needed for detector setup, monitor the vehicle detection, view the vehicle traffic flow and interrogate all required stored data. The remote communications link between the VSDS Processor and central control may be dial-up (telephone or ISDN lines) or dedicated twisted wire pair communications cable which may be accompanied with coaxial cable or fiber-optic cable, as shown on the plans. Communications with central control must not interfere with the on-street detection of the VSDS Processor.

86-1.02V(11) Installation and Training. The manufacturer's representative of the video detection system must be present on site to supervise the installation and testing of the video and computer equipment.

depth shall not exceed conduit trade-diameter plus 10 inches, except that at pull boxes the trench may be hand dug to required depth. The conduit shall be placed in the bottom of the trench with the top of the conduit a minimum of 9 inches below finish grade.

When conduit containing conductors of 100 volts or less is not installed adjacent to the lip of gutter it shall be installed with a minimum of 24 inches of cover.

All conduit containing conductors of more than 100 volts shall be installed with a minimum of 24 inches of cover.

Where existing facilities prevent installing conduit with 24 inches of cover, the Contractor shall depress the new conduit under the existing facilities without exception.

The Contractor shall pothole and record the depth of all existing utilities which are within the area to be trenched or excavated.

Where excavation occurs within the drip line of any street tree the contractor shall hand dig to protect tree roots as directed by the Engineer. Root pruning shall be done only when directed by the Engineer and shall be accomplished by use of sharp tools appropriate for the size of root to be cut. Each cut shall be clean with no torn bark or splintered wood remaining on the root. At no time shall roots be pulled on by excavating equipment.

Add to section 87-1.03J:

Field paint all new and existing signal poles with polyurethane coating in accordance with Section 91.

Add to section 87-1.03V(2):

In lieu of the requirements in the fourth paragraph of Section 86-5.01A(4), "Installation Details," of the State Standard Specifications, slots in asphalt concrete pavement shall be filled as follows:

After conductors are installed in the slots cut in the pavement, paint binder shall be applied to all vertical surfaces of slots in accordance with the provisions in Section 94, "Asphaltic Emulsions", of the State Standard Specifications. The slots shall then be filled with asphaltic concrete sealants using hot melt loop sealant.

Temperature of sealant material during installation shall be above 70 degrees Fahrenheit. Air temperatures during installation shall be above 50 degrees Fahrenheit. Hot melt sealant placed in the slots shall be compacted by use of an eight (8") inch diameter by one-eighth (1/8") inch thick steel hand roller or other tool approved by the Engineer. Compacted sealant shall be flush with the pavement surface. Minimum conductor coverage shall be five-eighths (5/8") inch. Excess sealant remaining after rolling shall not be reused. Traffic may be released immediately over compacted material.

The Contractor shall test all detectors with a motor-driven cycle, as defined in the California Vehicles Code, which is licensed for street use by the Department of Motor Vehicles of the State of California. The unladen weight of the vehicle shall not exceed 220 pounds and the engine displacement shall not exceed 100 cubic centimeters. Special features, components or vehicles designed to activate the detector will not be permitted. The Contractor shall provide an operator who shall drive the motor-driven cycle through the response or detection area of the detector at not less than 3 miles per hour nor more than 7 miles per hour.

Detectors will be disconnected or connected by the Contractor. The Contractor shall notify the City 24 hours prior to any detector being disconnected or connected. Timing adjustments shall be made by City traffic personnel.

Traffic signal loops damaged due to grinding, cold planing, digouts, paving or any other related construction shall be replaced within 2 weeks following the damage.

Add section 87-1.03V(4):

87-1.03V(4) Video Detection System. The cable to be used between the VDP and the ICC in the traffic cabinet shall be three (3) twisted pairs. Various styles of cable including IMSA 39-2 are suitable for correct operation. The cable shall be a continuous unbroken run from the VDP to the ICC. This cable shall be suitable for installation in conduit or overhead with appropriate span wire. Pluggable connectors or terminal blocks should be used at both the VDP and ICC ends. The cable and installation tools shall be approved by the supplier of the video detection system, and the manufacturer's instructions must be followed to ensure proper connection.

No adjustment of the compensation will be made in the contract lump sum prices paid for various work items due to any differences between quantities shown in the cost break-down furnished by the Contractor and the quantities required to complete the work as shown on the plans and as specified in these Special Provisions.

The cost break-down shall be submitted to the Engineer within 10 working days after the contract has been approved. The cost break-down shall be approved by the Engineer, in writing, before any partial payments for the items of work will be made. The approved cost break-down will be used to determine partial payments during the progress of the work and as the basis of calculating the adjustment of compensation for the item(s) of work due to the changes ordered by the Engineer. When an ordered change increases or decreases the quantities of an approved cost break-down, the adjustment in the compensation will be determined in the same manner specified for increases and decreases in the quantity of a contract item of work in accordance with increases and decreases in the quantity of a contract item of work in accordance with the Contractor bid price.

Additions or deletions in the quantity of work as set forth in these specifications and accompanying drawings for lump sum items may be ordered by the Engineer after the contract price has been adjusted accordingly to the satisfaction of both the Contractor and the City of Ukiah, and they have been accepted in writing by the Engineer.

Add section 88-1.02

Materials shall be new and of merchantable grade, free from defect. Contractor shall be responsible for providing any and all materials necessary for the completion of the project, which include, but are not limited to, all conduits, conduit sweeps and conduit fittings. Conduit sizes shall be as specified on the plans. PVC conduit, elbows and sweeps shall meet NEMA TC-2, TC-3 and UL 651 (Conduit) and 514b (Fittings) specifications for type Sch 40 and Sch 80. Rigid steel conduit at all riser pole locations shall be U.L. 6 listed and meet ANSI C80.1 specifications. The 3/4" NPT threads (ANSI B1.20.1) shall be full cut and hot galvanized after cutting. All elbows and sweeps shall be minimum 48" radius for 6" conduit, minimum 36" radius for 4" conduit and minimum 24" for 2" conduit. Long line couplings shall be used. Five degrees angle couplings, flexible adapters and PVC flexible couplings shall not be used. Standard type duct spacers which proved for a 2" air space between conduits shall be throughout the project on electric duct system. All conduits shall be proved in a manner acceptable to the Electric Utility Department. Conduit shall be free of dirt, rocks or other obstructions which could prevent, hinder or harm the installation of electric cable. Mule Tape must be installed in each conduit. The open end of all conduits must be protected in such a manner that it prohibits dirt and debris from entering. The ends of all stub conduit shall be securely capped. Below ground at capped location, one Greenlee Unimarker electronic marker shall be placed for each type of conduit using the uniform color code. Insulated bonding bushings will be required on metal conduit. No substitutions shall be permitted from the original specifications unless bidder obtains prior written approval.

Add to section 88-1.03A

WHERE INTERRUPTION OF ELECTRIC SERVICE WILL RESULT DURING THE INSTALLATION OF A SECONDARY SERVICE JUNCTION BOX, TRANSFORMER BOX PAD, AND PRIMARY PEDESTAL BOX PAD THE CONTRACTOR SHALL COORDINATE THIS WORK WITH CITY OF UKIAH ELECTRIC UTILITY DEPARTMENT (UEUD). UEUD WILL TURN OFF POWER TO EQUIPMENT AND ASSIST THE CONTRACTOR WITH THE INSTALLATION OF CONDUITS INTO EQUIPMENT. CUSTOMER SERVICE OUTAGE TIME SHALL BE CUT TO A MINIMUM AND SHALL NOT EXCEED ONE WORK DAY.

The Contractor shall maintain existing signal and lighting systems in accordance with Section 88-21.03B "Maintaining Existing Electrical Systems" and these Special Provisions.

Prior to disconnecting traffic loops, temporary traffic cameras are required to be installed at all signalized intersection for any approach that is affected by cut traffic loops to keep signal performance at the optimum operational level for the duration of the project. Upon completion, new traffic loops shall be installed for each cut location. Three locations are anticipated.

Add section 88-1.03A(1) Vacuum Excavation

All pothole work to expose existing utilities shall be done by vacuum excavation methods.

Add to section 88-1.03B(3)(b)

Aggregate base for trench backfilling shall conform to the provisions of Section 26 "Aggregate Bases" of the California Standard Specifications and these Special Provisions. Slurry cement per Caltrans Specification 19.3.02E shall be used when

more than on conduit layer is present or conduits are placed in spacers.

Asphalt concrete and the placing thereof shall conform to the requirements of Section 39, "Asphalt Concrete," of the Standard Specifications, and these Special Provisions.

Final asphalt concrete trench paving shall be 12" outside either side of the trench width.

Asphalts: Temporary paving on all trenches shall be hot mix asphalt concrete installed a minimum 2" thick placed each day over the work.

The amount of asphalt binder to be mixed with the aggregate will be specified by the Engineer at the time of paving. A different asphalt binder content may be specified for each lift and each location.

General Requirements: The Contractor shall provide compaction of backfill and base material as the job progresses, each day. Temporary paving will be placed over the work, each day, leaving not more than 100 feet unpaved. This temporary paving shall be removed for final trench paving. The balance of the trench shall be covered with skid resistant steel plates (with a coefficient of friction of 0.35 or greater per CTM342), capable of sustaining normal (H20) traffic loads without shifting or bouncing, and shall be secured per Caltrans requirements. Hot Mix asphalt concrete shall be placed and compacted around all edges of steel plates with a sufficient width and gradual slope in order to provide a smooth transition to existing pavement.

Finished asphalt trench paving shall be even, smooth riding and have an appearance that is compatible to the surrounding surface, unless proper written approval has been provided by the Engineer.

The Engineer may require additional paving beyond the minimum dimensions shown in STD. 220 (36" beyond the trench wall), or as shown on the plans, where records indicate that the existing pavement or structural section is as shown on the plans.

ALL TRENCH PAVING ON STATE STREET SHALL BE TEMPORARY PAVEMENT 2" THICK. ALL CONCRETE SIDEWALK REPAIR ON STATE STREET BETWEEN CLAY STREET AND MILL STREET SHALL BE HAVE TEMPORARY HOT ASPHALT PAVEMENT 2" THICK. ALL CONCRETE SIDEWALK ON MILL STREET SHALL BE REPAIRD OR RECONSTRUCTED PER CITY OF UKIAH STANDARDS.

Curb, gutter, sidewalk, driveways, alley approaches and any other miscellaneous concrete structures shall be constructed as shown on the plans, and applicable City of Ukiah Standard Plans, and shall conform to the provisions in Section 73 "Concrete Curbs and Sidewalks" of the Standard Specifications and these Special Provisions. Any damage to curbs, sidewalks and other concrete as a result of construction activities are the responsibility of the Contractor to repair to pre-damaged condition.

Add to section 88-1.03B(6)

Trench depth and location may have to be adjusted slightly in the field to avoid existing facilities. Sewer and water laterals will be encountered. They will have to be worked around and any damage caused by construction activities are the responsibility of the Contractor. The Contractor shall pothole all underground utility locations to determine exact depth prior to trenching. Any damages to City or other utilities caused by trenching or other project operations shall be the Contractor's responsibility to repair to pre-damaged condition.

All conduits shall be mandrelled from both directions according to the conduit size.

Add to section 88-1.03E(1)

Excavation Safety shall conform to the provisions in Section 7-1.02K(6)(b) "Excavation Safety" of the Standard Specifications and these Special Provisions.

In making excavations for the project, the Contractor shall be fully responsible for providing and installing adequate sheeting, shoring and bracing as may be necessary as a precaution against slides or cave-ins and to fully protect all existing improvements of any kind from damage.

The Contractor shall obtain a permit from the Division of Industrial Safety and shall submit a copy of the approved permit to

the Engineer prior to the start of any excavation greater than 5 foot in depth. The cost of the permit shall be included in the total bid cost. If the shoring and bracing plan varies from the shoring system standards established by the Construction Safety Orders, the plan shall be prepared by a registered civil or structural engineer.

The criteria given by the California Department of Industrial Relations are MINIMA for the conditions shown thereon. In addition to shoring the excavation as specified, it shall be the Contractor's responsibility to provide any and all additional shoring required to support the sides of the excavation against the effects of loads which may exceed those derived by using the criteria set forth by said governing agency. The Contractor shall be solely responsible for any damages which may result from failure to provide adequate shoring to support the excavations under any or all of the conditions of loading which may exist or which may arise during the construction project.

Add to section 88-1.03E(2)

Excavation and backfill for pipe, manholes and miscellaneous structures shall conform to the provisions in Section 19-3 "Structure Excavation and Backfill" of the Standard Specifications, and these Special Provisions.

Pavement and concrete removal shall conform to "Removal Methods" of these Special Provisions.

All excavation shall be made to the lines and grades shown on the Plans. Trench edges shall be no closer than 1 foot to the toe of the gutter unless otherwise approved by the Engineer. Where mud, peat or any unstable or objectionable material is encountered at or within 6 inches of the bottom of any excavation, such material shall be removed to a depth of at least 12 inches below the established grade and the trench brought to grade by placing a suitable material thoroughly compacted in place, all as approved by the Engineer.

Trench width, bedding and backfill for pipe shall conform to "Pipe Bedding and Backfill Requirements", as shown on plans.

Ponding or jetting of backfill is not allowed unless specifically shown on the Plans.

Trench backfill shall attain a relative compaction of 90 percent around conduit duct bank and 95 percent within 30" of finish grade. Backfill compaction within the structural section shall be as shown on the Plans. Structural backfill around all structures and manholes shall attain a relative compaction of 92 percent. The Contractor shall be responsible for scheduling compaction testing per City requirements (required every 50 lineal feet of trench). The cost for compaction testing shall be included in the total bid cost.

Backfill in street areas shall be brought to subgrade and the existing surfacing shall be replaced with the structural section shown on the Plans.

Trench backfill shall be accomplished as soon as possible after the pipe has been installed.

The Contractor shall conduct the construction operations so that trench backfill at all intersections is sufficiently adequate to allow 2-way traffic in both directions during all phases of construction unless otherwise specified.

Traffic stripes and pavement markings shall be temporary and conform to the applicable provisions of Section 12-6.03D of the Standard Specifications, City of Ukiah Standards, and these Special Provisions and shall be placed at the locations shown on the approved temporary traffic control plans.

Existing stripes and pavement markings outside of the work area which are damaged by the work shall be replaced. Replacement striping shall match existing.

Add to section 88-1.03Y

Primary Junction Box, Transformer, and Pedestal Box Pads shall be provided by the City and installed by the Contractor. Primary Junction Box grade shall be equal to or slightly (maximum 0.5") above adjacent grade. Asphaltic vault sealant shall be installed between the junction box cover and the extension ring (if used) and between the extension ring (if used) and the junction box. Bottom of the primary junction box excavation shall be compacted to 90% compaction prior to installation of drain rock and junction box. Where "term-a duct" conduit ends are not installed in the vault, bell ends shall be installed on the conduit ends and grouted in flush with the vault surface. Grounding shall be installed per Ukiah Electric Utility Department specifications at each primary junction box and primary pedestal location. Primary Pedestals shall be installed per Ukiah Electric Utility Department specifications.

SECTION 14. EXCLUSIONS FROM GENERAL CONDITIONS

14-01. Provisions to be Excluded from General Conditions. The following designated provisions of the General Conditions are hereby determined to be inapplicable to the proposed work and, therefore, are hereby excluded from the terms of the Notice to Bidders, Proposal, Agreement and other contract documents as though entirely omitted from said General Conditions:

- (1) Section 6-02. Office at the Site
- (2) Section 7-03. Surveys

No other exclusions.

SECTION 15. AMENDMENTS TO GENERAL CONDITIONS

15-01. Sections of General Conditions to be Amended.

The following designated sections of the Special Provisions are hereby amended to read as follows:

No amendments.

NOT FOR BID

SECTION 16. FEDERAL REQUIREMENTS FOR FEDERAL-AID CONSTRUCTION PROJECTS

1. DISADVANTAGED BUSINESS ENTERPRISES (DBE)

The contractor, subrecipient or subcontractor shall take necessary and reasonable steps to ensure that DBEs have opportunity to participate in the contract (49 CFR 26). To ensure equal participation of DBEs provided in 49 CFR 26.5, the Agency shows a contract goal for DBEs. The prime contractor shall make work available to DBEs and select work parts consistent with available DBE subcontractors and suppliers.

The prime contractor shall meet the DBE goal shown elsewhere in these special provisions or demonstrate that they made adequate good faith efforts to meet this goal.

It is the prime contractor's responsibility to verify that the DBE firm is certified as a DBE on the date of bid opening by using the California Unified Certification Program (CUCP) database and possesses the most specific available North American Industry Classification System (NAICS) codes and Work Code applicable to the type of work the firm will perform on the contract. Additionally, the prime contractor is responsible to document this verification by printing out the CUCP data for each DBE firm. A list of DBEs certified by the CUCP can be found at:

<https://dot.ca.gov/programs/civil-rights/dbe-search>.

All DBE participation will count toward the California Department of Transportation's federally mandated statewide overall DBE goal.

Credit for materials or supplies the prime contractor purchases from DBEs counts towards the goal in the following manner:

- 100 percent counts if the materials or supplies are obtained from a DBE manufacturer.
- 60 percent counts if the materials or supplies are obtained from a DBE regular dealer.
- Only fees, commissions, and charges for assistance in the procurement and delivery of materials or supplies count if obtained from a DBE that is neither a manufacturer nor regular dealer. 49 CFR 26.55 defines "manufacturer" and "regular dealer."

The prime contractor receives credit towards the goal if they employ a DBE trucking company that performs a commercially useful function as defined in 49 CFR 26.55(d) as follows:

- The DBE must be responsible for the management and supervision of the entire trucking operation for which it is responsible on a particular contract, and there cannot be a contrived arrangement for the purpose of meeting DBE goals.
- The DBE must itself own and operate at least one fully licensed, insured, and operational truck used on the contract.
- The DBE receives credit for the total value of the transportation services it provides on the Contract using trucks it owns, insures, and operates using drivers it employs.
- The DBE may lease trucks from another DBE firm, including an owner-operator who is certified as a DBE. The DBE who leases trucks from another DBE receives credit for the total value of the transportation services the lessee DBE provides on the Contract.
- The DBE may also lease trucks from a non-DBE firm, including from an owner-operator. The DBE that leases trucks equipped with drivers from a non-DBE is entitled to credit for the total value of transportation services provided by non-DBE leased trucks equipped with drivers not to exceed the value of transportation services on the contract provided by DBE-owned trucks or leased trucks with DBE employee drivers. Additional participation by non-DBE owned trucks equipped with drivers receives credit only for the fee or commission it receives as a result of the lease arrangement.
- The DBE may lease trucks without drivers from a non-DBE truck leasing company. If the DBE leases trucks from a non-DBE truck leasing company and uses its own employees as drivers, it is entitled to credit for the total value of these hauling services.
- A lease must indicate that the DBE has exclusive use of and control over the truck. This does not preclude the leased truck from working for others during the term of the lease with the consent of the DBE, so long as the lease gives the DBE absolute priority for use of the leased truck. Leased trucks must display the name and identification number of the DBE.

NOT FOR BID

A. Nondiscrimination Statement

The contractor, subrecipient or subcontractor will never exclude any person from participation in, deny any person the benefits of, or otherwise discriminate against anyone in connection with the award and performance of any contract covered by 49 CFR 26 on the basis of race, color, sex, or national origin. In administering the Local Agency components of the DBE Program Plan, the contractor, subrecipient or subcontractor will not, directly, or through contractual or other arrangements, use criteria or methods of administration that have the effect of defeating or substantially impairing accomplishment of the objectives of the DBE Program Plan with respect to individuals of a particular race, color, sex, or national origin.

B. Contract Assurance

Under 49 CFR 26.13(b): The contractor, subrecipient or subcontractor shall not discriminate on the basis of race, color, national origin, or sex in the performance of this contract. The contractor shall carry out applicable requirements of 49 CFR 26 in the award and administration of federal-aid contracts. Failure by the contractor to carry out these requirements is a material breach of this contract, which may result in the termination of this contract or such other remedy as the recipient deems appropriate, which may include, but is not limited to:

- (1) Withholding monthly progress payments;
- (2) Assessing sanctions;
- (3) Liquidated damages; and/or
- (4) Disqualifying the contractor from future bidding as non-responsible.

C. Prompt Progress Payment

The prime contractor or subcontractor shall pay to any subcontractor, not later than seven days after receipt of each progress payment, unless otherwise agreed to in writing, the respective amounts allowed the contractor on account of the work performed by the subcontractors, to the extent of each subcontractor's interest therein. In the event that there is a good faith dispute over all or any portion of the amount due on a progress payment from the prime contractor or subcontractor to a subcontractor, the prime contractor or subcontractor may withhold no more than 150 percent of the disputed amount. Any violation of this requirement shall constitute a cause for disciplinary action and shall subject the licensee to a penalty, payable to the subcontractor, of 2 percent of the amount due per month for every month that payment is not made.

In any action for the collection of funds wrongfully withheld, the prevailing party shall be entitled to his or her attorney's fees and costs. The sanctions authorized under this requirement shall be separate from, and in addition to, all other remedies, either civil, administrative, or criminal. This clause applies to both DBE and non-DBE subcontractors.

D. Prompt Payment of Withheld Funds to Subcontractors

The Agency may hold retainage from the prime contractor and shall make prompt and regular incremental acceptances of portions, as determined by the Agency, of the contract work, and pay retainage to the prime contractor based on these acceptances. The Agency shall designate one of the methods below in the contract to ensure prompt and full payment of any retainage kept by the prime contractor or subcontractor to a subcontractor. The Agency shall include either Method 1, Method 2, or Method 3 below and delete the other two.

