



## Public Works Department

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# Construction Specifications April 2016



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City Engineer

**Copy of City Adopting Resolution**

Construction Specifications

SECTION 1. TERMS AND DEFINITIONS .....1-1

    1-1    GENERAL.....1-1

    1-2    ABBREVIATIONS .....1-1

    1-3    DEFINITIONS .....1-3

    1-4    UNITS OF MEASURE .....1-6

SECTION 2. BID REQUIREMENTS AND CONDITIONS .....2-1

    2-1    BID FORM .....2-1

    2-2    PREPARATION AND SUBMISSION OF BIDS .....2-2

    2-3    EXAMINATIONS OF PLANS, SPECIFICATIONS, AND SITE OF WORK .....2-2

    2-4    SUBSURFACE CONDITIONS .....2-3

    2-5    CONTRACTORS/SUBCONTRACTORS REQUIRED TO BE LICENSED .....2-3

    2-6    COMPETENCY OF BIDDERS .....2-3

    2-7    DISQUALIFICATION OF BIDS.....2-4

    2-8    JOINT VENTURE BIDS .....2-4

    2-9    SUBCONTRACTORS .....2-4

    2-10   ADDENDA.....2-5

    2-11   ASSIGNMENT OF ANTITRUST ACTIONS .....2-5

    2-12   BID GUARANTEE .....2-5

    2-13   WITHDRAWAL OF BID .....2-5

    2-14   PUBLIC OPENING OF BIDS .....2-5

    2-15   REJECTION OF BIDS.....2-5

    2-16   RELIEF OF BIDDERS.....2-5

    2-17   BID PROTESTS .....2-6

SECTION 3. AWARD AND EXECUTION OF CONTRACT .....3-1

    3-1    AWARD OF CONTRACT.....3-1

    3-2    TIME OF AWARD .....3-1

    3-3    CONSIDERATION OF BIDS.....3-1

    3-4    PERFORMANCE AND PAYMENT BONDS .....3-1

    3-5    NOTIFICATION OF SURETY COMPANIES .....3-2

    3-6    RETURN OF BID GUARANTEES.....3-2

    3-7    EXECUTION OF CONTRACT .....3-2

    3-8    FAILURE TO EXECUTE CONTRACT .....3-2

    3-9    INSURANCE .....3-3

SECTION 4. SCOPE OF WORK .....4-1

    4-1    INTENT OF CONTRACT DOCUMENTS .....4-1

## Construction Specifications

4-2	PLANS AND SPECIFICATIONS FURNISHED .....	4-3
4-3	CONFORMANCE WITH CODES AND STANDARDS.....	4-3
4-4	SUPPLEMENTAL DRAWINGS.....	4-3
4-5	FIELD INSTRUCTIONS OR OTHER WRITTEN DIRECTIVES .....	4-3
4-6	DOCUMENT PRECEDENCE .....	4-4
4-7	REQUESTS FOR INFORMATION .....	4-4
4-8	DELETED ITEMS .....	4-5
4-9	EXTRA WORK.....	4-5
4-10	USE OF COMPLETED PORTIONS .....	4-5
4-11	LANDS AND RIGHTS-OF-WAY .....	4-5
4-12	WARRANTY .....	4-6
SECTION 5. CONTROL OF WORK AND MATERIALS .....		5-1
5-1	AUTHORITY OF AGENCY .....	5-1
5-2	ATTENTION AND COOPERATION OF CONTRACTOR.....	5-1
5-3	SUGGESTIONS TO CONTRACTOR.....	5-1
5-4	SEPARATE CONTRACTS .....	5-1
5-5	COOPERATION WITH OTHER CONTRACTORS .....	5-1
5-6	CONTRACTOR'S DISMISSAL OF UNSATISFACTORY EMPLOYEES .....	5-2
5-7	CONTRACTOR'S EQUIPMENT .....	5-2
5-8	CONTRACTOR'S SUBMITTALS .....	5-2
5-9	SURVEYS .....	5-5
5-10	RESPONSIBILITY FOR ACCURACY .....	5-6
5-11	DUTIES AND POWERS OF INSPECTORS .....	5-6
5-12	INSPECTION .....	5-6
5-13	QUALITY OF MATERIALS AND WORKMANSHIP.....	5-7
5-14	SUBSTITUTIONS .....	5-7
5-15	PREPARATION FOR TESTING .....	5-8
5-16	MATERIALS SAMPLING AND TESTING.....	5-8
5-17	APPROVAL OF MATERIALS .....	5-8
5-18	PROVISIONS FOR EMERGENCIES .....	5-9
5-19	RIGHT TO RETAIN IMPERFECT WORK .....	5-