Method 1: No retainage will be held by the Agency from progress payments due to the prime contractor. Prime contractors and subcontractors are prohibited from holding retainage from subcontractors. Any delay or postponement of payment may take place only for good cause and with the Agency's prior written approval. Any violation of these provisions shall subject the violating contractor or subcontractor to the penalties, sanctions, and other remedies specified in Section 7108.5 of the California Business and Professions Code and Section 10262 of the California Public Contract Code. This requirement shall not be construed to limit or impair any contractual, administrative or judicial remedies, otherwise available to the contractor or subcontractor in the event of a dispute involving late payment or nonpayment by the contractor, deficient subcontractor performance and/or noncompliance by a subcontractor. This clause applies to both DBE and non-DBE subcontractors.

Method 2: No retainage will be held by the Agency from progress payments due to the prime contractor. Any retainage kept by the prime contractor or by a subcontractor must be paid in full to the earning subcontractor within seven (7) days after the subcontractor's work is satisfactorily completed. Any delay or postponement of payment may take place only for good cause and with the Agency's prior written approval.

Any violation of these provisions shall subject the violating contractor or subcontractor to the penalties, sanctions, and remedies specified in Section 7108.5 of the California Business and Professions Code and Section 10262 of the California Public Contract Code. This requirement shall not be construed to limit or impair any contractual, administrative or judicial remedies, otherwise available to the contractor or subcontractor in the event of a dispute involving late payment or nonpayment by the contractor, deficient subcontractor performance and/or noncompliance by a subcontractor. This clause applies to both DBE and non-DBE subcontractors.

Method 3: The Agency shall hold retainage from the prime contractor and shall make prompt and regular incremental acceptances of portions, as determined by the Agency of the contract work and pay retainage to the prime contractor based on these acceptances. The prime contractor or subcontractor shall return all monies withheld in retention from all subcontractors within seven (7) days after receiving payment for work satisfactorily completed and accepted including incremental acceptances of portions of the contract work by the Agency. Any delay or postponement of payment may take place only for good cause and with the Agency's prior written approval. Any violation of these provisions shall subject the violating prime contractor or subcontractor to the penalties, sanctions, and other remedies specified in Section 7108.5 of the California Business and Professions Code and Section 10262 of the California Public Contract Code. This requirement shall not be construed to limit or impair any contractual, administrative or judicial remedies otherwise available to the contractor or subcontractor in the event of a dispute involving late payment or nonpayment by the contractor; deficient subcontractor performance and/or noncompliance by a subcontractor. This clause applies to both DBE and non-DBE subcontractors.

Any violation of these provisions of Prompt Progress Payment and Prompt Payment of Withheld Funds to Subcontractors shall subject the violating prime contractor or subcontractor to the penalties, sanctions and other remedies specified therein. These requirements shall not be construed to limit or impair any contractual, administrative, or judicial remedies otherwise available to the prime contractor or subcontractor in the event of a dispute involving late payment or nonpayment by the prime contractor, deficient subcontract performance, or noncompliance by a subcontractor.

E. Termination and Substitution of DBE Subcontractors

The prime contractor shall utilize the specific DBEs listed to perform the work and supply the materials for which each is listed unless the contractor obtains the Agency's written consent. The prime contractor shall not terminate or substitute a listed DBE for convenience and perform the work with their own forces or obtain materials from other sources without prior written authorization from the Agency. Unless the Agency's prior written consent is provided, the contractor shall not be entitled to any payment for work or material unless it is performed or supplied by the listed DBE on the Exhibit 15-G Construction Contract DBE Commitment form, included in the Bid.

The Agency authorizes a request to use other forces or sources of materials if the bidder shows any of the following justifications:

1. Listed DBE fails or refuses to execute a written contract based on plans and specifications for the project.
2. The Local Agency stipulated that a bond is a condition of executing the subcontract and the listed DBE fails to meet the Local Agency's bond requirements.
3. Work requires a contractor's license and listed DBE does not have a valid license under Contractors License Law.
4. Listed DBE fails or refuses to perform the work or furnish the listed materials (failing or refusing to perform is not an allowable reason to remove a DBE if the failure or refusal is a result of bad faith or discrimination).
5. Listed DBE's work is unsatisfactory and not in compliance with the contract.
6. Listed DBE is ineligible to work on the project because of suspension or debarment.
7. Listed DBE becomes bankrupt or insolvent.
8. Listed DBE voluntarily withdraws with written notice from the Contract
9. Listed DBE is ineligible to receive credit for the type of work required.
10. Listed DBE owner dies or becomes disabled resulting in the inability to perform the work on the Contract.

11. The Agency determines other documented good cause.

The prime contractor shall notify the original DBE of the intent to use other forces or material sources and provide the reasons, allowing the DBE 5 days to respond to the notice and advise the prime contractor and the Agency of the reasons why the use of other forces or sources of materials should not occur.

The prime contractor's request to use other forces or material sources must include:

1. One or more of the reasons listed in the preceding paragraph.
2. Notices from the prime contractor to the DBE regarding the request.
3. Notices from the DBEs to the prime contractor regarding the request.

If the Agency authorizes the termination or substitution of a listed DBE, the prime contractor must make good faith efforts to find another DBE to substitute for the original DBE. The substitute DBE must (1) perform at least the same amount of work as the original DBE under the contract to the extent needed to meet or exceed the DBE goal, and (2) be certified as a DBE with the most specific available NAICS codes and work codes applicable to the type of work the DBE will perform on the contract at the time of the prime contractor's request for substitution. The prime contractor shall submit their documentation of good faith efforts within 7 days of their request for authorization of the substitution. The Agency may authorize a 7-day extension of this submittal period at the prime contractor's request. More guidance can be found at 49 CFR 26 app A regarding evaluation of good faith efforts to meet the DBE goal.

F. Commitment and Utilization

Note: In the Agency's reports of DBE participation to Caltrans, the Agency must display both commitments and attainments.

The Agency's DBE program must include a monitoring and enforcement mechanism to ensure that DBE commitments reconcile to DBE utilization.

The bidder shall submit the Exhibit 15-G Construction Contract DBE Commitment, included in the Bid book. This exhibit is the bidder's DBE commitment form. If the form is not submitted with the bid, the bidder must remove the form from the Bid book before submitting their bid.

The bidder shall complete and sign Exhibit 15-G Construction Contract DBE Commitment included in the contract documents regardless of whether DBE participation is reported. The bidder shall provide written confirmation from each DBE that the DBE is participating in the Contract. A copy of a DBE's quote serves as written confirmation. If a DBE is participating as a joint venture partner, the bidder shall submit a copy of the joint venture agreement.

If the DBE Commitment form, Exhibit 15-G, is not submitted with the bid, it must be completed and submitted by all bidders to the Agency within five (5) days of bid opening. If the bidder does not submit the DBE Commitment form within the specified time, the Agency will find the bidder's bid nonresponsive.

The prime contractor shall use each DBE subcontractor as listed on Exhibit 12-B Bidder's List of Subcontractors (DBE and Non-DBE), and Exhibit 15-G Construction Contract DBE Commitment form unless they receive authorization for a substitution.

The Agency shall request the prime contractor to:

1. Notify the Resident Engineer or Inspector of any changes to its anticipated DBE participation
2. Provide this notification before starting the affected work
3. Maintain records including:
 - Name and business address of each 1st-tier subcontractor
 - Name and business address of each DBE subcontractor, DBE vendor, and DBE trucking company, regardless of tier
 - Date of payment and total amount paid to each business (see Exhibit 9-F Monthly Disadvantaged Business Enterprise Payment)

If the prime contractor is a DBE contractor, they shall include the date of work performed by their own forces and the corresponding value of the work.

Before the 15th of each month, the prime contractor shall submit a Monthly DBE Trucking Verification (LAPM Exhibit 16-Z1) form.

If a DBE is decertified before completing its work, the DBE must notify the prime contractor in writing of the decertification date. If a business becomes a certified DBE before completing its work, the business must notify the prime contractor in writing of the certification date. The prime contractor shall submit the notifications. Upon work completion, the prime contractor shall complete a Disadvantaged Business Enterprises (DBE) Certification Status Change, Exhibit 17-O, form and submit the form within 30 days of contract acceptance.

Upon work completion, the prime contractor shall complete Exhibit 17-F Final Report – Utilization of Disadvantaged Business Enterprises (DBE), First-Tier Subcontractors and submit it within 90 days of contract acceptance. The Agency will withhold \$10,000 until the form is submitted. The Agency releases the withhold upon submission of the completed form.

G. DBE RUNNING TALLY OF ATTAINMENTS

After submitting an invoice for reimbursement that includes a payment to a DBE, but no later than the 10th of the following month, the prime contractor/consultant shall complete and email the Exhibit 9- F: Disadvantaged Business Enterprise Running Tally of Payments to business.support.unit@dot.ca.gov with a copy to the Agency.

2. **BID OPENING** The Agency publicly opens and reads bids at the time and place shown on the Notice to Contractors.
3. **BID RIGGING** The U.S. Department of Transportation (DOT) provides a toll-free hotline to report bid rigging activities. Use the hotline to report bid rigging, bidder collusion, and other fraudulent activities. The hotline number is (800) 424-9071. The service is available 24 hours 7 days a week and is confidential and anonymous. The hotline is part of the DOT's effort to identify and investigate highway construction contract fraud and abuse and is operated under the direction of the DOT Inspector General.
4. **CONTRACT AWARD** If the Agency awards the contract, the award is made to the lowest responsible and responsive bidder.
5. **CONTRACTOR LICENSE** The Contractor must be properly licensed as a contractor from contract award through Contract acceptance (Public Contract Code §10164).

6. CHANGED CONDITIONS

A. Differing Site Conditions

1. During the progress of the work, if subsurface or latent physical conditions are encountered at the site differing materially from those indicated in the contract or if unknown physical conditions of an unusual nature, differing materially from those ordinarily encountered and generally recognized as inherent in the work provided for in the contract, are encountered at the site, the party discovering such conditions shall promptly notify the other party in writing of the specific differing conditions before the site is disturbed and before the affected work is performed.
2. Upon written notification, the engineer will investigate the conditions, and if it is determined that the conditions materially differ and cause an increase or decrease in the cost or time required for the performance of any work under the contract, an adjustment, excluding anticipated profits, will be made and the contract modified in writing accordingly. The engineer will notify the contractor of the determination whether or not an adjustment of the contract is warranted.
3. No contract adjustment which results in a benefit to the contractor will be allowed unless the contractor has provided the required written notice.
4. No contract adjustment will be allowed under this clause for any effects caused on unchanged work. *[This provision may be omitted by the Local Agency, at their option.]*

B. Suspensions of Work Ordered by the Engineer

1. If the performance of all or any portion of the work is suspended or delayed by the engineer in writing for an unreasonable period of time (not originally anticipated, customary, or inherent to the construction industry) and the contractor believes that additional compensation and/or contract time is due as a result of such suspension or delay, the contractor shall submit to the engineer in writing a request for adjustment within 7 calendar days of receipt of the notice to resume work. The request

shall set forth the reasons and support for such adjustment.

2. Upon receipt, the engineer will evaluate the contractor's request. If the engineer agrees that the cost and/or time required for the performance of the contract has increased as a result of such suspension and the suspension was caused by conditions beyond the control of and not the fault of the contractor, its suppliers, or subcontractors at any approved tier, and not caused by weather, the engineer will make an adjustment (excluding profit) and modify the contract in writing accordingly. The contractor will be notified of the engineer's determination whether or not an adjustment of the contract is warranted.
3. No contract adjustment will be allowed unless the contractor has submitted the request for adjustment within the time prescribed.
4. No contract adjustment will be allowed under this clause to the extent that performance would have been suspended or delayed by any other cause, or for which an adjustment is provided or excluded under any other term or condition of this contract.

C. Significant Changes in the Character of Work

1. The engineer reserves the right to make, in writing, at any time during the work, such changes in quantities and such alterations in the work as are necessary to satisfactorily complete the project. Such changes in quantities and alterations shall not invalidate the contract nor release the surety, and the contractor agrees to perform the work as altered.
2. If the alterations or changes in quantities significantly change the character of the work under the contract, whether such alterations or changes are in themselves significant changes to the character of the work or by affecting other work cause such other work to become significantly different in character, an adjustment, excluding anticipated profit, will be made to the contract. The basis for the adjustment shall be agreed upon prior to the performance of the work. If a basis cannot be agreed upon, then an adjustment will be made either for or against the contractor in such amount as the engineer may determine to be fair and equitable.
3. If the alterations or changes in quantities do not significantly change the character of the work to be performed under the contract, the altered work will be paid for as provided elsewhere in the contract.
4. The term "significant change" shall be construed to apply only to the following circumstances:
 - When the character of the work as altered differs materially in kind or nature from that involved or included in the original proposed construction; or
 - When a major item of work, as defined elsewhere in the contract, is increased in excess of 125 percent or decreased below 75 percent of the original contract quantity. Any allowance for an increase in quantity shall apply only to that portion in excess of 125 percent of original contract item quantity, or in case of a decrease below 75 percent, to the actual amount of work performed.

7. BEGINNING OF WORK, TIME OF COMPLETION AND LIQUIDATED DAMAGES

The Contractor shall begin work within 15 calendar days after the issuance of the Notice to Proceed.

This work shall be diligently prosecuted to completion before the expiration of _____ WORKING DAYS beginning on the fifteenth calendar day after the date shown on the Notice to Proceed.

The Contractor shall pay to the City/County _____ the sum of \$ _____ per day, for each and every calendar days' delay in finishing the work in excess of the number of working days prescribed above.

8. BUY AMERICA

Furnish steel and iron materials to be incorporated into the work with certificates of compliance and certified mill test reports. Mill test reports must indicate where the steel and iron were melted and manufactured. Steel and iron materials must be produced in the U.S. except:

1. Foreign pig iron and processed, pelletized, and reduced iron ore may be used in the domestic production of the steel and iron materials [60 Fed Reg 15478 (03/24/1995)];
2. If the total combined cost of the materials does not exceed the greater of 0.1 percent of the total bid or

\$2,500, materials produced outside the U.S. may be used.

Production includes:

1. Processing steel and iron materials, including smelting or other processes that alter the physical form or shape (such as rolling, extruding, machining, bending, grinding, and drilling) or chemical composition;
2. Coating application, including epoxy coating, galvanizing, and painting, that protects or enhances the value of steel and iron materials.

9. QUALITY ASSURANCE

The Local Agency uses a Quality Assurance Program (QAP) to ensure a material is produced to comply with the Contract. The Local Agency may examine the records and reports of tests the prime contractor performs if they are available at the job site. Schedule work to allow time for QAP.

10. PROMPT PAYMENT FROM THE AGENCY TO THE CONTRACTORS

The Agency shall make any progress payment within 30 days after receipt of an undisputed and properly submitted payment request from a contractor on a construction contract. If the Agency fails to pay promptly, the Agency shall pay interest to the contractor, which accrues at the rate of 10 percent per annum on the principal amount of a money judgment remaining unsatisfied. Upon receipt of a payment request, the Agency shall act in accordance with both of the following:

1. Each payment request shall be reviewed by the Agency as soon as practicable after receipt for the purpose of determining that it is a proper payment request.
2. Any payment request determined not to be a proper payment request suitable for payment shall be returned to the contractor as soon as practicable, but not later than seven (7) days, after receipt. A request returned pursuant to this paragraph shall be accompanied by a document setting forth in writing the reasons why the payment request is not proper.

11. FORM FHWA-1273 REQUIRED CONTRACT PROVISIONS FEDERAL-AID CONTRACTS

[The following 12 pages must be physically inserted into the contract without modification. Excluding ATTACHMENT A - EMPLOYMENT AND MATERIALS PREFERENCE FOR APPALACHIAN DEVELOPMENT HIGHWAY SYSTEM OR APPALACHIAN LOCAL ACCESS ROAD CONTRACTS]

REQUIRED CONTRACT PROVISIONS FEDERAL-AID CONSTRUCTION CONTRACTS

- I. General
- II. Nondiscrimination
- III. Non-segregated Facilities
- IV. Davis-Bacon and Related Act Provisions
- V. Contract Work Hours and Safety Standards Act Provisions
- VI. Subletting or Assigning the Contract
- VII. Safety: Accident Prevention
- VIII. False Statements Concerning Highway Projects
- IX. Implementation of Clean Air Act and Federal Water Pollution Control Act
- X. Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion
- XI. Certification Regarding Use of Contract Funds for Lobbying
- XII. Use of United States-Flag Vessels:

ATTACHMENTS

A. Employment and Materials Preference for Appalachian Development Highway System or Appalachian Local Access Road Contracts (included in Appalachian contracts only)

I. GENERAL

1. Form FHWA-1273 must be physically incorporated in each construction contract funded under title 23, United States Code, as required in 23 CFR 633.102(b) (excluding emergency contracts solely intended for debris removal). The contractor (or subcontractor) must insert this form in each subcontract and further require its inclusion in all lower tier subcontracts (excluding purchase orders, rental agreements and other agreements for supplies or services). 23 CFR 633.102(e).

The applicable requirements of Form FHWA-1273 are incorporated by reference for work done under any purchase order, rental agreement or agreement for other services. The prime contractor shall be responsible for compliance by any subcontractor, lower-tier subcontractor or service provider. 23 CFR 633.102(e).

Form FHWA-1273 must be included in all Federal-aid design-build contracts, in all subcontracts and in lower tier subcontracts (excluding subcontracts for design services, purchase orders, rental agreements and other agreements for supplies or services) in accordance with 23 CFR 633.102. The design-builder shall be responsible for compliance by any subcontractor, lower-tier subcontractor or service provider.

Contracting agencies may reference Form FHWA-1273 in solicitation-for-bids or request-for-proposals documents, however, the Form FHWA-1273 must be physically incorporated (not referenced) in all contracts, subcontracts and lower-tier subcontracts (excluding purchase orders, rental agreements and other agreements for supplies or services related to a construction contract). 23 CFR 633.102(b).

2. Subject to the applicability criteria noted in the following sections, these contract provisions shall apply to all work

performed on the contract by the contractor's own organization and with the assistance of workers under the contractor's immediate superintendence and to all work performed on the contract by piecework, station work, or by subcontract. 23 CFR 633.102(d).

3. A breach of any of the stipulations contained in these Required Contract Provisions may be sufficient grounds for withholding of progress payments, withholding of final payment, termination of the contract, suspension / debarment or any other action determined to be appropriate by the contracting agency and FHWA.

4. Selection of Labor: During the performance of this contract, the contractor shall not use convict labor for any purpose within the limits of a construction project on a Federal-aid highway unless it is labor performed by convicts who are on parole, supervised release, or probation. 23 U.S.C. 114(b). The term Federal-aid highway does not include roadways functionally classified as local roads or rural minor collectors. 23 U.S.C. 101(a).

II. NONDISCRIMINATION (23 CFR 230.107(a); 23 CFR Part 230, Subpart A, Appendix A; EO 11246)

The provisions of this section related to 23 CFR Part 230, Subpart A, Appendix A are applicable to all Federal-aid construction contracts and to all related construction subcontracts of \$10,000 or more. The provisions of 23 CFR Part 230 are not applicable to material supply, engineering, or architectural service contracts.

In addition, the contractor and all subcontractors must comply with the following policies: Executive Order 11246, 41 CFR Part 60, 29 CFR Parts 1625-1627, 23 U.S.C. 140, Section 504 of the Rehabilitation Act of 1973, as amended (29 U.S.C. 794), Title VI of the Civil Rights Act of 1964, as amended (42 U.S.C. 2000d et seq.), and related regulations including 49 CFR Parts 21, 26, and 27; and 23 CFR Parts 200, 230, and 633.

The contractor and all subcontractors must comply with: the requirements of the Equal Opportunity Clause in 41 CFR 60-1.4(b) and, for all construction contracts exceeding \$10,000, the Standard Federal Equal Employment Opportunity Construction Contract Specifications in 41 CFR 60-4.3.

Note: The U.S. Department of Labor has exclusive authority to determine compliance with Executive Order 11246 and the policies of the Secretary of Labor including 41 CFR Part 60, and 29 CFR Parts 1625-1627. The contracting agency and the FHWA have the authority and the responsibility to ensure compliance with 23 U.S.C. 140, Section 504 of the Rehabilitation Act of 1973, as amended (29 U.S.C. 794), and Title VI of the Civil Rights Act of 1964, as amended (42 U.S.C. 2000d et seq.), and related regulations including 49 CFR Parts 21, 26, and 27; and 23 CFR Parts 200, 230, and 633.

The following provision is adopted from 23 CFR Part 230, Subpart A, Appendix A, with appropriate revisions to conform to the U.S. Department of Labor (US DOL) and FHWA requirements.

1. Equal Employment Opportunity: Equal Employment Opportunity (EEO) requirements not to discriminate and to take affirmative action to assure equal opportunity as set forth under laws, executive orders, rules, regulations (see 28 CFR Part 35, 29 CFR Part 1630, 29 CFR Parts 1625-1627, 41 CFR Part 60 and 49 CFR Part 27) and orders of the Secretary of Labor as modified by the provisions prescribed herein, and imposed pursuant to 23 U.S.C. 140, shall constitute the EEO and specific affirmative action standards for the contractor's project activities under this contract. The provisions of the Americans with Disabilities Act of 1990 (42 U.S.C. 12101 et seq.) set forth under 28 CFR Part 35 and 29 CFR Part 1630 are incorporated by reference in this contract. In the execution of this contract, the contractor agrees to comply with the following minimum specific requirement activities of EEO:

a. The contractor will work with the contracting agency and the Federal Government to ensure that it has made every good faith effort to provide equal opportunity with respect to all of its terms and conditions of employment and in their review of activities under the contract. 23 CFR 230.409 (g)(4) & (5).

b. The contractor will accept as its operating policy the following statement:

"It is the policy of this Company to assure that applicants are employed, and that employees are treated during employment, without regard to their race, religion, sex, sexual orientation, gender identity, color, national origin, age or disability. Such action shall include: employment, upgrading, demotion, or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship, pre-apprenticeship, and/or on-the-job training."

2. EEO Officer: The contractor will designate and make known to the contracting officers an EEO Officer who will have the responsibility for and must be capable of effectively administering and promoting an active EEO program and who must be assigned adequate authority and responsibility to do so.

3. Dissemination of Policy: All members of the contractor's staff who are authorized to hire, supervise, promote, and discharge employees, or who recommend such action or are substantially involved in such action, will be made fully cognizant of and will implement the contractor's EEO policy and contractual responsibilities to provide EEO in each grade and classification of employment. To ensure that the above agreement will be met, the following actions will be taken as a minimum:

a. Periodic meetings of supervisory and personnel office employees will be conducted before the start of work and then not less often than once every six months, at which time the contractor's EEO policy and its implementation will be reviewed and explained. The meetings will be conducted by the EEO Officer or other knowledgeable company official.

b. All new supervisory or personnel office employees will be given a thorough indoctrination by the EEO Officer, covering all major aspects of the contractor's EEO obligations within thirty days following their reporting for duty with the contractor.

c. All personnel who are engaged in direct recruitment for the project will be instructed by the EEO Officer in the contractor's procedures for locating and hiring minorities and women.

d. Notices and posters setting forth the contractor's EEO policy will be placed in areas readily accessible to employees, applicants for employment and potential employees.

e. The contractor's EEO policy and the procedures to implement such policy will be brought to the attention of employees by means of meetings, employee handbooks, or other appropriate means.

4. Recruitment: When advertising for employees, the contractor will include in all advertisements for employees the notation: "An Equal Opportunity Employer." All such advertisements will be placed in publications having a large circulation among minorities and women in the area from which the project work force would normally be derived.

a. The contractor will, unless precluded by a valid bargaining agreement, conduct systematic and direct recruitment through public and private employee referral sources likely to yield qualified minorities and women. To meet this requirement, the contractor will identify sources of potential minority group employees and establish with such identified sources procedures whereby minority and women applicants may be referred to the contractor for employment consideration.

b. In the event the contractor has a valid bargaining agreement providing for exclusive hiring hall referrals, the contractor is expected to observe the provisions of that agreement to the extent that the system meets the contractor's compliance with EEO contract provisions. Where implementation of such an agreement has the effect of discriminating against minorities or women, or obligates the contractor to do the same, such implementation violates Federal nondiscrimination provisions.

c. The contractor will encourage its present employees to refer minorities and women as applicants for employment. Information and procedures with regard to referring such applicants will be discussed with employees.

5. Personnel Actions: Wages, working conditions, and employee benefits shall be established and administered, and personnel actions of every type, including hiring, upgrading, promotion, transfer, demotion, layoff, and termination, shall be taken without regard to race, color, religion, sex, sexual orientation, gender identity, national origin, age or disability. The following procedures shall be followed:

a. The contractor will conduct periodic inspections of project sites to ensure that working conditions and employee facilities do not indicate discriminatory treatment of project site personnel.

b. The contractor will periodically evaluate the spread of wages paid within each classification to determine any evidence of discriminatory wage practices.

c. The contractor will periodically review selected personnel actions in depth to determine whether there is evidence of discrimination. Where evidence is found, the contractor will promptly take corrective action. If the review indicates that the discrimination may extend beyond the actions reviewed, such corrective action shall include all affected persons.

d. The contractor will promptly investigate all complaints of alleged discrimination made to the contractor in connection with its obligations under this contract, will attempt to resolve such complaints, and will take appropriate corrective action

within a reasonable time. If the investigation indicates that the discrimination may affect persons other than the complainant, such corrective action shall include such other persons. Upon completion of each investigation, the contractor will inform every complainant of all of their avenues of appeal.

6. Training and Promotion:

a. The contractor will assist in locating, qualifying, and increasing the skills of minorities and women who are applicants for employment or current employees. Such efforts should be aimed at developing full journey level status employees in the type of trade or job classification involved.

b. Consistent with the contractor's work force requirements and as permissible under Federal and State regulations, the contractor shall make full use of training programs (i.e., apprenticeship and on-the-job training programs for the geographical area of contract performance). In the event a special provision for training is provided under this contract, this subparagraph will be superseded as indicated in the special provision. The contracting agency may reserve training positions for persons who receive welfare assistance in accordance with 23 U.S.C. 140(a).

c. The contractor will advise employees and applicants for employment of available training programs and entrance requirements for each.

d. The contractor will periodically review the training and promotion potential of employees who are minorities and women and will encourage eligible employees to apply for such training and promotion.

7. Unions: If the contractor relies in whole or in part upon unions as a source of employees, the contractor will use good faith efforts to obtain the cooperation of such unions to increase opportunities for minorities and women. 23 CFR 230.409. Actions by the contractor, either directly or through a contractor's association acting as agent, will include the procedures set forth below:

a. The contractor will use good faith efforts to develop, in cooperation with the unions, joint training programs aimed toward qualifying more minorities and women for membership in the unions and increasing the skills of minorities and women so that they may qualify for higher paying employment.

b. The contractor will use good faith efforts to incorporate an EEO clause into each union agreement to the end that such union will be contractually bound to refer applicants without regard to their race, color, religion, sex, sexual orientation, gender identity, national origin, age, or disability.

c. The contractor is to obtain information as to the referral practices and policies of the labor union except that to the extent such information is within the exclusive possession of the labor union and such labor union refuses to furnish such information to the contractor, the contractor shall so certify to the contracting agency and shall set forth what efforts have been made to obtain such information.

d. In the event the union is unable to provide the contractor with a reasonable flow of referrals within the time limit set forth in the collective bargaining agreement, the contractor will, through independent recruitment efforts, fill the employment vacancies without regard to race, color, religion, sex, sexual orientation, gender identity, national origin, age, or disability; making full efforts to obtain qualified and/or qualifiable minorities and women. The failure of a union to provide

sufficient referrals (even though it is obligated to provide exclusive referrals under the terms of a collective bargaining agreement) does not relieve the contractor from the requirements of this paragraph. In the event the union referral practice prevents the contractor from meeting the obligations pursuant to Executive Order 11246, as amended, and these special provisions, such contractor shall immediately notify the contracting agency.

8. Reasonable Accommodation for Applicants / Employees with Disabilities: The contractor must be familiar with the requirements for and comply with the Americans with Disabilities Act and all rules and regulations established thereunder. Employers must provide reasonable accommodation in all employment activities unless to do so would cause an undue hardship.

9. Selection of Subcontractors, Procurement of Materials and Leasing of Equipment: The contractor shall not discriminate on the grounds of race, color, religion, sex, sexual orientation, gender identity, national origin, age, or disability in the selection and retention of subcontractors, including procurement of materials and leases of equipment. The contractor shall take all necessary and reasonable steps to ensure nondiscrimination in the administration of this contract.

a. The contractor shall notify all potential subcontractors, suppliers, and lessors of their EEO obligations under this contract.

b. The contractor will use good faith efforts to ensure subcontractor compliance with their EEO obligations.

10. Assurances Required:

a. The requirements of 49 CFR Part 26 and the State DOT's FHWA-approved Disadvantaged Business Enterprise (DBE) program are incorporated by reference.

b. The contractor, subrecipient or subcontractor shall not discriminate on the basis of race, color, national origin, or sex in the performance of this contract. The contractor shall carry out applicable requirements of 49 CFR part 26 in the award and administration of DOT-assisted contracts. Failure by the contractor to carry out these requirements is a material breach of this contract, which may result in the termination of this contract or such other remedy as the recipient deems appropriate, which may include, but is not limited to:

- (1) Withholding monthly progress payments;
- (2) Assessing sanctions;
- (3) Liquidated damages; and/or
- (4) Disqualifying the contractor from future bidding as non-responsible.

c. The Title VI and nondiscrimination provisions of U.S. DOT Order 1050.2A at Appendixes A and E are incorporated by reference. 49 CFR Part 21.

11. Records and Reports: The contractor shall keep such records as necessary to document compliance with the EEO requirements. Such records shall be retained for a period of three years following the date of the final payment to the contractor for all contract work and shall be available at reasonable times and places for inspection by authorized representatives of the contracting agency and the FHWA.

a. The records kept by the contractor shall document the following:

(1) The number and work hours of minority and non-minority group members and women employed in each work classification on the project;

(2) The progress and efforts being made in cooperation with unions, when applicable, to increase employment opportunities for minorities and women; and

(3) The progress and efforts being made in locating, hiring, training, qualifying, and upgrading minorities and women.

b. The contractors and subcontractors will submit an annual report to the contracting agency each July for the duration of the project indicating the number of minority, women, and non-minority group employees currently engaged in each work classification required by the contract work. This information is to be reported on [Form FHWA-1391](#). The staffing data should represent the project work force on board in all or any part of the last payroll period preceding the end of July. If on-the-job training is being required by special provision, the contractor will be required to collect and report training data. The employment data should reflect the work force on board during all or any part of the last payroll period preceding the end of July.

III. NONSEGREGATED FACILITIES

This provision is applicable to all Federal-aid construction contracts and to all related construction subcontracts of more than \$10,000. 41 CFR 60-1.5.

As prescribed by 41 CFR 60-1.8, the contractor must ensure that facilities provided for employees are provided in such a manner that segregation on the basis of race, color, religion, sex, sexual orientation, gender identity, or national origin cannot result. The contractor may neither require such segregated use by written or oral policies nor tolerate such use by employee custom. The contractor's obligation extends further to ensure that its employees are not assigned to perform their services at any location under the contractor's control where the facilities are segregated. The term "facilities" includes waiting rooms, work areas, restaurants and other eating areas, time clocks, restrooms, washrooms, locker rooms and other storage or dressing areas, parking lots, drinking fountains, recreation or entertainment areas, transportation, and housing provided for employees. The contractor shall provide separate or single-user restrooms and necessary dressing or sleeping areas to assure privacy between sexes.

IV. DAVIS-BACON AND RELATED ACT PROVISIONS

This section is applicable to all Federal-aid construction projects exceeding \$2,000 and to all related subcontracts and lower-tier subcontracts (regardless of subcontract size), in accordance with 29 CFR 5.5. The requirements apply to all projects located within the right-of-way of a roadway that is functionally classified as Federal-aid highway. 23 U.S.C. 113. This excludes roadways functionally classified as local roads or rural minor collectors, which are exempt. 23 U.S.C. 101.

Where applicable law requires that projects be treated as a project on a Federal-aid highway, the provisions of this subpart will apply regardless of the location of the project. Examples include: Surface Transportation Block Grant Program projects funded under 23 U.S.C. 133 [excluding recreational trails projects], the Nationally Significant Freight and Highway

Projects funded under 23 U.S.C. 117, and National Highway Freight Program projects funded under 23 U.S.C. 167.

The following provisions are from the U.S. Department of Labor regulations in 29 CFR 5.5 "Contract provisions and related matters" with minor revisions to conform to the FHWA- 1273 format and FHWA program requirements.

1. Minimum wages (29 CFR 5.5)

a. All laborers and mechanics employed or working upon the site of the work, will be paid unconditionally and not less often than once a week, and without subsequent deduction or rebate on any account (except such payroll deductions as are permitted by regulations issued by the Secretary of Labor under the Copeland Act (29 CFR part 3)), the full amount of wages and bona fide fringe benefits (or cash equivalents thereof) due at time of payment computed at rates not less than those contained in the wage determination of the Secretary of Labor which is attached hereto and made a part hereof, regardless of any contractual relationship which may be alleged to exist between the contractor and such laborers and mechanics.

Contributions made or costs reasonably anticipated for bona fide fringe benefits under section 1(b)(2) of the Davis-Bacon Act on behalf of laborers or mechanics are considered wages paid to such laborers or mechanics, subject to the provisions of paragraph 1.d. of this section; also, regular contributions made or costs incurred for more than a weekly period (but not less often than quarterly) under plans, funds, or programs which cover the particular weekly period, are deemed to be constructively made or incurred during such weekly period. Such laborers and mechanics shall be paid the appropriate wage rate and fringe benefits on the wage determination for the classification of work actually performed, without regard to skill, except as provided in 29 CFR 5.5(a)(4). Laborers or mechanics performing work in more than one classification may be compensated at the rate specified for each classification for the time actually worked therein: Provided, That the employer's payroll records accurately set forth the time spent in each classification in which work is performed. The wage determination (including any additional classification and wage rates conformed under paragraph 1.b. of this section) and the Davis-Bacon poster (WH-1321) shall be posted at all times by the contractor and its subcontractors at the site of the work in a prominent and accessible place where it can be easily seen by the workers.

b.(1) The contracting officer shall require that any class of laborers or mechanics, including helpers, which is not listed in the wage determination and which is to be employed under the contract shall be classified in conformance with the wage determination. The contracting officer shall approve an additional classification and wage rate and fringe benefits therefore only when the following criteria have been met:

(i) The work to be performed by the classification requested is not performed by a classification in the wage determination; and

(ii) The classification is utilized in the area by the construction industry; and

(iii) The proposed wage rate, including any bona fide fringe benefits, bears a reasonable relationship to the wage rates contained in the wage determination.

(2) If the contractor and the laborers and mechanics to be employed in the classification (if known), or their representatives, and the contracting officer agree on the classification and wage rate (including the amount designated for fringe benefits where appropriate), a report of the action taken shall be sent by the contracting officer to the Administrator of the Wage and Hour Division, U.S. Department of Labor, Washington, DC 20210. The Administrator, or an authorized representative, will approve, modify, or disapprove every additional classification action within 30 days of receipt and so advise the contracting officer or will notify the contracting officer within the 30-day period that additional time is necessary.

(3) In the event the contractor, the laborers or mechanics to be employed in the classification or their representatives, and the contracting officer do not agree on the proposed classification and wage rate (including the amount designated for fringe benefits, where appropriate), the contracting officer shall refer the questions, including the views of all interested parties and the recommendation of the contracting officer, to the Administrator for determination. The Administrator, or an authorized representative, will issue a determination within 30 days of receipt and so advise the contracting officer or will notify the contracting officer within the 30-day period that additional time is necessary.

(4) The wage rate (including fringe benefits where appropriate) determined pursuant to paragraphs 1.b.(2) or 1.b.(3) of this section, shall be paid to all workers performing work in the classification under this contract from the first day on which work is performed in the classification.

c. Whenever the minimum wage rate prescribed in the contract for a class of laborers or mechanics includes a fringe benefit which is not expressed as an hourly rate, the contractor shall either pay the benefit as stated in the wage determination or shall pay another bona fide fringe benefit or an hourly cash equivalent thereof.

d. If the contractor does not make payments to a trustee or other third person, the contractor may consider as part of the wages of any laborer or mechanic the amount of any costs reasonably anticipated in providing bona fide fringe benefits under a plan or program. Provided, That the Secretary of Labor has found, upon the written request of the contractor, that the applicable standards of the Davis-Bacon Act have been met. The Secretary of Labor may require the contractor to set aside in a separate account assets for the meeting of obligations under the plan or program.

2. Withholding (29 CFR 5.5)

The contracting agency shall upon its own action or upon written request of an authorized representative of the Department of Labor, withhold or cause to be withheld from the contractor under this contract, or any other Federal contract with the same prime contractor, or any other federally- assisted contract subject to Davis-Bacon prevailing wage requirements, which is held by the same prime contractor, so much of the accrued payments or advances as may be considered necessary to pay laborers and mechanics,

including apprentices, trainees, and helpers, employed by the contractor or any subcontractor the full amount of wages required by the contract. In the event of failure to pay any laborer or mechanic, including any apprentice, trainee, or helper, employed or working on the site of the work, all or part of the wages required by the contract, the contracting agency may, after written notice to the contractor, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds until such violations have ceased.

3. Payrolls and basic records (29 CFR 5.5)

a. Payrolls and basic records relating thereto shall be maintained by the contractor during the course of the work and preserved for a period of three years thereafter for all laborers and mechanics working at the site of the work. Such records shall contain the name, address, and social security number of each such worker, his or her correct classification, hourly rates of wages paid (including rates of contributions or costs anticipated for bona fide fringe benefits or cash equivalents thereof of the types described in section 1(b)(2)(B) of the Davis-Bacon Act), daily and weekly number of hours worked, deductions made and actual wages paid. Whenever the Secretary of Labor has found under 29 CFR 5.5(a)(1)(iv) that the wages of any laborer or mechanic include the amount of any costs reasonably anticipated in providing benefits under a plan or program described in section 1(b)(2)(B) of the Davis-Bacon Act, the contractor shall maintain records which show that the commitment to provide such benefits is enforceable, that the plan or program is financially responsible, and that the plan or program has been communicated in writing to the laborers or mechanics affected, and records which show the costs anticipated or the actual cost incurred in providing such benefits. Contractors employing apprentices or trainees under approved programs shall maintain written evidence of the registration of apprenticeship programs and certification of trainee programs, the registration of the apprentices and trainees, and the ratios and wage rates prescribed in the applicable programs.

b.(1) The contractor shall submit weekly for each week in which any contract work is performed a copy of all payrolls to the contracting agency. The payrolls submitted shall set out accurately and completely all of the information required to be maintained under 29 CFR 5.5(a)(3)(i), except that full social security numbers and home addresses shall not be included on weekly transmittals. Instead the payrolls shall only need to include an individually identifying number for each employee (e.g., the last four digits of the employee's social security number). The required weekly payroll information may be submitted in any form desired. Optional Form WH-347 is available for this purpose from the Wage and Hour Division Web site. The prime contractor is responsible for the submission of copies of payrolls by all subcontractors. Contractors and subcontractors shall maintain the full social security number and current address of each covered worker, and shall provide them upon request to the contracting agency for transmission to the State DOT, the FHWA or the Wage and Hour Division of the Department of Labor for purposes of an investigation or audit of compliance with prevailing wage requirements. It is not a violation of this section for a prime contractor to require a subcontractor to provide addresses and social security numbers to the prime contractor for its own records, without weekly submission to the contracting agency.

(2) Each payroll submitted shall be accompanied by a "Statement of Compliance," signed by the contractor or

subcontractor or his or her agent who pays or supervises the payment of the persons employed under the contract and shall certify the following:

- (i) That the payroll for the payroll period contains the information required to be provided under 29 CFR 5.5(a)(3)(ii), the appropriate information is being maintained under 29 CFR 5.5(a)(3)(i), and that such information is correct and complete;
- (ii) That each laborer or mechanic (including each helper, apprentice, and trainee) employed on the contract during the payroll period has been paid the full weekly wages earned, without rebate, either directly or indirectly, and that no deductions have been made either directly or indirectly from the full wages earned, other than permissible deductions as set forth in 29 CFR part 3;
- (iii) That each laborer or mechanic has been paid not less than the applicable wage rates and fringe benefits or cash equivalents for the classification of work performed, as specified in the applicable wage determination incorporated into the contract.

(3) The weekly submission of a properly executed certification set forth on the reverse side of Optional Form WH-347 shall satisfy the requirement for submission of the "Statement of Compliance" required by paragraph 3.b.(2) of this section.

(4) The falsification of any of the above certifications may subject the contractor or subcontractor to civil or criminal prosecution under 18 U.S.C. 1001 and 31 U.S.C. 231.

c. The contractor or subcontractor shall make the records required under paragraph 3.a. of this section available for inspection, copying, or transcription by authorized representatives of the contracting agency, the State DOT, the FHWA, or the Department of Labor, and shall permit such representatives to interview employees during working hours on the job. If the contractor or subcontractor fails to submit the required records or to make them available, the FHWA may, after written notice to the contractor, the contracting agency or the State DOT, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds. Furthermore, failure to submit the required records upon request or to make such records available may be grounds for debarment action pursuant to 29 CFR 5.12.

4. Apprentices and trainees (29 CFR 5.5)

a. Apprentices (programs of the USDOL).

Apprentices will be permitted to work at less than the predetermined rate for the work they performed when they are employed pursuant to and individually registered in a bona fide apprenticeship program registered with the U.S. Department of Labor, Employment and Training Administration, Office of Apprenticeship Training, Employer and Labor Services, or with a State Apprenticeship Agency recognized by the Office, or if a person is employed in his or her first 90 days of probationary employment as an apprentice in such an apprenticeship program, who is not individually registered in the program, but who has been certified by the Office of Apprenticeship Training, Employer and Labor Services or a State

Apprenticeship Agency (where appropriate) to be eligible for probationary employment as an apprentice.

The allowable ratio of apprentices to journeymen on the job site in any craft classification shall not be greater than the ratio permitted to the contractor as to the entire work force under the registered program. Any worker listed on a payroll at an apprentice wage rate, who is not registered or otherwise employed as stated above, shall be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed. In addition, any apprentice performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed. Where a contractor is performing construction on a project in a locality other than that in which its program is registered, the ratios and wage rates (expressed in percentages of the journeyman's hourly rate) specified in the contractor's or subcontractor's registered program shall be observed.

Every apprentice must be paid at not less than the rate specified in the registered program for the apprentice's level of progress, expressed as a percentage of the journeymen hourly rate specified in the applicable wage determination. Apprentices shall be paid fringe benefits in accordance with the provisions of the apprenticeship program. If the apprenticeship program does not specify fringe benefits, apprentices must be paid the full amount of fringe benefits listed on the wage determination for the applicable classification. If the Administrator determines that a different practice prevails for the applicable apprentice classification, fringes shall be paid in accordance with that determination.

In the event the Office of Apprenticeship Training, Employer and Labor Services, or a State Apprenticeship Agency recognized by the Office, withdraws approval of an apprenticeship program, the contractor will no longer be permitted to utilize apprentices at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

b. Trainees (programs of the USDOL).

Except as provided in 29 CFR 5.16, trainees will not be permitted to work at less than the predetermined rate for the work performed unless they are employed pursuant to and individually registered in a program which has received prior approval, evidenced by formal certification by the U.S. Department of Labor, Employment and Training Administration.

The ratio of trainees to journeymen on the job site shall not be greater than permitted under the plan approved by the Employment and Training Administration.

Every trainee must be paid at not less than the rate specified in the approved program for the trainee's level of progress, expressed as a percentage of the journeyman hourly rate specified in the applicable wage determination. Trainees shall be paid fringe benefits in accordance with the provisions of the trainee program. If the trainee program does not mention fringe benefits, trainees shall be paid the full amount of fringe benefits listed on the wage determination unless the Administrator of the Wage and Hour Division determines that there is an apprenticeship program associated with the

corresponding journeyman wage rate on the wage determination which provides for less than full fringe benefits for apprentices. Any employee listed on the payroll at a trainee rate who is not registered and participating in a training plan approved by the Employment and Training Administration shall be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed. In addition, any trainee performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed.

In the event the Employment and Training Administration withdraws approval of a training program, the contractor will no longer be permitted to utilize trainees at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

c. Equal employment opportunity. The utilization of apprentices, trainees and journeymen under this part shall be in conformity with the equal employment opportunity requirements of Executive Order 11246, as amended, and 29 CFR part 30.

d. Apprentices and Trainees (programs of the U.S. DOT).

Apprentices and trainees working under apprenticeship and skill training programs which have been certified by the Secretary of Transportation as promoting EEO in connection with Federal-aid highway construction programs are not subject to the requirements of paragraph 4 of this Section IV. 23 CFR 230.111(e)(2). The straight time hourly wage rates for apprentices and trainees under such programs will be established by the particular programs. The ratio of apprentices and trainees to journeymen shall not be greater than permitted by the terms of the particular program.

5. Compliance with Copeland Act requirements. The contractor shall comply with the requirements of 29 CFR part 3, which are incorporated by reference in this contract as provided in 29 CFR 5.5.

6. Subcontracts. The contractor or subcontractor shall insert Form FHWA-1273 in any subcontracts and also require the subcontractors to include Form FHWA-1273 in any lower tier subcontracts. The prime contractor shall be responsible for the compliance by any subcontractor or lower tier subcontractor with all the contract clauses in 29 CFR 5.5.

7. Contract termination: debarment. A breach of the contract clauses in 29 CFR 5.5 may be grounds for termination of the contract, and for debarment as a contractor and a subcontractor as provided in 29 CFR 5.12.

8. Compliance with Davis-Bacon and Related Act requirements. All rulings and interpretations of the Davis-Bacon and Related Acts contained in 29 CFR parts 1, 3, and 5 are herein incorporated by reference in this contract as provided in 29 CFR 5.5.

9. Disputes concerning labor standards. As provided in 29 CFR 5.5, disputes arising out of the labor standards provisions of this contract shall not be subject to the general disputes clause of this contract. Such disputes shall be resolved in accordance with the procedures of the Department of Labor

set forth in 29 CFR parts 5, 6, and 7. Disputes within the meaning of this clause include disputes between the contractor (or any of its subcontractors) and the contracting agency, the U.S. Department of Labor, or the employees or their representatives.

10. Certification of eligibility (29 CFR 5.5)

a. By entering into this contract, the contractor certifies that neither it (nor he or she) nor any person or firm who has an interest in the contractor's firm is a person or firm ineligible to be awarded Government contracts by virtue of section 3(a) of the Davis-Bacon Act or 29 CFR 5.12(a)(1).

b. No part of this contract shall be subcontracted to any person or firm ineligible for award of a Government contract by virtue of section 3(a) of the Davis-Bacon Act or 29 CFR 5.12(a)(1).

c. The penalty for making false statements is prescribed in the U.S. Criminal Code, 18 U.S.C. 1001.

V. CONTRACT WORK HOURS AND SAFETY STANDARDS ACT

Pursuant to 29 CFR 5.5(b), the following clauses apply to any Federal-aid construction contract in an amount in excess of \$100,000 and subject to the overtime provisions of the Contract Work Hours and Safety Standards Act. These clauses shall be inserted in addition to the clauses required by 29 CFR 5.5(a) or 29 CFR 4.6. As used in this paragraph, the terms laborers and mechanics include watchmen and guards.

1. Overtime requirements. No contractor or subcontractor contracting for any part of the contract work which may require or involve the employment of laborers or mechanics shall require or permit any such laborer or mechanic in any workweek in which he or she is employed on such work to work in excess of forty hours in such workweek unless such laborer or mechanic receives compensation at a rate not less than one and one-half times the basic rate of pay for all hours worked in excess of forty hours in such workweek. 29 CFR 5.5.

2. Violation; liability for unpaid wages; liquidated damages. In the event of any violation of the clause set forth in paragraph 1 of this section, the contractor and any subcontractor responsible therefor shall be liable for the unpaid wages. In addition, such contractor and subcontractor shall be liable to the United States (in the case of work done under contract for the District of Columbia or a territory, to such District or to such territory), for liquidated damages. Such liquidated damages shall be computed with respect to each individual laborer or mechanic, including watchmen and guards, employed in violation of the clause set forth in paragraph 1 of this section, in the sum currently provided in 29 CFR 5.5(b)(2)* for each calendar day on which such individual was required or permitted to work in excess of the standard workweek of forty hours without payment of the overtime wages required by the clause set forth in paragraph 1 of this section. 29 CFR 5.5.

* \$27 as of January 23, 2019 (See 84 FR 213-01, 218) as may be adjusted annually by the Department of Labor; pursuant to the Federal Civil Penalties Inflation Adjustment Act of 1990).

3. Withholding for unpaid wages and liquidated damages.

The FHWA or the contracting agency shall upon its own action or upon written request of an authorized representative of the Department of Labor withhold or cause to be withheld, from any moneys payable on account of work performed by the contractor or subcontractor under any such contract or any other Federal contract with the same prime contractor, or any other federally-assisted contract subject to the Contract Work Hours and Safety Standards Act, which is held by the same prime contractor, such sums as may be determined to be necessary to satisfy any liabilities of such contractor or subcontractor for unpaid wages and liquidated damages as provided in the clause set forth in paragraph 2 of this section. 29 CFR 5.5.

4. Subcontracts. The contractor or subcontractor shall insert in any subcontracts the clauses set forth in paragraphs 1 through 4 of this section and also a clause requiring the subcontractors to include these clauses in any lower tier subcontracts. The prime contractor shall be responsible for compliance by any subcontractor or lower tier subcontractor with the clauses set forth in paragraphs 1 through 4 of this section. 29 CFR 5.5.

VI. SUBLETTING OR ASSIGNING THE CONTRACT

This provision is applicable to all Federal-aid construction contracts on the National Highway System pursuant to 23 CFR 635.116.

1. The contractor shall perform with its own organization contract work amounting to not less than 30 percent (or a greater percentage if specified elsewhere in the contract) of the total original contract price, excluding any specialty items designated by the contracting agency. Specialty items may be performed by subcontract and the amount of any such specialty items performed may be deducted from the total original contract price before computing the amount of work required to be performed by the contractor's own organization (23 CFR 635.116).

a. The term "perform work with its own organization" in paragraph 1 of Section VI refers to workers employed or leased by the prime contractor, and equipment owned or rented by the prime contractor, with or without operators. Such term does not include employees or equipment of a subcontractor or lower tier subcontractor, agents of the prime contractor, or any other assignees. The term may include payments for the costs of hiring leased employees from an employee leasing firm meeting all relevant Federal and State regulatory requirements. Leased employees may only be included in this term if the prime contractor meets all of the following conditions: (based on longstanding interpretation)

- (1) the prime contractor maintains control over the supervision of the day-to-day activities of the leased employees;
- (2) the prime contractor remains responsible for the quality of the work of the leased employees;
- (3) the prime contractor retains all power to accept or exclude individual employees from work on the project; and
- (4) the prime contractor remains ultimately responsible for the payment of predetermined minimum wages, the submission of payrolls, statements of compliance and all other Federal regulatory requirements.

b. "Specialty Items" shall be construed to be limited to work that requires highly specialized knowledge, abilities, or

equipment not ordinarily available in the type of contracting organizations qualified and expected to bid or propose on the contract as a whole and in general are to be limited to minor components of the overall contract. 23 CFR 635.102.

2. Pursuant to 23 CFR 635.116(a), the contract amount upon which the requirements set forth in paragraph (1) of Section VI is computed includes the cost of material and manufactured products which are to be purchased or produced by the contractor under the contract provisions.

3. Pursuant to 23 CFR 635.116(c), the contractor shall furnish (a) a competent superintendent or supervisor who is employed by the firm, has full authority to direct performance of the work in accordance with the contract requirements, and is in charge of all construction operations (regardless of who performs the work) and (b) such other of its own organizational resources (supervision, management, and engineering services) as the contracting officer determines is necessary to assure the performance of the contract.

4. No portion of the contract shall be sublet, assigned or otherwise disposed of except with the written consent of the contracting officer, or authorized representative, and such consent when given shall not be construed to relieve the contractor of any responsibility for the fulfillment of the contract. Written consent will be given only after the contracting agency has assured that each subcontract is evidenced in writing and that it contains all pertinent provisions and requirements of the prime contract. (based on long-standing interpretation of 23 CFR 635.116).

5. The 30-percent self-performance requirement of paragraph (1) is not applicable to design-build contracts; however, contracting agencies may establish their own self-performance requirements. 23 CFR 635.116(d).

VII. SAFETY: ACCIDENT PREVENTION

This provision is applicable to all Federal-aid construction contracts and to all related subcontracts.

1. In the performance of this contract the contractor shall comply with all applicable Federal, State, and local laws governing safety, health, and sanitation (23 CFR Part 635). The contractor shall provide all safeguards, safety devices and protective equipment and take any other needed actions as it determines, or as the contracting officer may determine, to be reasonably necessary to protect the life and health of employees on the job and the safety of the public and to protect property in connection with the performance of the work covered by the contract. 23 CFR 635.108.

2. It is a condition of this contract, and shall be made a condition of each subcontract, which the contractor enters into pursuant to this contract, that the contractor and any subcontractor shall not permit any employee, in performance of the contract, to work in surroundings or under conditions which are unsanitary, hazardous or dangerous to his/her health or safety, as determined under construction safety and health standards (29 CFR Part 1926) promulgated by the Secretary of Labor, in accordance with Section 107 of the Contract Work Hours and Safety Standards Act (40 U.S.C. 3704). 29 CFR 1926.10.

3. Pursuant to 29 CFR 1926.3, it is a condition of this contract that the Secretary of Labor or authorized representative thereof, shall have right of entry to any site of contract performance to inspect or investigate the matter of compliance

with the construction safety and health standards and to carry out the duties of the Secretary under Section 107 of the Contract Work Hours and Safety Standards Act (40 U.S.C. 3704).

VIII. FALSE STATEMENTS CONCERNING HIGHWAY PROJECTS

This provision is applicable to all Federal-aid construction contracts and to all related subcontracts.

In order to assure high quality and durable construction in conformity with approved plans and specifications and a high degree of reliability on statements and representations made by engineers, contractors, suppliers, and workers on Federal-aid highway projects, it is essential that all persons concerned with the project perform their functions as carefully, thoroughly, and honestly as possible. Willful falsification, distortion, or misrepresentation with respect to any facts related to the project is a violation of Federal law. To prevent any misunderstanding regarding the seriousness of these and similar acts, Form FHWA-1022 shall be posted on each Federal-aid highway project (23 CFR Part 635) in one or more places where it is readily available to all persons concerned with the project:

18 U.S.C. 1020 reads as follows:

"Whoever, being an officer, agent, or employee of the United States, or of any State or Territory, or whoever, whether a person, association, firm, or corporation, knowingly makes any false statement, false representation, or false report as to the character, quality, quantity, or cost of the material used or to be used, or the quantity or quality of the work performed or to be performed, or the cost thereof in connection with the submission of plans, maps, specifications, contracts, or costs of construction on any highway or related project submitted for approval to the Secretary of Transportation; or

Whoever knowingly makes any false statement, false representation, false report or false claim with respect to the character, quality, quantity, or cost of any work performed or to be performed, or materials furnished or to be furnished, in connection with the construction of any highway or related project approved by the Secretary of Transportation; or

Whoever knowingly makes any false statement or false representation as to material fact in any statement, certificate, or report submitted pursuant to provisions of the Federal-aid Roads Act approved July 11, 1916, (39 Stat. 355), as amended and supplemented;

Shall be fined under this title or imprisoned not more than 5 years or both."

IX. IMPLEMENTATION OF CLEAN AIR ACT AND FEDERAL WATER POLLUTION CONTROL ACT (42 U.S.C. 7606; 2 CFR 200.88; EO 11738)

This provision is applicable to all Federal-aid construction contracts in excess of \$150,000 and to all related subcontracts. 48 CFR 2.101; 2 CFR 200.326.

By submission of this bid/proposal or the execution of this contract or subcontract, as appropriate, the bidder, proposer, Federal-aid construction contractor, subcontractor, supplier, or vendor agrees to comply with all applicable standards, orders

or regulations issued pursuant to the Clean Air Act (42 U.S.C. 7401-7671q) and the Federal Water Pollution Control Act, as amended (33 U.S.C. 1251-1387). Violations must be reported to the Federal Highway Administration and the Regional Office of the Environmental Protection Agency. 2 CFR Part 200, Appendix II.

The contractor agrees to include or cause to be included the requirements of this Section in every subcontract, and further agrees to take such action as the contracting agency may direct as a means of enforcing such requirements. 2 CFR 200.326.

X. CERTIFICATION REGARDING DEBARMENT, SUSPENSION, INELIGIBILITY AND VOLUNTARY EXCLUSION

This provision is applicable to all Federal-aid construction contracts, design-build contracts, subcontracts, lower-tier subcontracts, purchase orders, lease agreements, consultant contracts or any other covered transaction requiring FHWA approval or that is estimated to cost \$25,000 or more – as defined in 2 CFR Parts 180 and 1200. 2 CFR 180.220 and 1200.220.

1. Instructions for Certification – First Tier Participants:

a. By signing and submitting this proposal, the prospective first tier participant is providing the certification set out below.

b. The inability of a person to provide the certification set out below will not necessarily result in denial of participation in this covered transaction. The prospective first tier participant shall submit an explanation of why it cannot provide the certification set out below. The certification or explanation will be considered in connection with the department or agency's determination whether to enter into this transaction. However, failure of the prospective first tier participant to furnish a certification or an explanation shall disqualify such a person from participation in this transaction. 2 CFR 180.320.

c. The certification in this clause is a material representation of fact upon which reliance was placed when the contracting agency determined to enter into this transaction. If it is later determined that the prospective participant knowingly rendered an erroneous certification, in addition to other remedies available to the Federal Government, the contracting agency may terminate this transaction for cause of default. 2 CFR 180.325.

d. The prospective first tier participant shall provide immediate written notice to the contracting agency to whom this proposal is submitted if any time the prospective first tier participant learns that its certification was erroneous when submitted or has become erroneous by reason of changed circumstances. 2 CFR 180.345 and 180.350.

e. The terms "covered transaction," "debarred," "suspended," "ineligible," "participant," "person," "principal," and "voluntarily excluded," as used in this clause, are defined in 2 CFR Parts 180, Subpart I, 180.900-180.1020, and 1200. "First Tier Covered Transactions" refers to any covered transaction between a recipient or subrecipient of Federal funds and a participant (such as the prime or general contract). "Lower Tier Covered Transactions" refers to any covered transaction under a First Tier Covered Transaction (such as subcontracts). "First Tier Participant" refers to the participant

who has entered into a covered transaction with a recipient or subrecipient of Federal funds (such as the prime or general contractor). "Lower Tier Participant" refers any participant who has entered into a covered transaction with a First Tier Participant or other Lower Tier Participants (such as subcontractors and suppliers).

f. The prospective first tier participant agrees by submitting this proposal that, should the proposed covered transaction be entered into, it shall not knowingly enter into any lower tier covered transaction with a person who is debarred, suspended, declared ineligible, or voluntarily excluded from participation in this covered transaction, unless authorized by the department or agency entering into this transaction. 2 CFR 180.330.

g. The prospective first tier participant further agrees by submitting this proposal that it will include the clause titled "Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion-Lower Tier Covered Transactions," provided by the department or contracting agency, entering into this covered transaction, without modification, in all lower tier covered transactions and in all solicitations for lower tier covered transactions exceeding the \$25,000 threshold. 2 CFR 180.220 and 180.300.

h. A participant in a covered transaction may rely upon a certification of a prospective participant in a lower tier covered transaction that is not debarred, suspended, ineligible, or voluntarily excluded from the covered transaction, unless it knows that the certification is erroneous. 2 CFR 180.300; 180.320, and 180.325. A participant is responsible for ensuring that its principals are not suspended, debarred, or otherwise ineligible to participate in covered transactions. 2 CFR 180.335. To verify the eligibility of its principals, as well as the eligibility of any lower tier prospective participants, each participant may, but is not required to, check the System for Award Management website (<https://www.sam.gov/>). 2 CFR 180.300, 180.320, and 180.325.

i. Nothing contained in the foregoing shall be construed to require the establishment of a system of records in order to render in good faith the certification required by this clause. The knowledge and information of the prospective participant is not required to exceed that which is normally possessed by a prudent person in the ordinary course of business dealings.

j. Except for transactions authorized under paragraph (f) of these instructions, if a participant in a covered transaction knowingly enters into a lower tier covered transaction with a person who is suspended, debarred, ineligible, or voluntarily excluded from participation in this transaction, in addition to other remedies available to the Federal Government, the department or agency may terminate this transaction for cause or default. 2 CFR 180.325.

* * * * *

2. Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion – First Tier Participants:

a. The prospective first tier participant certifies to the best of its knowledge and belief, that it and its principals:

(1) Are not presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participating in covered transactions by any Federal department or agency, 2 CFR 180.335;.

(2) Have not within a three-year period preceding this proposal been convicted of or had a civil judgment rendered against them for commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a public (Federal, State, or local) transaction or contract under a public transaction; violation of Federal or State antitrust statutes or commission of embezzlement, theft, forgery, bribery, falsification or destruction of records, making false statements, or receiving stolen property, 2 CFR 180.800;

(3) Are not presently indicted for or otherwise criminally or civilly charged by a governmental entity (Federal, State or local) with commission of any of the offenses enumerated in paragraph (a)(2) of this certification, 2 CFR 180.700 and 180.800; and

(4) Have not within a three-year period preceding this application/proposal had one or more public transactions (Federal, State or local) terminated for cause or default. 2 CFR 180.335(d).

(5) Are not a corporation that has been convicted of a felony violation under any Federal law within the two-year period preceding this proposal (USDOT Order 4200.6 implementing appropriations act requirements); and

(6) Are not a corporation with any unpaid Federal tax liability that has been assessed, for which all judicial and administrative remedies have been exhausted, or have lapsed, and that is not being paid in a timely manner pursuant to an agreement with the authority responsible for collecting the tax liability (USDOT Order 4200.6 implementing appropriations act requirements).

b. Where the prospective participant is unable to certify to any of the statements in this certification, such prospective participant should attach an explanation to this proposal. 2 CFR 180.335 and 180.340.

3. Instructions for Certification - Lower Tier Participants:

(Applicable to all subcontracts, purchase orders, and other lower tier transactions requiring prior FHWA approval or estimated to cost \$25,000 or more - 2 CFR Parts 180 and 1200). 2 CFR 180.220 and 1200.220.

a. By signing and submitting this proposal, the prospective lower tier participant is providing the certification set out below.

b. The certification in this clause is a material representation of fact upon which reliance was placed when this transaction was entered into. If it is later determined that the prospective lower tier participant knowingly rendered an erroneous certification, in addition to other remedies available to the Federal Government, the department, or agency with which this transaction originated may pursue available remedies, including suspension and/or debarment.

c. The prospective lower tier participant shall provide immediate written notice to the person to which this proposal is submitted if at any time the prospective lower tier participant learns that its certification was erroneous by reason of changed circumstances. 2 CFR 180.365.

d. The terms "covered transaction," "debarred," "suspended," "ineligible," "participant," "person," "principal," and "voluntarily excluded," as used in this clause, are defined in 2 CFR Parts 180, Subpart I, 180.900 – 180.1020, and 1200. You may contact the person to which this proposal is

submitted for assistance in obtaining a copy of those regulations. "First Tier Covered Transactions" refers to any covered transaction between a recipient or subrecipient of Federal funds and a participant (such as the prime or general contractor). "Lower Tier Covered Transactions" refers to any covered transaction under a First Tier Covered Transaction (such as subcontracts). "First Tier Participant" refers to the participant who has entered into a covered transaction with a recipient or subrecipient of Federal funds (such as the prime or general contractor). "Lower Tier Participant" refers any participant who has entered into a covered transaction with a First Tier Participant or other Lower Tier Participants (such as subcontractors and suppliers).

e. The prospective lower tier participant agrees by submitting this proposal that, should the proposed covered transaction be entered into, it shall not knowingly enter into any lower tier covered transaction with a person who is debarred, suspended, declared ineligible, or voluntarily excluded from participation in this covered transaction, unless authorized by the department or agency with which this transaction originated. 2 CFR 1200.220 and 1200.332.

f. The prospective lower tier participant further agrees by submitting this proposal that it will include this clause titled "Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion-Lower Tier Covered Transaction," without modification, in all lower tier covered transactions and in all solicitations for lower tier covered transactions exceeding the \$25,000 threshold. 2 CFR 180.220 and 1200.220.

g. A participant in a covered transaction may rely upon a certification of a prospective participant in a lower tier covered transaction that is not debarred, suspended, ineligible, or voluntarily excluded from the covered transaction, unless it knows that the certification is erroneous. A participant is responsible for ensuring that its principals are not suspended, debarred, or otherwise ineligible to participate in covered transactions. To verify the eligibility of its principals, as well as the eligibility of any lower tier prospective participants, each participant may, but is not required to, check the System for Award Management website (<https://www.sam.gov/>), which is compiled by the General Services Administration. 2 CFR 180.300, 180.320, 180.330, and 180.335.

h. Nothing contained in the foregoing shall be construed to require establishment of a system of records in order to render in good faith the certification required by this clause. The knowledge and information of participant is not required to exceed that which is normally possessed by a prudent person in the ordinary course of business dealings.

i. Except for transactions authorized under paragraph e of these instructions, if a participant in a covered transaction knowingly enters into a lower tier covered transaction with a person who is suspended, debarred, ineligible, or voluntarily excluded from participation in this transaction, in addition to other remedies available to the Federal Government, the department or agency with which this transaction originated may pursue available remedies, including suspension and/or debarment. 2 CFR 180.325.

Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion--Lower Tier Participants:

1. The prospective lower tier participant certifies, by submission of this proposal, that neither it nor its principals:

(a) is presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participating in covered transactions by any Federal department or agency, 2 CFR 180.355;

(b) is a corporation that has been convicted of a felony violation under any Federal law within the two-year period preceding this proposal (USDOT Order 4200.6 implementing appropriations act requirements); and

(c) is a corporation with any unpaid Federal tax liability that has been assessed, for which all judicial and administrative remedies have been exhausted, or have lapsed, and that is not being paid in a timely manner pursuant to an agreement with the authority responsible for collecting the tax liability. (USDOT Order 4200.6 implementing appropriations act requirements)

2. Where the prospective lower tier participant is unable to certify to any of the statements in this certification, such prospective participant should attach an explanation to this proposal.

XI. CERTIFICATION REGARDING USE OF CONTRACT FUNDS FOR LOBBYING

This provision is applicable to all Federal-aid construction contracts and to all related subcontracts which exceed \$100,000. 49 CFR Part 20, App. A.

1. The prospective participant certifies, by signing and submitting this bid or proposal, to the best of his or her knowledge and belief, that:

a. No Federal appropriated funds have been paid or will be paid, by or on behalf of the undersigned, to any person for influencing or attempting to influence an officer or employee of any Federal agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the awarding of any Federal contract, the making of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any Federal contract, grant, loan, or cooperative agreement.

b. If any funds other than Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any Federal agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this Federal contract, grant, loan, or cooperative agreement, the undersigned shall complete and submit Standard Form-LLL, "Disclosure Form to Report Lobbying," in accordance with its instructions.

2. This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by 31 U.S.C. 1352. Any person who fails to file the required certification shall be subject to a civil penalty of not less than \$10,000 and not more than \$100,000 for each such failure.

3. The prospective participant also agrees by submitting its bid or proposal that the participant shall require that the language of this certification be included in all lower tier

subcontracts, which exceed \$100,000 and that all such recipients shall certify and disclose accordingly.

XII. USE OF UNITED STATES-FLAG VESSELS:

This provision is applicable to all Federal-aid construction contracts, design-build contracts, subcontracts, lower-tier subcontracts, purchase orders, lease agreements, or any other covered transaction. 46 CFR Part 381.

This requirement applies to material or equipment that is acquired for a specific Federal-aid highway project. 46 CFR 381.7. It is not applicable to goods or materials that come into inventories independent of an FHWA funded-contract.

When oceanic shipments (or shipments across the Great Lakes) are necessary for materials or equipment acquired for a specific Federal-aid construction project, the bidder, proposer, contractor, subcontractor, or vendor agrees:

1. To utilize privately owned United States-flag commercial vessels to ship at least 50 percent of the gross tonnage (computed separately for dry bulk carriers, dry cargo liners, and tankers) involved, whenever shipping any equipment, material, or commodities pursuant to this contract, to the extent such vessels are available at fair and reasonable rates for United States-flag commercial vessels. 46 CFR 381.7.
2. To furnish within 20 days following the date of loading for shipments originating within the United States or within 30 working days following the date of loading for shipments originating outside the United States, a legible copy of a rated, 'on-board' commercial ocean bill-of-lading in English for each shipment of cargo described in paragraph (b)(1) of this section to both the Contracting Officer (through the prime contractor in the case of subcontractor bills-of-lading) and to the Office of Cargo and Commercial Sealift (MAR-620), Maritime Administration, Washington, DC 20590. (MARAD requires copies of the ocean carrier's (master) bills of lading, certified onboard, dated, with rates and charges. These bills of lading may contain business sensitive information and therefore may be submitted directly to MARAD by the Ocean Transportation Intermediary on behalf of the contractor). 46 CFR 381.7.

ATTACHMENT A - EMPLOYMENT AND MATERIALS PREFERENCE FOR APPALACHIAN DEVELOPMENT HIGHWAY SYSTEM OR APPALACHIAN LOCAL ACCESS

ROAD CONTRACTS (23 CFR 633, Subpart B, Appendix B) This provision is applicable to all Federal-aid projects funded under the Appalachian Regional Development Act of 1965.

1. During the performance of this contract, the contractor undertaking to do work which is, or reasonably may be, done as on-site work, shall give preference to qualified persons who regularly reside in the labor area as designated by the DOL wherein the contract work is situated, or the subregion, or the Appalachian counties of the State wherein the contract work is situated, except:

a. To the extent that qualified persons regularly residing in the area are not available.

b. For the reasonable needs of the contractor to employ supervisory or specially experienced personnel necessary to assure an efficient execution of the contract work.

c. For the obligation of the contractor to offer employment to present or former employees as the result of a lawful collective bargaining contract, provided that the number of nonresident persons employed under this subparagraph (1c) shall not exceed 20 percent of the total number of employees employed by the contractor on the contract work, except as provided in subparagraph (4) below.

2. The contractor shall place a job order with the State Employment Service indicating (a) the classifications of the laborers, mechanics and other employees required to perform the contract work, (b) the number of employees required in each classification, (c) the date on which the participant estimates such employees will be required, and (d) any other pertinent information required by the State Employment Service to complete the job order form. The job order may be placed with the State Employment Service in writing or by telephone. If during the course of the contract work, the information submitted by the contractor in the original job order is substantially modified, the participant shall promptly notify the State Employment Service.

3. The contractor shall give full consideration to all qualified job applicants referred to him by the State Employment Service. The contractor is not required to grant employment to any job applicants who, in his opinion, are not qualified to perform the classification of work required.

4. If, within one week following the placing of a job order by the contractor with the State Employment Service, the State Employment Service is unable to refer any qualified job applicants to the contractor, or less than the number requested, the State Employment Service will forward a certificate to the contractor indicating the unavailability of applicants. Such certificate shall be made a part of the contractor's permanent project records. Upon receipt of this certificate, the contractor may employ persons who do not normally reside in the labor area to fill positions covered by the certificate, notwithstanding the provisions of subparagraph (1c) above.

5. The provisions of 23 CFR 633.207(e) allow the contracting agency to provide a contractual preference for the use of mineral resource materials native to the Appalachian region.

6. The contractor shall include the provisions of Sections 1 through 4 of this Attachment A in every subcontract for work which is, or reasonably may be, done as on-site work.

2. FEMALE AND MINORITY GOALS

To comply with Section II, "Nondiscrimination," of "Required Contract Provisions Federal-Aid Construction Contracts," the following are for female and minority utilization goals for Federal-aid construction contracts and subcontracts that exceed \$10,000:

The nationwide goal for female utilization is 6.9 percent.

The goals for minority utilization [45 Fed Reg 65984 (10/3/1980)] are as follows:

MINORITY UTILIZATION GOALS

Economic Area		Goal (Percent)
174	Redding CA: Non-SMSA (Standard Metropolitan Statistical Area) Counties: CA Lassen; CA Modoc; CA Plumas; CA Shasta; CA Siskiyou; CA Tehama	6.8
175	Eureka, CA Non-SMSA Counties: CA Del Norte; CA Humboldt; CA Trinity	6.6
176	San Francisco-Oakland-San Jose, CA: SMSA Counties: 7120 Salinas-Seaside-Monterey, CA CA Monterey	28.9
	7360 San Francisco-Oakland CA Alameda; CA Contra Costa; CA Marin; CA San Francisco; CA San Mateo	25.6
	7400 San Jose, CA CA Santa Clara, CA	19.6
	7485 Santa Cruz, CA CA Santa Cruz	14.9
	7500 Santa Rosa CA Sonoma	9.1
	8720 Vallejo-Fairfield-Napa, CA CA Napa; CA Solano	17.1
	Non-SMSA Counties: CA Lake; CA Mendocino; CA San Benito	23.2
177	Sacramento, CA: SMSA Counties: 6920 Sacramento, CA CA Placer; CA Sacramento; CA Yolo	16.1
	Non-SMSA Counties CA Butte; CA Colusa; CA El Dorado; CA Glenn; CA Nevada; CA Sierra; CA Sutter; CA Yuba	14.3
178	Stockton-Modesto, CA: SMSA Counties: 5170 Modesto, CA CA Stanislaus	12.3
	8120 Stockton, CA CA San Joaquin	24.3
	Non-SMSA Counties CA Alpine; CA Amador; CA Calaveras; CA Mariposa; CA Merced; CA Tuolumne	19.8
179	Fresno-Bakersfield, CA SMSA Counties: 0680 Bakersfield, CA CA Kern	19.1
	2840 Fresno, CA	26.1

	CA Fresno Non-SMSA Counties: CA Kings; CA Madera; CA Tulare	23.6
180	Los Angeles, CA: SMSA Counties: 0360 Anaheim-Santa Ana-Garden Grove, CA CA Orange 4480 Los Angeles-Long Beach, CA CA Los Angeles 6000 Oxnard-Simi Valley-Ventura, CA CA Ventura 6780 Riverside-San Bernardino-Ontario, CA CA Riverside; CA San Bernardino 7480 Santa Barbara-Santa Maria-Lompoc, CA CA Santa Barbara Non-SMSA Counties CA Inyo; CA Mono; CA San Luis Obispo	11.9 28.3 21.5 19.0 19.7 24.6
181	San Diego, CA: SMSA Counties 7320 San Diego, CA CA San Diego Non-SMSA Counties CA Imperial	16.9 18.2

For the last full week July during which work is performed under the contract, you and each non material-supplier subcontractor with a subcontract of \$10,000 or more must complete Form FHWA PR-1391 (Appendix C to 23 CFR 230). Submit the forms by August 15.

3. TITLE VI ASSURANCES

During the performance of this Agreement, the contractor, for itself, its assignees and successors in interest (hereinafter collectively referred to as CONTRACTOR) agrees as follows:

1. **Compliance with Regulations:** CONTRACTOR shall comply with the regulations relative to nondiscrimination in federally assisted programs of the Department of Transportation, Title 49, Code of Federal Regulations, Part 21, as they may be amended from time to time, (hereinafter referred to as the REGULATIONS), which are herein incorporated by reference and made a part of this agreement.
2. **Nondiscrimination:** CONTRACTOR, with regard to the work performed by it during the AGREEMENT, shall not discriminate on the grounds of race, color, sex, national origin, religion, age, or disability in the selection and retention of sub-applicants, including procurements of materials and leases of equipment. CONTRACTOR shall not participate either directly or indirectly in the discrimination prohibited by Section 21.5 of the Regulations, including employment practices when the agreement covers a program set forth in Appendix B of the Regulations.
3. **Solicitations for Sub-agreements, Including Procurements of Materials and Equipment:** In all solicitations either by competitive bidding or negotiation made by CONTRACTOR for work to be performed under a Sub- agreement, including procurements of materials or leases of equipment, each potential sub-applicant or supplier shall be notified by CONTRACTOR of the CONTRACTOR'S obligations under this Agreement and the Regulations relative to nondiscrimination on the grounds of race, color, or national origin.
4. **Information and Reports:** CONTRACTOR shall provide all information and reports required by the Regulations, or directives issued pursuant thereto, and shall permit access to its books, records,

accounts, other sources of information, and its facilities as may be determined by the California Department of Transportation or FHWA to be pertinent to ascertain compliance with such Regulations or directives. Where any information

required of CONTRACTOR is in the exclusive possession of another who fails or refuses to furnish this information, CONTRACTOR shall so certify to the California Department of Transportation or the FHWA as appropriate, and shall set forth what efforts CONTRACTOR has made to obtain the information.

- a. Sanctions for Noncompliance: In the event of CONTRACTOR's noncompliance with the nondiscrimination provisions of this agreement, the California Department of Transportation shall impose such agreement sanctions as it or the FHWA may determine to be appropriate, including, but not limited to:
 - i. withholding of payments to CONTRACTOR under the Agreement within a reasonable period of time, not to exceed 90 days; and/or
 - ii. cancellation, termination or suspension of the Agreement, in whole or in part.
- b. Incorporation of Provisions: CONTRACTOR shall include the provisions of paragraphs (1) through (6) in every sub-agreement, including procurements of materials and leases of equipment, unless exempt by the Regulations, or directives issued pursuant thereto.

CONTRACTOR shall take such action with respect to any sub-agreement or procurement as the California Department of Transportation or FHWA may direct as a means of enforcing such provisions including sanctions for noncompliance, provided, however, that, in the event CONTRACTOR becomes involved in, or is threatened with, litigation with a sub-applicant or supplier as a result of such direction, CONTRACTOR may request the California Department of Transportation enter into such litigation to protect the interests of the State, and, in addition, CONTRACTOR may request the United States to enter into such litigation to protect the interests of the United States.

4. USE OF UNITED STATES-FLAG VESSELS (CARGO PREFERENCE ACT)

The CONTRACTOR agrees-

1. To utilize privately owned United States-flag commercial vessels to ship at least 50 percent of the gross tonnage (computed separately for dry bulk carries, dry cargo liners, and tankers) involved, whenever shipping any equipment, material, or commodities pursuant to this contract, to the extent such vessels are available at fair and reasonable rates for United States-flag commercial vessels.
2. To Furnish within 20 days following the date of loading for shipments originating within the United State or within 30 working days following the date of loading for shipments originating outside the United States, a legible copy of a rated "on-board" commercial ocean bill-of-lading in English for each shipment of cargo described in paragraph (1) of this section to both the Contracting Officer (through the prime contractor in the case of subcontractor bills-of-lading) and to the Division of National Cargo, Office of Market Development, Maritime Administration, Washington, DC 20590.
3. To insert the substance of the provisions of this clause in all subcontracts issued pursuant to this contract.

5. FEDERAL TRAINEE PROGRAM

For the Federal training program, the number of trainees or apprentices is 3.

This section applies if a number of trainees or apprentices is specified in the special provisions.

As part of your equal opportunity affirmative action program, provide on-the-job training to develop full journeymen in the types of trades or job classifications involved.

You have primary responsibility for meeting this training requirement.

If you subcontract a contract part, determine how many trainees or apprentices are to be trained by the subcontractor. Include these training requirements in your subcontract.

Where feasible, 25 percent of apprentices or trainees in each occupation must be in their 1st year of apprenticeship or training.

Distribute the number of apprentices or trainees among the work classifications on the basis of your needs and the availability of journeymen in the various classifications within a reasonable recruitment area.

Before starting work, submit to the City of Ukiah:

1. Number of apprentices or trainees to be trained for each classification
2. Training program to be used
3. Training starting date for each classification

Obtain the City of Ukiah's approval for this submitted information before you start work. The City of Ukiah credits you for each apprentice or trainee you employ on the work who is currently enrolled or becomes enrolled in an approved program.

The primary objective of this section is to train and upgrade minorities and women toward journeymen status. Make every effort to enroll minority and women apprentices or trainees, such as conducting systematic and direct recruitment through public and private sources likely to yield minority and women apprentices or trainees, to the extent they are available within a reasonable recruitment area. Show that you have made the efforts. In making these efforts, do not discriminate against any applicant for training.

Do not employ as an apprentice or trainee an employee:

1. In any classification in which the employee has successfully completed a training course leading to journeyman status or in which the employee has been employed as a journeyman
2. Who is not registered in a program approved by the US Department of Labor, Bureau of Apprenticeship and Training

Ask the employee if the employee has successfully completed a training course leading to journeyman status or has been employed as a journeyman. Your records must show the employee's answers to the questions.

In your training program, establish the minimum length and training type for each classification. The City of Ukiah and FHWA approves a program if one of the following is met:

1. It is calculated to:
 - Meet the your equal employment opportunity responsibilities
 - Qualify the average apprentice or trainee for journeyman status in the classification involved by the end of the training period
2. It is registered with the U.S. Department of Labor, Bureau of Apprenticeship and Training, and it is administered in a way consistent with the equal employment responsibilities of Federal-aid highway construction contracts

Obtain the State's approval for your training program before you start work involving the classification covered by the program.

Provide training in the construction crafts, not in clerk-typist or secretarial-type positions. Training is allowed in lower level management positions such as office engineers, estimators, and timekeepers if the training is oriented toward construction applications. Training is allowed in the laborer classification if significant and meaningful training is provided and approved by the division office. Off-site training is allowed if the training is an integral part of an approved training program and does not make up a significant part of the overall training.

The City of Ukiah reimburses you 80 cents per hour of training given an employee on this contract under an approved training program:

1. For on-site training
2. For off-site training if the apprentice or trainee is currently employed on a Federal-aid project and you do at least one of the following:
 - Contribute to the cost of the training
 - Provide the instruction to the apprentice or trainee
 - Pay the apprentice's or trainee's wages during the off-site training period
3. If you comply this section. Each apprentice or trainee must:
 1. Begin training on the project as soon as feasible after the start of work involving

the apprentice's or trainee's skill

2. Remain on the project as long as training opportunities exist in the apprentice's or trainee's work classification or until the apprentice or trainee has completed the training program

Furnish the apprentice or trainee:

1. Copy of the program you will comply with in providing the training

NOT FOR BID

BID SUBMITTAL CHECKLIST

The following is a checklist to assist you in your submission of your bid documents. Please make sure you include the following when submitting your bid documents to reduce the risk of having your bid rejected:

Did you include?...

- **Proposal** (Page ___)
 - Unit prices filled out clearly.
 - Extended prices filled out clearly and calculated correctly
 - Total bid amount filled out clearly and calculated correctly
 - Sign the proposal, and provide complete information
 - CLSB No. and expiration date
 - Department of Industrial Relations Public Works Contractor Registration Number

- **Fair Employment Practices Certification** (Page ___)
 - Filled out completely per instruction

- **Worker's Compensation Certificate** (Page ___)
 - Filled out completely per instruction

- **Certification of Non-Discrimination in Employment** (Page ___)
 - Filled out completely per instruction

- **List of Proposed Subcontractors** (Page ___)
 - Filled out completely per instruction

- **Statement of Experience** (Page ___)

- **Signature of Bidder** (Page ___)
 - Filled out completely per instruction
 - Authorized signature provided

- **Bidder's Bond** (Page ___)
 - Filled out completely per instruction

- **Non-Collusion Affidavit** (Page ___)
 - Filled out completely per instruction
 - Notarized

- **Addenda Issued**
 - Signed and Returned

**CITY OF UKIAH
MENDOCINO COUNTY, CALIFORNIA**

PROPOSAL

**FOR
DOWNTOWN STREETScape AND ROAD DIET**

Specification No. 1819-173

The undersigned, as bidder,
declares that he or she has examined thoroughly all of the contract documents herein contained, that this proposal is made without collusion with any other person, firm or corporation and that all laws and ordinances relating to the interest of public officers in this contract have been complied with in every respect.

AND he or she proposes and agrees, if this proposal is accepted,

- 1) that he or she will contract with the City of Ukiah, Mendocino County, California, in the form of the copy of the agreement herein contained
 - a) to provide all necessary machinery, tools, apparatus and other means of construction;
 - b) to furnish all materials;
 - c) to provide all superintendence, overhead expenses and all labor and expenses of whatever nature necessary to complete the job in conformity with the specifications and drawings and other contract provisions herein or reasonably implied hereby or as necessary to complete the work in the manner and within the time named herein and according to the requirements and to the reasonable satisfaction of the City Engineer;
 - d) to pay all charges of freight transportation and hauling;
- 2) that he or she indemnifies the City against any loss or damage arising from any act of the undersigned as Contractor; and
- 3) that he or she will accept as full payment therefor the following sums:

BIDDING SCHEDULE

In the case of any discrepancy between the unit price and the total set forth for the item, the unit price shall prevail; provided, however, that if the amount set forth as a unit price is ambiguous, unintelligible or uncertain for any reason, or is omitted, or in the case of lump sum items, is not the same amount as the entry in the "Total" column, then the amount set forth in the "Total" column for the item shall prevail in accordance with the following:

1. As to lump sum items, the amount set forth in the "Total" column shall be the unit price;
2. As to unit basis items, the amount set forth in the "Total" column shall be divided by the estimated quantity for the item and the price thus obtained shall be the unit price.

The Total Base Bid shall be the sum of the items in the "Total" column. In case of discrepancy between the sum of the items in the "Total" column and the amount entered as Total Base Bid, the sum of the "Total" column items shall prevail. The bid comparison will be based on the sum of the items in the "total" column for each bidder.

The Unit prices for the various Construction Items below include all costs associated with the General Conditions, Special Provisions, Requirements of the Construction Contract, and represent the total, complete, in-place cost for each specific Construction Item in accordance with the Construction Documents, including all elements, work components, accessories, and connections, shown in applicable details or required to yield a complete, sound and functional component or system appropriate for its intended function, whether or not such is specifically described or listed in any description of measurement or payment. The total amount of the Construction items below shall represent the total and complete cost of the fully functional Project. All work not specifically listed below be required to complete the work of the various construction items and the cost of such shall be considered as included throughout the various unit prices indicated.

Lowest bid will be based on the lowest Base Bid, not including the add alternate bid item.

NAME OF BIDDER: _____

SPEC #:

2021-179

PROJECT NAME:

DOWNTOWN STREETScape PHASE II PROJECT

Item #	Description	Unit of Measure	Quantity	Unit Price	Total
1	Mobilization, Demobilization, and Final Cleanup	LS	1	\$ _____	\$ _____
2	Storm Water Pollution Prevention Plan (SWPPP)	LS	1	\$ _____	\$ _____
3	Storm Water Sampling and Analysis Day	EA	10	\$ _____	\$ _____
4	Temporary Water Pollution Control Measures	LS	1	\$ _____	\$ _____
5	Progress Schedule (Critical Path Method)	LS	1	\$ _____	\$ _____
6	Construction Area Signs	LS	1	\$ _____	\$ _____
7	Traffic Control System	LS	1	\$ _____	\$ _____
8	Positive Location (Potholing)	EA	20	\$ _____	\$ _____
9	Construction Survey	LS	1	\$ _____	\$ _____
10	Trench Bracing and Shoring	LS	1	\$ _____	\$ _____
11	Bypass Sewage Pumping	LS	1	\$ _____	\$ _____
12	Remove Traffic Stripe and Markings (Striping Conforms)	LS	1	\$ _____	\$ _____
13	Remove Existing Drainage Inlet	EA	5	\$ _____	\$ _____
14	Abandon Existing Storm Drain Pipe	LF	800	\$ _____	\$ _____
15	Remove/Replace Unsuitable Material - Miscellaneous Concrete	CY	140	\$ _____	\$ _____

16	Remove/Replace Unsuitable Material - Roadway Section	CY	560	\$ _____	\$ _____
17	Remove Concrete Curb and Gutter	LF	4,100	\$ _____	\$ _____
18	Remove Vertical Curb	LF	130	\$ _____	\$ _____
19	Remove Concrete Sidewalk, Driveways, and Curb Ramps	SF	23,900	\$ _____	\$ _____
20	Remove Concrete Roadway	SF	52,000	\$ _____	\$ _____
21	Remove/Salvage Trash Receptacle	EA	1	\$ _____	\$ _____
22	Remove Lighting Standard	EA	2	\$ _____	\$ _____
23	Remove Sanitary Sewer Manhole	EA	6	\$ _____	\$ _____
24	Abandon Sanitary Sewer Manhole	EA	6	\$ _____	\$ _____
25	Remove Sewer Main Line Cleanout	EA	10	\$ _____	\$ _____
26	Remove Existing Sanitary Sewer Main	EA	2,900	\$ _____	\$ _____
27	Abandon Existing Sanitary Sewer Main	LF	2,660	\$ _____	\$ _____
28	Abandon Existing Sanitary Sewer Lateral	EA	50	\$ _____	\$ _____
29	Abandon Existing Water Main	LF	4,030	\$ _____	\$ _____
30	Utility Conflict Resolution	LS	1	\$ _____	\$ _____
31	12" Water Main (C900)	LF	1,950	\$ _____	\$ _____
32	12" Water Main (Ductile Iron)	LF	80	\$ _____	\$ _____

33	6" Steel Casing Pipe - Bore and Jack (Electric)	LF	25	\$ _____	\$ _____
34	8" Steel Casing Pipe - Bore and Jack (AT&T & CATV)	LF	25	\$ _____	\$ _____
35	18" Steel Casing Pipe - Bore and Jack (Water and SS)	LF	76	\$ _____	\$ _____
36	6" Water Main (C900)	LF	20	\$ _____	\$ _____
37	4" Water Main (C900)	LF	60	\$ _____	\$ _____
38	1" Water Service (For 3/4" Meter)	EA	32	\$ _____	\$ _____
39	Fire Hydrant and Lateral	EA	6	\$ _____	\$ _____
40	Fire Service	EA	6	\$ _____	\$ _____
41	Air Relief Valve	EA	3	\$ _____	\$ _____
42	Backflow Preventer	EA	3	\$ _____	\$ _____
43	Cap Existing Water Main	EA	4	\$ _____	\$ _____
44	Water Tie-In	EA	6	\$ _____	\$ _____
45	Temporary Blow Off Valve	EA	1	\$ _____	\$ _____
46	12" Sanitary Sewer	LF	2,260	\$ _____	\$ _____
47	10" Sanitary Sewer	LF	1,490	\$ _____	\$ _____
48	8" Sanitary Sewer	LF	30	\$ _____	\$ _____
49	48" Sanitary Sewer Manhole	EA	13	\$ _____	\$ _____

50	Sewer Main Line Cleanout	EA	3	\$ _____	\$ _____
51	4" Sewer Lateral With Cleanout	EA	50	\$ _____	\$ _____
52	Drainage Inlet	EA	10	\$ _____	\$ _____
53	LID Storm Drain Inlet	EA	3	\$ _____	\$ _____
54	Under Sidewalk Drain	EA	13	\$ _____	\$ _____
55	15" RCP Storm Drain Pipe	LF	700	\$ _____	\$ _____
56	12" RCP Storm Drain Pipe	LF	400	\$ _____	\$ _____
57	48" Storm Drain Manhole	EA	3	\$ _____	\$ _____
58	Clearing and Grubbing	LS	1	\$ _____	\$ _____
59	Remove Tree and Stump	EA	47	\$ _____	\$ _____
60	Remove Tree Grate	EA	43	\$ _____	\$ _____
61	Conform Grind	SF	10,500	\$ _____	\$ _____
62	Edge Grind	SF	14,900	\$ _____	\$ _____
63	Cold Plane Asphalt Concrete Pavement	SF	15,600	\$ _____	\$ _____
64	Roadway Excavation (F)	CY	6,900	\$ _____	\$ _____
65	Class 2 Aggregate Base (F)	CY	4,100	\$ _____	\$ _____
66	Hot Mix Asphalt (Type A)	TON	3,100	\$ _____	\$ _____

67	Adjust Existing Sanitary Manhole Cover to Grade	EA	12	\$ _____	\$ _____
68	Adjust Existing Storm Drain Manhole Cover to Grade	EA	6	\$ _____	\$ _____
69	Adjust Existing AT&T Manhole Cover to Grade	EA	2	\$ _____	\$ _____
70	Adjust Existing Drainage Inlet to Grade	EA	3	\$ _____	\$ _____
71	Adjust Existing Street Monument Cover to Grade	EA	2	\$ _____	\$ _____
72	Adjust Existing Utility Cover to Grade (Sidewalk)	EA	85	\$ _____	\$ _____
73	Adjust Existing Valves to Grade	EA	35	\$ _____	\$ _____
74	Minor Concrete (Curb and Gutter)	LF	3,100	\$ _____	\$ _____
75	Minor Concrete (6" Vertical Curb)	LF	130	\$ _____	\$ _____
76	Minor Concrete (Driveway)	SF	6,200	\$ _____	\$ _____
77	Minor Concrete (Sidewalk)	SF	19,700	\$ _____	\$ _____
78	Minor Concrete (Curb Ramp)	EA	13	\$ _____	\$ _____
79	Minor Concrete (Detectable Warning Surface)	SF	250	\$ _____	\$ _____
80	Minor Concrete (8-inch Median Curb)	LF	940	\$ _____	\$ _____
81	Minor Concrete (Median Paving)	SF	1,000	\$ _____	\$ _____
82	Minor Concrete (Bioretention Curb & Gutter)	LF	130	\$ _____	\$ _____
83	Minor Concrete (Bioretention Vertical Curb)	LF	170	\$ _____	\$ _____

84	Irrigation System	LS	1	\$ _____	\$ _____
85	Street Tree	EA	72	\$ _____	\$ _____
86	Decomposed Granite Tree Well	SF	1,210	\$ _____	\$ _____
87	Brick Band	LF	1,670	\$ _____	\$ _____
88	Bench	EA	6	\$ _____	\$ _____
89	Bike Rack	EA	13	\$ _____	\$ _____
90	Planter Rail (Bioretention Area)	LF	160	\$ _____	\$ _____
91	Planting Area	SF	4,600	\$ _____	\$ _____
92	Plant Establishment Work	LS	1	\$ _____	\$ _____
93	Bioretention Area	SF	800	\$ _____	\$ _____
94	Survey Monument	EA	2	\$ _____	\$ _____
95	Flag Pole Sleeve	EA	100	\$ _____	\$ _____
96	Remove Roadside Sign	EA	20	\$ _____	\$ _____
97	Remove Roadside Sign Panel	EA	2	\$ _____	\$ _____
98	Thermoplastic Crosswalk and Pavement Marking	SF	2,551	\$ _____	\$ _____
99	Two-Way Blue Retroreflective Pavement Marker	EA	9	\$ _____	\$ _____
100	Metal Roadside Sign	EA	84	\$ _____	\$ _____

101	Roadside Sign - One Post	EA	44	\$ _____	\$ _____
102	Traffic Stripe (Detail 1)	LF	330	\$ _____	\$ _____
103	Traffic Stripe (Detail 8)	LF	2,300	\$ _____	\$ _____
104	Traffic Stripe (Detail 22)	LF	4,000	\$ _____	\$ _____
105	Traffic Stripe (Detail 27B)	LF	4,000	\$ _____	\$ _____
106	Traffic Stripe (Detail 27C)	LF	920	\$ _____	\$ _____
107	Traffic Stripe (Detail 32)	LF	2,900	\$ _____	\$ _____
108	Traffic Stripe (Detail 38)	LF	750	\$ _____	\$ _____
109	Traffic Stripe (Detail 39)	LF	2,800	\$ _____	\$ _____
110	Traffic Stripe (Detail 39A)	LF	320	\$ _____	\$ _____
111	Traffic Stripe (Detail 40)	LF	120	\$ _____	\$ _____
112	Green Bike Lane Pavement Markings	SF	1,000	\$ _____	\$ _____
113	Modify Signal (Gobbi St and S State St)	LS	1	\$ _____	\$ _____
114	Modify Signal (Mill St and S State St)	LS	1	\$ _____	\$ _____
115	Modify Signal (Scott St and N State St)	LS	1	\$ _____	\$ _____
116	Street Lighting System	LS	1	\$ _____	\$ _____
117	EXCAVATE, TRENCH, BACKFILL AND COMPACTION (12 INCH X 36 INCH TRENCH)	LF	586	\$ _____	\$ _____

118	EXCAVATE, TRENCH, BACKFILL AND COMPACTION (18 INCH X 48 INCH TRENCH)	LF	224	\$ _____	\$ _____
119	EXCAVATE, TRENCH, BACKFILL AND COMPACTION (24 INCH X 59 INCH TRENCH)	LF	1,167	\$ _____	\$ _____
120	1 INCH PVC SCH 40 CONDUIT (COMCAST) INCLUDING INSTALLATION	FT	184	\$ _____	\$ _____
121	2 INCH PVC SCH 40 CONDUIT (COMCAST) INCLUDING INSTALLATION	FT	3,364	\$ _____	\$ _____
122	3 INCH PVC SCH 40 CONDUIT (COMCAST) INCLUDING INSTALLATION	FT	80	\$ _____	\$ _____
123	2 INCH PVC SCH 40 CONDUIT (AT&T) INCLUDING INSTALLATION	FT	225	\$ _____	\$ _____
124	4 INCH PVC SCH 40 CONDUIT (AT&T) INCLUDING INSTALLATION	FT	1,991	\$ _____	\$ _____
125	3 INCH PVC SCH 40 CONDUIT INCLUDING INSTALLATION (ELECTRIC)	FT	442	\$ _____	\$ _____
126	4 INCH PVC SCH 40 CONDUIT INCLUDING INSTALLATION (ELECTRIC)	FT	3,152	\$ _____	\$ _____
127	EXCAVATE, BACKFILL, COMPACT AND INSTALL CABLE SERVICE VAULTS B48 (COMCAST)	EA	1	\$ _____	\$ _____
128	EXCAVATE, BACKFILL, COMPACT AND INSTALL CABLE SERVICE VAULTS N36 (COMCAST)	EA	14	\$ _____	\$ _____
129	EXCAVATE, BACKFILL, COMPACT AND INSTALL CABLE SERVICE VAULTS N30 (COMCAST)	EA	3	\$ _____	\$ _____
130	EXCAVATE, BACKFILL, COMPACT AND INSTALL SERVICE VAULTS 17" X 30" X 24" (AT&T)	EA	3	\$ _____	\$ _____
131	EXCAVATE, BACKFILL, COMPACT AND INSTALL SERVICE VAULTS 2'6" X 4' X 3' (AT&T)	EA	9	\$ _____	\$ _____
132	EXCAVATE, BACKFILL, COMPACT AND INSTALL SERVICE VAULTS 3' X 5' X 4' (AT&T)	EA	2	\$ _____	\$ _____

133	EXCAVATE, BACKFILL, COMPACTION AND INSTALL PEDESTAL BOX PAD (CITY TO PROVIDE)	EA	1	\$ _____	\$ _____
134	EXCAVATE, BACKFILL, COMPACTION AND INSTALL 504LA VAULT (CITY TO PROVIDE)	EA	1	\$ _____	\$ _____
135	EXCAVATE, BACKFILL, COMPACTION AND INSTALL PPB PRIMARY JUNCTION BOX (CITY TO PROVIDE)	EA	1	\$ _____	\$ _____
136	EXCAVATE, BACKFILL, COMPACTION AND INSTALL TRANSFORMER BOX PAD (CITY TO PROVIDE)	EA	5	\$ _____	\$ _____
137	EXCAVATE, BACKFILL, COMPACTION AND INSTALL CONCRETE TRANSFORMER PAD (POUR IN PLACE)	EA	1	\$ _____	\$ _____
138	EXCAVATE, BACKFILL, COMPACTION AND INSTALL SECONDARY SERVICE BOX (CITY TO PROVIDE)	EA	4	\$ _____	\$ _____
TOTAL BASE BID →				\$ _____	

We, the undersigned, acknowledge that the City Council has reserved the right to reject any or all bids and to determine which proposal is, in its opinion, the lowest responsive bid from a responsible bidder and that which it deems in the best interest of the City to accept. We, the undersigned, further agree, if this proposal shall be accepted, to sign the agreement and to furnish the required bonds with satisfactory surety, or sureties, within fifteen (15) calendar days after written notice that the contract is ready for signature; and, if the undersigned shall fail to contract, as aforesaid, it shall be understood that he or she has abandoned the contract and that, therefore, this proposal shall be null and void and the proposal guaranty accompanying this proposal, or the amount of said guaranty, shall be forfeited to and become the property of the City. Otherwise, the proposal guaranty accompanying this proposal shall be returned to the undersigned.

Witness our hands this day of _____, 20_____.

Licensed in accordance with an act providing for the registration of California Contractors License No. _____, expiration date _____.

THE CONTRACTOR'S LICENSE NUMBER AND EXPIRATION DATE STATED HEREIN ARE MADE UNDER PENALTY OF PERJURY.

Department of Industrial Relations Public Works Contractor Registration Number: _____

Signature of bidder or bidders, with business name, address, phone number and fax number:

Notice: In the case of a corporation, give below the addresses of the principal office thereof and names and addresses of the President, Secretary, Treasurer.

FAIR EMPLOYMENT PRACTICES CERTIFICATION

TO: _____

The undersigned, in submitting a bid for performing the following work by Contract, hereby certifies that he or she has or will meet the standards of affirmative compliance with the Fair Employment Practices requirements of the Special Provisions contained herein.

DOWNTOWN STREETScape AND ROAD DIET

(Signature of Bidder)

Business Mailing Address:

Business Location:

(The bidder shall execute the certification of this page prior to submitting his or her proposal.)

NOT FOR BID

WORKER'S COMPENSATION CERTIFICATE

I am aware of the provisions of Section 3700 of the Labor Code which require every employer to be insured against liability for Worker's Compensation or 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.

Witness my hand this _____ day of _____, 200_____

Signature of Bidder, with Business Address:

NOT FOR BID

CERTIFICATION OF NONDISCRIMINATION IN EMPLOYMENT

The bidder represents that he or she has/has not, participated in a previous contract or subcontract subject to either the equal opportunity clause herein or the clause contained in Section 301 of Executive Order 10925; that he or she has/has not, filed all required compliance reports; and that representations indicating submission of required compliance prior to subcontract awards.

Signature and address of Bidder:

_____ Date _____

(This certification shall be executed by the bidder in accordance with Section 60-1.6 of the Regulations of the President's Committee on Equal Employment Opportunity for implementing Executive Orders 10925 and 11114.)

NOT FOR BID

SIGNATURE(S) OF BIDDER

Accompanying this proposal is _____
(insert the words "cash (\$)", "cashier's check" or "bidder's bond", as the case may be) in an amount equal to at least 10 percent of the bid.

The names of all persons interested in the foregoing proposal as principals are as follows:

IMPORTANT NOTICE: If bidder or other interested person is a corporation, provide the legal name of corporation and also the names of the president, secretary, treasurer and manager thereof. If a co-partnership, provide the true name of firm and also the names of all individual co-partners composing the firm. If bidder or other interested person is an individual, provide the first and last names in full.

Licensed in accordance with an act providing for the registration of Contractors:

License No. _____, License Expiration Date _____.

Signature(s) of Bidder: _____

NOTE: If bidder is a corporation, the legal name of the corporation shall be set forth above together with the signature of the officer or officers authorized to sign contracts on behalf of the corporation; if bidder is a co-partnership, the true name of the firm shall be set forth above together with the signature of the partner or partners authorized to sign contracts in behalf of the co-partnership; and if bidder is an individual, his or her signature shall be placed above. If a member of a partnership, a Power of Attorney must be on file with the Department prior to opening bids or submitted with the bid; otherwise, the bid will be disregarded as irregular and unauthorized.

Business address: _____

Place of residence: _____

Dated: _____

CITY OF UKIAH
Mendocino County, California

BIDDER'S BOND

KNOW ALL MEN BY THESE PRESENTS,

That we, _____

_____, as PRINCIPAL and

_____, as SURETY,

are held and firmly bound unto the City of Ukiah in the penal sum of 10 PERCENT OF THE TOTAL AMOUNT OF THE BID of the Principal above named, submitted by said Principal to the City of Ukiah, as the case may be, for the work described below, for the payment of which sum in lawful money of the United States, well and truly to be made, to the City Clerk to which said bid was submitted, we bind ourselves, our heirs, executors, administrators and successors jointly and severally, firmly by these presents. In no case shall the liability of the surety hereunder exceed the sum of \$ _____

THE CONDITION OF THIS OBLIGATION IS SUCH,

That whereas the Principal has submitted the above mentioned bid to the City of Ukiah, as aforesaid, for certain construction specifically described as follows, for which bids are to be opened at the Office of the City Clerk, Ukiah Civic Center, Ukiah, California, on <<DATE OF BID OPENING>> for DOWNTOWN STREETSCAPE AND ROAD DIET

NOW, THEREFORE, If the aforesaid Principal is awarded the contract and, within the time and manner required under the specifications, after the prescribed forms are presented to him or her for signatures, enters into a written contract, in the prescribed form, in accordance with the bid and files two bonds with the City of Ukiah, one to guarantee faithful performance and the other to guarantee payment for labor and materials, as required by law, then this obligation shall be null and void; otherwise, it shall be and remain in full force and virtue.

IN WITNESS WHEREOF, we have hereunto set our hands and seals on this _____ day of _____, A.D. 20_____.

_____(Seal)

_____(Seal)

_____(Seal)

Principal

_____(Seal)

_____(Seal)

_____(Seal)

Surety

Address: _____

NON-COLLUSION AFFIDAVIT

Note: Bidder shall execute the affidavit on this page prior to submitting his or her bid.

To City Council, City of Ukiah:

The undersigned in submitting a bid for performing DOWNTOWN STREETScape AND ROAD DIET by contract, being duly sworn, deposes and says:

that he or she has not, either directly or indirectly, entered into any agreement, participated in any collusion, or otherwise taken any action in restraint of free competitive bidding in connection with such contract.

Signature(s) of Bidder

Business Address: _____

Place of Residence: _____

NOTARIZATION

Subscribed and sworn to before me this _____ day of _____, 20____.

Notary Public in and for the County of _____, State of California.

My Commission Expires _____, 20 ____.

EQUAL EMPLOYMENT OPPORTUNITY CERTIFICATION

The bidder _____, proposed subcontractor _____, hereby certifies that he has _____, has not _____, participated in

a previous contract or subcontract subject to the equal opportunity clauses, as required by Executive Orders 10925, 11114, or

11246, and that, where required, he has filed with the Joint Reporting Committee, the Director of the Office of Federal

Contract Compliance, a Federal Government contracting or administering agency, or the former President's Committee on

Equal Employment Opportunity, all reports due under the applicable filing requirements.

Note: The above certification is required by the Equal Employment Opportunity Regulations of the Secretary of Labor (41 CFR 60-1.7(b) (1)), and must be submitted by bidders and proposed subcontractors only in connection with contracts and subcontracts which are subject to the equal opportunity clause. Contracts and subcontracts which are exempt from the equal opportunity clause are set forth in 41 CFR 60-1.5. (Generally only contracts or subcontracts of \$10,000 or under are exempt.)

Currently, Standard Form 100 (EEO-1) is the only report required by the Executive Orders or their implementing regulations.

Proposed prime contractors and subcontractors who have participated in a previous contract or subcontract subject to the Executive Orders and have not filed the required reports should note that 41 CFR 60-1.7(b) (1) prevents the award of contracts and subcontracts unless such contractor submits a report covering the delinquent period or such other period specified by the Federal Highway Administration or by the Director, Office of Federal Contract Compliance, U.S. Department of Labor.

DEBARMENT AND SUSPENSION CERTIFICATION
TITLE 49, CODE OF FEDERAL REGULATIONS, PART 29

The bidder, under penalty of perjury, certifies that, except as noted below, he/she or any other person associated therewith in the capacity of owner, partner, director, officer, manager:

- is not currently under suspension, debarment, voluntary exclusion, or determination of ineligibility by any Federal agency;
- has not been suspended, debarred, voluntarily excluded or determined ineligible by any Federal agency within the past 3 years;
- does not have a proposed debarment pending; and
- has not been indicted, convicted, or had a civil judgment rendered against it by a court of competent jurisdiction in any matter involving fraud or official misconduct within the past 3 years.

If there are any exceptions to this certification, insert the exceptions in the following space.

Exceptions will not necessarily result in denial of award, but will be considered in determining bidder responsibility. For any exception noted above, indicate below to whom it applies, initiating agency, and dates of action.

Notes: Providing false information may result in criminal prosecution or administrative sanctions.
The above certification is part of the Proposal. Signing this Proposal on the signature portion thereof shall also constitute signature of this Certification.

NONLOBBYING CERTIFICATION FOR FEDERAL-AID CONTRACTS

The prospective participant certifies, by signing and submitting this bid or proposal, to the best of his or her knowledge and belief, that:

(1) No Federal appropriated funds have been paid or will be paid, by or on behalf of the undersigned, to any person for influencing or attempting to influence an officer or employee of any Federal agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the awarding of any Federal contract, the making of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any Federal contract, grant, loan, or cooperative agreement.

(2) If any funds other than Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any Federal agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this Federal contract, grant, loan, or cooperative agreement, the undersigned shall complete and submit Standard Form-LLL, "Disclosure of Lobbying Activities," in conformance with its instructions.

This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by Section 1352, Title 31, U.S. Code. Any person who fails to file the required certification shall be subject to a civil penalty of not less than \$10,000 and not more than \$100,000 for each such failure.

The prospective participant also agrees by submitting his or her bid or proposal that he or she shall require that the language of this certification be included in all lower tier subcontracts, which exceed \$100,000 and that all such subrecipients shall certify and disclose accordingly.

DISCLOSURE OF LOBBYING ACTIVITIES

COMPLETE THIS FORM TO DISCLOSE LOBBYING ACTIVITIES PURSUANT TO 31 U.S.C. 1352

1. Type of Federal Action:

- a. contract
- b. grant
- c. cooperative agreement
- d. loan
- e. loan guarantee
- f. loan insurance

2. Status of Federal Action:

- a. bid/offer/application
- b. initial award
- c. post-award

3. Report Type:

- a. initial
- b. material change

For Material Change Only:

year ____ quarter ____
date of last report _____

4. Name and Address of Reporting Entity

- Prime
- Subawardee
Tier _____, if known

5. If Reporting Entity in No. 4 is Subawardee, Enter Name and Address of Prime:

Congressional District, if known

Congressional District, if known

6. Federal Department/Agency:

7. Federal Program Name/Description:

CFDA Number, if applicable

8. Federal Action Number, if known:

9. Award Amount, if known:

10. a. Name and Address of Lobby Entity
(If individual, last name, first name, MI)

b. Individuals Performing Services (including address if different from No. 10a)
(last name, first name, MI)

(attach Continuation Sheet(s) if necessary)

11. Amount of Payment (check all that apply)

\$ _____ actual planned

13. Type of Payment (check all that apply)

- a. retainer
- b. one-time fee
- c. commission
- d. contingent fee _____
- e. deferred
- f. other, specify _____

12. Form of Payment (check all that apply):

- a. cash
- b. in-kind; specify: nature _____
value _____

14. Brief Description of Services Performed or to be performed and Date(s) of Service, including officer(s), employee(s), or member(s) contacted, for Payment Indicated in Item 11:

(attach Continuation Sheet(s) if necessary)

15. Continuation Sheet(s) attached: Yes No

16. Information requested through this form is authorized by Title 31 U.S.C. Section 1352. This disclosure of lobbying reliance was placed by the tier above when his transaction was made or entered into. This disclosure is required pursuant to 31 U.S.C. 1352. This information will be reported to Congress semiannually and will be available for public inspection. Any person who fails to file the required disclosure shall be subject to a civil penalty of not less than \$10,000 and not more than \$100,000 for each such failure.

Signature: _____

Print Name: _____

Title: _____

Telephone No.: _____ Date: _____

Federal Use Only:

Authorized for Local Reproduction

INSTRUCTIONS FOR COMPLETION OF SF-LLL, DISCLOSURE OF LOBBYING ACTIVITIES

This disclosure form shall be completed by the reporting entity, whether subawardee or prime Federal recipient, at the initiation or receipt of covered Federal action or a material change to previous filing pursuant to title 31 U.S.C. section 1352. The filing of a form is required for such payment or agreement to make payment to lobbying entity for influencing or attempting to influence an officer or employee of any agency, a Member of Congress an officer or employee of Congress or an employee of a Member of Congress in connection with a covered Federal action. Attach a continuation sheet for additional information if the space on the form is inadequate. Complete all items that apply for both the initial filing and material change report. Refer to the implementing guidance published by the Office of Management and Budget for additional information.

1. Identify the type of covered Federal action for which lobbying activity is and/or has been secured to influence, the outcome of a covered Federal action.
2. Identify the status of the covered Federal action.
3. Identify the appropriate classification of this report. If this is a follow-up report caused by a material change to the information previously reported, enter the year and quarter in which the change occurred. Enter the date of the last, previously submitted report by this reporting entity for this covered Federal action.
4. Enter the full name, address, city, state and zip code of the reporting entity. Include Congressional District if known. Check the appropriate classification of the reporting entity that designates if it is or expects to be a prime or subaward recipient. Identify the tier of the subawardee, e.g., the first subawardee of the prime is the first tier. Subawards include but are not limited to subcontracts, subgrants and contract awards under grants.
5. If the organization filing the report in Item 4 checks "Subawardee" then enter the full name, address, city, state and zip code of the prime Federal recipient. Include Congressional District, if known.
6. Enter the name of the Federal agency making the award or loan commitment. Include at least one organization level below agency name, if known. For example, Department of Transportation, United States Coast Guard.
7. Enter the Federal program name or description for the covered Federal action (item 1). If known, enter the full Catalog of Federal Domestic Assistance (CFDA) number for grants, cooperative agreements, loans and loan commitments.
8. Enter the most appropriate Federal identifying number available for the Federal action identification in item 1 (e.g., Request for Proposal (RFP) number, Invitation for Bid (IFB) number, grant announcement number, the contract grant or loan award number, the application/proposal control number assigned by the Federal agency). Include prefixes, e.g., "RFP-DE-90-001."
9. For a covered Federal action where there has been an award or loan commitment by the Federal agency, enter the Federal amount of the award/loan commitments for the prime entity identified in item 4 or 5.
- 10.(a) Enter the full name, address, city, state and zip code of the lobbying entity engaged by the reporting entity identified in item 4 to influenced the covered Federal action.
(b) Enter the full names of the individual(s) performing services and include full address if different from 10 (a). Enter Last Name, First Name and Middle Initial (MI).
11. Enter the amount of compensation paid or reasonably expected to be paid by the reporting entity (item 4) to the lobbying entity (item 10). Indicate whether the payment has been made (actual) or will be made (planned). Check all boxes that apply. If this is a material change report, enter the cumulative amount of payment made or planned to be made.
12. Check the appropriate box. Check all boxes that apply. If payment is made through an in-kind contribution, specify the nature and value of the in-kind payment.
13. Check the appropriate box. Check all boxes that apply. If other, specify nature.
14. Provide a specific and detailed description of the services that the lobbyist has performed or will be expected to perform and the date(s) of any services rendered. Include all preparatory and related activity not just time spent in actual contact with Federal officials. Identify the Federal officer(s) or employee(s) contacted or the officer(s) employee(s) or Member(s) of Congress that were contacted.
15. Check whether or not a continuation sheet(s) is attached.
16. The certifying official shall sign and date the form, print his/her name title and telephone number.

Public reporting burden for this collection of information is estimated to average 30 minutes per response, including time for reviewing instruction, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding the burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to the Office of Management and Budget, Paperwork Reduction Project (0348-0046), Washington, D.C. 20503. SF-LLL-Instructions Rev. 06-04-90

NOT FOR BID

Exhibit 12-B Bidder's List of subcontractor (DBE and Non-DBE) Part 1

As of March 1, 2015 Contractors (and sub-contractors) wishing to bid on public works contracts shall be registered with the State Division of Industrial Relations and certified to bid on Public Works contracts. Please register at: <https://efiling.dir.ca.gov/PWCR/ActionServlet?action=displayPWCRegistrationForm>
 In accordance with Title 49, Section 26.11 of the Code of Federal Regulations, and Section 4104 of the Public Contract Code of the State of California, as amended, the following information is required for each sub-contractor who will perform work amounting to more than one half of one percent (0.5%) of the Total Base Bid or \$10,000 (whichever is greater). **Photocopy this form for additional firms.** Federal Project Number: HSIPL-5049(026)

Subcontractor Name and Location	Line Item & Description	Subcontract Amount	Percentage of Bid Item Sub-contracted	Contractor License Number	DBE (Y/N)	DBE Cert Number	Annual Gross Receipts
				DIR Reg Number			
Name:							<input type="checkbox"/> <\$1 million
City, State:							<input type="checkbox"/> <\$5 million
							<input type="checkbox"/> <\$10 million
							<input type="checkbox"/> <\$15 million
							Age of Firm: ___ yrs.
Name:							<input type="checkbox"/> <\$1 million
City, State:							<input type="checkbox"/> <\$5 million
							<input type="checkbox"/> <\$10 million
							<input type="checkbox"/> <\$15 million
							Age of Firm: ___ yrs.
Name:							<input type="checkbox"/> <\$1 million
City, State:							<input type="checkbox"/> <\$5 million
							<input type="checkbox"/> <\$10 million
							<input type="checkbox"/> <\$15 million
							Age of Firm: ___ yrs.
Name:							<input type="checkbox"/> <\$1 million
City, State:							<input type="checkbox"/> <\$5 million
							<input type="checkbox"/> <\$10 million
							<input type="checkbox"/> <\$15 million
							Age of Firm: ___ yrs.
Name:							<input type="checkbox"/> <\$1 million
City, State:							<input type="checkbox"/> <\$5 million
							<input type="checkbox"/> <\$10 million
							<input type="checkbox"/> <\$15 million
							Age of Firm: ___ yrs.

Distribution: 1) Original-Local Agency File 2) Copy-DLAE w/ Award Package

Exhibit 12-B Bidder's List of subcontractor (DBE and Non-DBE) Part 2

In accordance with Title 49, Section 26 of the Code of Federal Regulations, the Bidder shall list all subcontractor who provide a quote or bid but were not selected to participate as a subcontractor on this project. Photocopy this form for additional firms.

Subcontractor Name and Location	Line Item & Description	Subcontract Amount	Percentage of Bid Item Sub-contracted	Contractor License Number	DBE (Y/N)	DBE Cert Number	Annual Gross Receipts
				DIR Reg Number			
Name:							<input type="checkbox"/> <\$1 million
City, State:							<input type="checkbox"/> <\$5 million
							<input type="checkbox"/> <\$10 million
							<input type="checkbox"/> <\$15 million
							Age of Firm: ___ yrs.
Name:							<input type="checkbox"/> <\$1 million
City, State:							<input type="checkbox"/> <\$5 million
							<input type="checkbox"/> <\$10 million
							<input type="checkbox"/> <\$15 million
							Age of Firm: ___ yrs.
Name:							<input type="checkbox"/> <\$1 million
City, State:							<input type="checkbox"/> <\$5 million
							<input type="checkbox"/> <\$10 million
							<input type="checkbox"/> <\$15 million
							Age of Firm: ___ yrs.
Name:							<input type="checkbox"/> <\$1 million
City, State:							<input type="checkbox"/> <\$5 million
							<input type="checkbox"/> <\$10 million
							<input type="checkbox"/> <\$15 million
							Age of Firm: ___ yrs.
Name:							<input type="checkbox"/> <\$1 million
City, State:							<input type="checkbox"/> <\$5 million
							<input type="checkbox"/> <\$10 million
							<input type="checkbox"/> <\$15 million
							Age of Firm: ___ yrs.

Distribution: 1) Original-Local Agency File 2) Copy-DLAE w/ Award Package

Exhibit 15-G Construction Contract DBE Commitment

1. Local Agency: City of Ukiah 2. Contract DBE Goal: _____
3. Project Description: _____
4. Project Location: _____
5. Bidder's Name: _____ 6. Prime Certified DBE: 7. Bid Amount: _____
8. Total Dollar Amount for **ALL** Subcontractors: _____ 9. Total Number of **ALL** Subcontractors: _____

10. Bid Item Number	11. Description of Work, Service, or Materials Supplied	12. DBE Certification Number	13. DBE Contact Information (Must be certified on the date bids are opened)	14. DBE Dollar Amount
Local Agency to Complete this Section upon Execution of Award			15. TOTAL CLAIMED DBE PARTICIPATION	\$
21. Local Agency Contract Number: _____ 22. Federal-Aid Project Number: _____ 23. Bid Opening Date: _____ 24. Contract Award Date: _____ 25. Award Amount: _____				%
Local Agency certifies that all DBE certifications are valid and information on this form is complete and accurate. _____ 26. Local Agency Representative's Signature 27. Date _____ 28. Local Agency Representative's Name 29. Phone _____ 30. Local Agency Representative's Title			IMPORTANT: Identify all DBE firms being claimed for credit, regardless of tier. Names of the First Tier DBE Subcontractors and their respective item(s) of work listed above must be consistent, where applicable with the names and items of the work in the "Subcontractor List" submitted with your bid. Written confirmation of each listed DBE is required. _____ 16. Preparer's Signature 17. Date _____ 18. Preparer's Name 19. Phone _____ 20. Preparer's Title	

- DISTRIBUTION:**
1. Original – Local Agency
 2. Copy – Caltrans District Local Assistance Engineer (DLAE). Failure to submit to DLAE within 30 days of contract execution may result in de-obligation of federal funds on contract.
 3. Include additional copy with award package.

ADA Notice: For individuals with sensory disabilities, this document is available in alternate formats. For information call (916) 654-6410 or TDD

NOT FOR BID

INSTRUCTIONS – CONSTRUCTION CONTRACT DBE COMMITMENT

CONTRACTOR SECTION

1. **Local Agency** - Enter the name of the local agency that is administering the contract.
2. **Contract DBE Goal** - Enter the contract DBE goal percentage as it appears on the project advertisement.
3. **Project Location** - Enter the project location(s) as it appears on the project advertisement.
4. **Project Description** - Enter the project description as it appears on the project advertisement (Bridge Rehab, Seismic Rehab, Overlay, Widening, etc).
5. **Bidder's Name** - Enter the contractor's firm name.
6. **Prime Certified DBE** - Check box if prime contractor is a certified DBE.
7. **Bid Amount** - Enter the total contract bid dollar amount for the prime contractor.
8. **Total Dollar Amount for ALL Subcontractors** – Enter the total dollar amount for all subcontracted contractors. SUM = (DBEs + all Non-DBEs). Do not include the prime contractor information in this count.
9. **Total number of ALL subcontractors** – Enter the total number of all subcontracted contractors. SUM = (DBEs + all Non-DBEs). Do not include the prime contractor information in this count.
10. **Bid Item Number** - Enter bid item number for work, services, or materials supplied to be provided.
11. **Description of Work, Services, or Materials Supplied** - Enter description of work, services, or materials to be provided. Indicate all work to be performed by DBEs including work performed by the prime contractor's own forces, if the prime is a DBE. If 100% of the item is not to be performed or furnished by the DBE, describe the exact portion to be performed or furnished by the DBE. See LAPM Chapter 9 to determine how to count the participation of DBE firms.
12. **DBE Certification Number** - Enter the DBE's Certification Identification Number. All DBEs must be certified on the date bids are opened.
13. **DBE Contact Information** - Enter the name, address, and phone number of all DBE subcontracted contractors. Also, enter the prime contractor's name and phone number, if the prime is a DBE.
14. **DBE Dollar Amount** - Enter the subcontracted dollar amount of the work to be performed or service to be provided. Include the prime contractor if the prime is a DBE. See LAPM Chapter 9 for how to count full/partial participation.
15. **Total Claimed DBE Participation** - \$: Enter the total dollar amounts entered in the "DBE Dollar Amount" column. %: Enter the total DBE participation claimed ("Total Claimed DBE Participation Dollars" divided by item "Bid Amount"). If the total % claimed is less than item "Contract DBE Goal," an adequately documented Good Faith Effort (GFE) is required (see Exhibit 15-H DBE Information - Good Faith Efforts of the LAPM).
16. **Preparer's Signature** - The person completing the DBE commitment form on behalf of the contractor's firm must sign their name.
17. **Date** - Enter the date the DBE commitment form is signed by the contractor's preparer.
18. **Preparer's Name** - Enter the name of the person preparing and signing the contractor's DBE commitment form.
19. **Phone** - Enter the area code and phone number of the person signing the contractor's DBE commitment form.
20. **Preparer's Title** - Enter the position/title of the person signing the contractor's DBE commitment form.

LOCAL AGENCY SECTION

21. **Local Agency Contract Number** - Enter the Local Agency contract number or identifier.
22. **Federal-Aid Project Number** - Enter the Federal-Aid Project Number(s).
23. **Bid Opening Date** - Enter the date contract bids were opened.
24. **Contract Award Date** - Enter the date the contract was executed.
25. **Award Amount** – Enter the contract award amount as stated in the executed contract.
26. **Local Agency Representative's Signature** - The person completing this section of the form for the Local Agency must sign their name to certify that the information in this and the Contractor Section of this form is complete and accurate.
27. **Date** - Enter the date the DBE commitment form is signed by the Local Agency Representative.
28. **Local Agency Representative's Name** - Enter the name of the Local Agency Representative certifying the contractor's DBE commitment form.
29. **Phone** - Enter the area code and phone number of the person signing the contractor's DBE commitment form.
30. **Local Agency Representative Title** - Enter the position/title of the Local Agency Representative certifying the contractor's DBE commitment form.

Exhibit 15-H: Proposer/Contractor Good Faith Efforts

Federal-aid Project No(s). _____ Bid Opening Date _____

The City of Ukiah established a Disadvantaged Business Enterprise (DBE) goal of 10% for this contract. The information provided herein shows the required good faith efforts to meet or exceed the DBE contract goal.

Proposers or bidders submit the following information to document their good faith efforts within five (5) business days from bid opening. Proposers and bidders are recommended to submit the following information even if the Exhibit 10-O1: Consultant Proposal DBE Commitments or Exhibit 15-G: Construction Contract DBE Commitment indicate that the proposer or bidder has met the DBE goal. This form protects the proposer's or bidder's eligibility for award of the contract if the administering agency determines that the bidder failed to meet the goal for various reasons, e.g., a DBE firm was not certified at bid opening, or the bidder made a mathematical error.

The following items are listed in the Section entitled "Submission of DBE Commitment" of the Special Provisions, **please attach additional sheets as needed:**

- A. The names and dates of each publication in which a request for DBE participation for this project was placed by the bidder (please attach copies of advertisements or proofs of publication):

Publications	Dates of Advertisement
_____	_____
_____	_____
_____	_____
_____	_____

- B. The names and dates of written notices sent to certified DBEs soliciting bids for this project and the dates and methods used for following up initial solicitations to determine with certainty whether the DBEs were interested (please attach copies of solicitations, telephone records, fax confirmations, etc.):

Names of DBEs Solicited	Date of Initial Solicitation	Follow Up Methods and Dates
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

C. The items of work made available to DBE firms including those unbundled contract work items into economically feasible units to facilitate DBE participation. It is the bidder's responsibility to demonstrate that sufficient work to facilitate DBE participation in order to met or exceed the DBE contract goal.

Items of Work	Bidder Normally Performs Item (Y/N)	Breakdown of Items	Amount (\$)	Percentage Of Contract

D. The names, addresses and phone numbers of rejected DBE firms, the reasons for the bidder's rejection of the DBEs, the firms selected for that work (please attach copies of quotes from the firms involved), and the price difference for each DBE if the selected firm is not a DBE:

Names, addresses and phone numbers of rejected DBEs and the reasons for the bidder's rejection of the DBEs:

Names, addresses and phone numbers of firms selected for the work above:

E. Efforts (e.g. in advertisements and solicitations) made to assist interested DBEs in obtaining information related to the plans, specifications and requirements for the work which was provided to DBEs:

F. Efforts (e.g. in advertisements and solicitations) made to assist interested DBEs in obtaining bonding, lines of credit or insurance, necessary equipment, supplies, materials, or related assistance or services, excluding supplies and equipment the DBE subcontractor purchases or leases from the prime contractor or its affiliate:

G. The names of agencies, organizations or groups contacted to provide assistance in contacting, recruiting and using DBE firms (please attach copies of requests to agencies and any responses received, i.e., lists, Internet page download, etc.):

Name of Agency/Organization	Method/Date of Contact	Results

H. Any additional data to support a demonstration of good faith efforts:

PUBLIC CONTRACT CODE SECTION 10285.1 STATEMENT

In accordance with Public Contract Code Section 10285.1 (Chapter 376, Stats, 1986), The bidder hereby declares under penalty of perjury under the laws of the State of California that the bidder has___, has not___ been convicted within the preceding three years of any offenses referred to in that section, including any charge of fraud, bribery, collusion, conspiracy, or any other act in violation of any state or federal antitrust law in connection with the bidding upon, award of, or performance of, any public works contract, as defined in Public Contract Code Section 1100, including the Regents of the University of California or the Trustees of the California State University. The term "bidder" is understood to include any partner, member, officer, director, responsible managing officer, or responsible managing employee thereof, as referred to in Section 10285.1.

Note: The bidder must place a check mark after "has" or "has not" in one of the blank spaces provided.

The above Statement is part of the Proposal. Signing the Contractor's Proposal on the signature portion thereof shall also constitute signature of this Statement.

Bidders are cautioned that making false certification may subject the certifier to criminal prosecution.

PUBLIC CONTRACT CODE SECTION 10162 QUESTIONNAIRE

In accordance with Public Contract Code Section 10162, The Bidder shall complete, under penalty of perjury, the following questionnaire:

Has the bidder, any officer of the bidder, or any employee of the bidder who has a proprietary interest in the bidder, ever been disqualified, removed, or otherwise prevented from bidding on, or completing a federal, state, or local government project because of a violation of law or a safety regulation?

Yes _____ No _____

If the answer is "Yes," explain the circumstances in the following space.

PUBLIC CONTRACT SECTION 10232 STATEMENT

In accordance with Public Contract Code Section 10232, the Contractor hereby states under penalty of perjury that no more than one final unappealable finding of contempt of court by a federal court has been issued against the Contractor within the immediately preceding two year period because of the Contractor's failure to comply with an order of a federal court which orders the Contractor to comply with an order of the National Labor Relations Board.

Note: The above Statement and Questionnaire are part of the Proposal. Signing this Proposal on the signature portion thereof shall also constitute signature of this Statement and Questionnaire.

Bidders are cautioned that making a false certification may subject the certifier to criminal prosecution.

CITY OF UKIAH
Mendocino County, California

AGREEMENT

FOR

**DOWNTOWN STREETSCAPE Phase II
Specification No.xxxxxxx**

THIS AGREEMENT, made this _____ day of _____, 20____, by and between the City of Ukiah, Mendocino County, California, hereinafter called the City and _____ hereinafter called the Contractor,

WITNESSETH:

WHEREAS, the City has caused to be prepared in accordance with law, specifications, drawings and other contract documents for the work herein described and shown and has approved and adopted these contract documents, specifications and drawings and has caused to be published in the manner and for the time required by law a notice to bidders inviting sealed proposals for doing the work in accordance with the terms of this contract and

WHEREAS, the Contractor, in response to the notice to bidders, has submitted to the City a sealed proposal accompanied by a proposal guaranty in an amount of not less than 10 percent of the bid price for the construction of the proposed work in accordance with the terms of this contract and

WHEREAS, the City, in the manner prescribed by law, has publicly opened, examined and canvassed the proposals submitted and as a result has determined and declared the Contractor to be the lowest and best regular responsible bidder for the work and for the sums named in the proposal,

NOW, THEREFORE, THIS AGREEMENT WITNESSETH:

Article 1. Work to be Done and Contract Days Allowed.

That the Contractor shall provide all necessary machinery, tools, apparatus and other means of construction; shall furnish all materials, superintendence, overhead, expenses, all labor and expenses of whatever nature necessary for completion of the work in conformity with the Special Provisions and other contract documents hereto attached and according to such instructions as may be given by the Engineer. The Contractor shall complete the work within 250 WORKING days. Contract days shall be counted starting with the 10th day following receipt of notice that the contract has been executed by the City. Contractor, at his or her option, may begin work prior to start of counting contract days, however, in no event shall the Contractor start work without giving notification to the Engineer at least 72 hours prior to the start of work, without obtaining an encroachment permit from the City, or without having submitted certificates of insurance that have been accepted and approved by the Engineer.

Article II. Contract Prices.

That the City shall pay the Contractor the prices stated in the proposal submitted by the Contractor, for complete performance of the contract by the Contractor. The Contractor hereby agrees to accept the prices as full compensation for all material and appliances necessary to the work, for all labor and use of tools and other implements necessary to execute the work contemplated in this contract; for all loss or damage arising out of the nature of the work or from the action of the elements, or from any unforeseen obstructions or difficulties which may

be encountered in the prosecution of the work; for all risks of every description connected therewith; for all expenses of the work, as herein specified; for all liability and other insurance, for all overhead and other expenses incident to the work; all according to the Contract Drawings, the Special Provisions, the Details, the instructions and the requirements of the City.

Article III. Labor Discrimination.

Attention is directed to Section 1735 of the Labor Code, which reads as follows:

"No discrimination shall be made in the employment of persons upon public works because of the race, color, national origin or ancestry, or religion of such persons and every contractor for public works violating this section is subject to all the penalties imposed for a violation of this chapter."

In connection with the performance of work under this contract, the Contractor agrees as follows:

- (a) The Contractor will not willfully discriminate against any employee or an applicant for employment because of race, color, religion, ancestry, or national origin. The Contractor will take affirmative action to ensure that applicants are employed and that employees are treated during employment without regard to their race, color, religion, ancestry, or national origin. Such action shall include, but not be limited to, the following: employment, upgrading, demotion or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship. The Contractor agrees to post in conspicuous places, available to employees and applicants for employment, notices to be provided by the awarding authority setting forth the provisions of this Fair Employment Practice section.
- (b) The Contractor will send to each labor union or representative of workers with which he or she has a collective bargaining agreement or other contract or understanding, a notice, to be provided by the awarding authority, advising the said labor union or worker's representative of the Contractor's commitments under this section, to employees and applicants for employment.
- (c) The Contractor will permit access to his or her records of employment, employment advertisements, application forms and other pertinent data and records by the Fair Employment Practices Commission, City of Ukiah or any other appropriate agency of the State of California designated by the awarding authority, for the purposes of investigation to ascertain compliance with the Fair Employment Practices section of this contract.
- (d) A finding of willful violation of the Fair Employment Practices section of this Contract or of the Fair Employment Practices Act shall be regarded by the awarding authority as a basis for determining the Contractor to be not a "responsible bidder" as to future contracts for which such Contractor may submit bids, for revoking the Contractor's pre-qualification rating, if any and for refusing to establish, reestablish or renew a pre-qualification rating for the Contractor.

The City of Ukiah shall deem a finding of willful receipt of written notice from the Fair Employment Practices Act to have occurred upon that it has investigated and determined that the Contractor has violated the Fair Employment Practices Act and has issued an order under Labor Code Section 1426 or obtained an injunction under Labor Code Section 1429.

Upon receipt of such written notice from the Fair Employment Practices Commission, the City shall notify the Contractor that unless he or she demonstrates to the satisfaction of the awarding authority within a stated period that the violation has been corrected, his or her pre-qualification rating will be revoked at the expiration of such period.

- (e) The Contractor agrees that should the City determine that the Contractor has not complied with the Fair Employment Practices section of this Contract, then pursuant to Labor Code Section 1735 and 1775 the Contractor shall, as a penalty to the City, forfeit for each calendar day or portion thereof, for

each person who was denied employment as a result of such non-compliance, the penalties provided in the Labor Code for violation of prevailing wage rates. Such monies may be recovered from the Contractor. The City may deduct any such damages from any monies due the Contractor.

- (f) Nothing contained in this Fair Employment Practices section shall be construed in any manner of fashion so as to prevent the City or the State of California from pursuing any other remedies that may be available at law.
- (g) Prior to awarding the Contract, the Contractor shall certify to the awarding authority that he or she has or will meet the following standards for affirmative compliance, which shall be evaluated in each case by the awarding authority:
 - (1) The Contractor shall provide evidence, as required by the City that he or she has notified all supervisors, foremen and other personnel officers in writing of the content of the anti-discrimination clause and their responsibilities under it.
 - (2) The Contractor shall provide evidence, as required by the City, that he or she has notified all sources of employees' referrals (including unions, employment agencies, advertisements, Department of Employment) of the content of the anti-discrimination clause.
 - (3) The Contractor shall file a basic compliance report, as required by the City. Willfully false statements made in such reports shall be punishable as provided by law. The compliance report shall also spell out the sources of the work force and who has the responsibility for determining whom to hire, or whether or not to hire.
 - (4) Personally, or through his or her representatives, the Contractor shall, through negotiations with the unions with whom he or she has agreements, attempt to develop an agreement which will:
 - a. Spell out responsibilities for nondiscrimination in hiring, referral, upgrading and training.
 - b. Otherwise implement an affirmative anti-discrimination program in terms of the unions' specific areas of skill and geography to the end that qualified minority workers will be available and given and equal opportunity for employment.
 - (5) The Contractor shall notify the City of opposition to the anti-discrimination clause by individuals, firms or organizations during the period of its pre-qualification.
- (h) The Contractor will include the provisions of the foregoing paragraphs 1 through 5 in every first tier subcontract so that such provisions will be binding upon each such subcontractor.
- (i) The "Fair Employment Practices Certification" must be completed and signed prior to the time of submitting the bid.

Article IV. Parts of the Contract.

That the complete contract consists of the following documents, all of which shall be considered a part of this agreement.

1. Notice to Bidders
2. Wage Rates
3. General Conditions
4. Technical Specifications
5. Proposal
6. Fair Employment Practices Certification

- 7. Agreement
- 8. Contract Bonds
- 9. Contract Drawings and Construction Details
- 10. Standard Drawings
- 11. Indemnification Agreement

IN WITNESS WHEREOF, this contract being executed in duplicate and the parties having caused their names to be signed by authority of their duly authorized office this ____ day of _____, 20____.

CITY OF UKIAH, MENDOCINO COUNTY, CALIFORNIA

By: _____
CITY MANAGER, CITY OF UKIAH

Attest: _____
CITY CLERK, CITY OF UKIAH

By: _____
CONTRACTOR

Attest: _____

Title: _____

The foregoing contract is approved as to form and legality this ____ day of _____, 20 ____.

CITY ATTORNEY, CITY OF UKIAH

INDEMNIFICATION AGREEMENT

This Indemnification Agreement is made and entered in Ukiah, California, on _____, 20____, by and between the City of Ukiah (Ukiah) and _____ (Contractor).

Contractor is

_____ for Ukiah.

As a condition of issuing the work order, attached hereto, Ukiah requires assurance that Contractor will protect Ukiah from damage or damage claims which arise from its performance of the work.

Accordingly, Contractor agrees as follows:

1. **Indemnification.** Contractor shall indemnify and hold harmless Ukiah and its officers, agents, and employees from and against any claim, loss, or damage, including the legal and other costs of defending against any claim of damage or loss which arises out of the Contractor's negligent or wrongful performance under the work order attached hereto, except for claims, losses, or damages resulting from the sole and exclusive negligence or other wrongful conduct of Ukiah or its officers, agents and employees.

CONTRACTOR

BY: _____

TITLE: _____

CITY OF UKIAH
Mendocino County, California

FAITHFUL PERFORMANCE BOND

KNOW ALL MEN BY THESE PRESENTS,

That we the undersigned, _____

AS PRINCIPAL, and

AS SURETY,

are held firmly bound unto **THE CITY OF UKIAH**, hereinafter called the "City", in the penal sum of

_____ dollars (\$_____)

for the payment of which sum we bind ourselves, our heirs, executors, administrators, and successors, jointly and severally.

WHEREAS, the Principal has entered into a certain Contract with the City, dated _____, 20_____, a copy of which is hereto attached and made a part hereof,

NOW, THEREFORE, the condition of this obligation is such that if the Principal shall in all respects fully perform the Contract and all duly authorized modifications thereof, during its original term and any extensions thereof that may be granted and during any guaranty period for which the Contract provides, and if the Principal shall fully satisfy all claims, arising out of the prosecution of the work under the Contract and shall fully indemnify the City for all expenses which it may incur by reason of such claims, including its attorney's fees and court costs, and if the Principal shall make full payment to all persons supplying labor, services, materials, or equipment in the prosecution of the work under the Contract, in default of which such persons shall have a direct right of action hereupon; and if the Principal shall pay or cause to be paid all sales and use taxes payable as a result of the performance of the Contract as well as payment of gasoline and special motor fuels taxes in the performance of the Contract and all motor vehicle fees required for commercial motor vehicles used in connection with the performance of the Contract, then this obligation shall be void; otherwise, it shall remain in full force and effect. No modification of the Contract or extension of the term thereof, nor any forbearance on the part of the City shall in any way release the Principal or the Surety from liability hereunder. Notice to the Surety of any such modification, extension, or forbearance is hereby waived.

IN WITNESS WHEREOF, the aforesaid Principal and Surety have executed this instrument and affixed their seals hereto, this _____ day of _____, 20_____.

In the presence of:

WITNESS:

_____(SEAL)
(Individual Principal)

(Business Address)

(City/State/Zip Code)

WITNESS:

_____ (SEAL)
(Corporate Principal)

(Business Address)

(City/State/Zip Code)

ATTEST:

_____ (Corporate Principal) Affix
Corporate Seal

(Business Address)

(City/State/Zip Code)

ATTEST:

_____ (Corporate Surety) Affix
Corporate Seal

(Business Address)

(City/State/Zip Code)

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

The total amount of premium charges is \$ _____.

(The above is to be filled in by Surety Company). (Power of Attorney of person signing for Surety Company must be attached).

(CERTIFICATE AS TO CORPORATE PRINCIPAL)

I, _____, certify that I am the _____
Secretary of the corporation named as Principal in the foregoing bond; that
_____, who signed the said bond on behalf of the Principal, was then
_____ of said corporation; that I know his signature, and that his
signature thereto is genuine; and that said bond was duly signed, sealed, and attested to for and in behalf of said
corporation by authority of its governing body.

_____ Affix Corporate Seal

CITY OF UKIAH
Mendocino County, California

MATERIAL AND LABOR BOND

KNOW ALL MEN BY THESE PRESENTS,

That we the undersigned, _____

_____, **AS PRINCIPAL**, and

_____, **AS SURETY**,

are held firmly bound unto **THE CITY OF UKIAH**, hereinafter called the "City" in the penal sum of

_____ dollars (\$ _____)

for the payment of which sum we bind ourselves, our heirs, executors, administrators, and successors, jointly and severally.

WHEREAS, the Principal has entered into a certain Contract with the City, dated _____, 20____, a copy of which is hereto attached and made a part hereof,

NOW, THEREFORE, the condition of this obligation is such that if the Principal shall in all respects fully perform the Contract and all duly authorized modifications thereof, during its original term and any extensions thereof that may be granted and during any guaranty period for which the Contract provides, and if the Principal shall fully satisfy all claims, arising out of the prosecution of the work under the Contract and shall fully indemnify the City for all expenses which it may incur by reason of such claims, including its attorney's fees and court costs, and if the Principal shall make full payment to all persons supplying labor, services, materials, or equipment in the prosecution of the work under the Contract, in default of which such persons shall have a direct right of action hereupon; and if the Principal shall pay or cause to be paid all sales and use taxes payable as a result of the performance of the Contract as well as payment of gasoline and special motor fuels taxes in the performance of the Contract and all motor vehicle fees required for commercial motor vehicles used in connection with the performance of the Contract, then this obligation shall be void; otherwise, it shall remain in full force and effect. No modification of the Contract or extension of the term thereof, nor any forbearance on the part of the City shall in any way release the Principal or the Surety from liability hereunder. Notice to the Surety of any such modification, extension, or forbearance is hereby waived.

IN WITNESS WHEREOF, the aforesaid Principal and Surety have executed this instrument and affixed their seals hereto, this _____ day of _____, 20_____.

In the presence of:

WITNESS:

_____(SEAL)
(Individual Principal)

(Business Address)

(City/State/Zip Code)

WITNESS:

_____ (SEAL)
(Corporate Principal)

(Business Address)

(City/State/Zip Code)

ATTEST:

_____ (Corporate Principal) Affix
Corporate Seal

(Business Address)

(City/State/Zip Code)

ATTEST:

_____ (Corporate Surety) Affix
Corporate Seal

(Business Address)

(City/State/Zip Code)

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

The total amount of premium charges is \$ _____.

(The above is to be filled in by Surety Company). (Power of Attorney of person signing for Surety Company must be attached).

(CERTIFICATE AS TO CORPORATE PRINCIPAL)

I, _____, certify that I am the _____
Secretary of the corporation named as Principal in the foregoing bond; that
_____, who signed the said bond on behalf of the Principal, was then
_____ of said corporation; that I know his signature, and that his
signature thereto is genuine; and that said bond was duly signed, sealed, and attested to for and in behalf of said
corporation by authority of its governing body.

_____ Affix Corporate Seal

DIRECTIONS FOR PREPARATION OF PERFORMANCE AND MATERIAL AND LABOR BOND

1. Individual sureties, partnerships, or corporations not in the surety business will not be acceptable.
2. The name of the Principal shall be shown exactly as it appears in the Contract.
3. The penal sum shall not be less than required by the Specifications.
4. If the Principals are partners or joint venturers, each member shall execute the bond as an individual and state his place of residence.
5. If the Principal is a corporation, the bond shall be executed under its corporate seal. If the corporation has no corporate seal, it shall so state and affix a scroll or adhesive seal following the corporate name.
6. The official character and authority of the person(s) executing the bond for the Principal, if a corporation, shall be certified by the Secretary or Assistant Secretary thereof under the corporate seal, or copies attached to such records of the corporation as will evidence the official character and authority of the officer signing, duly certified by the Secretary or Assistant Secretary, under the corporate seal, to be true copies.
7. The current power-of-attorney of the person signing for the surety company must be attached to the bond.
8. The date of the bond must not be prior to the date of the Contract.
9. The following information must be placed on the bond by the surety company:
 - a. The rate of premium in dollars per thousand; and
 - b. The total dollar amount of premium charged.
10. The signature of a witness shall appear in the appropriate place attending to the signature of each party of the bond.
11. Type or print the name underneath each signature appearing on the bond.
12. An executed copy of the bond must be attached to each copy of the Contract (original counterpart) intended for signing.

CITY OF UKIAH
Mendocino County, California

DEFECTIVE MATERIAL AND WORKMANSHIP (MAINTENANCE) BOND

KNOW ALL MEN BY THESE PRESENTS,

That we, _____
_____, as **PRINCIPAL**

and _____
_____, as **SURETY,**

are held and firmly bound unto the **City of Ukiah** as Obligee, in the penal sum of _____

_____ (\$ _____),
(5 PERCENT OF THE FINAL CONTRACT AMOUNT)

to which payment well and truly to be made, we do bind ourselves, our and each of our heirs, executors, administrators, successors and assigns jointly and severally, firmly by these presents.

WHEREAS, the said Principal entered into a Contract with the City Of Ukiah
dated _____
for _____

WHEREAS, said Contract has been completed, and was approved on the _____ day of _____,
_____.

NOW, THEREFORE, THE CONDITION OF THIS OBLIGATION IS SUCH, that if the Principal shall guarantee that the work will be free of any defective materials or workmanship which become apparent during the period of one (1) year following completion of the Contract, then this obligation shall be void, otherwise to remain in full force and effect, provided however, any additional warranty or guarantee whether expressed or implied is extended by the Principal or Manufacturer only, and the surety assumes no liability for such a guarantee.

Signed, sealed, and dated this _____ day of _____, 20_____.

(Seal)

BY: _____ (Seal)

(Seal)

Principal

(Seal)

BY: _____ (Seal)

(Seal)

Surety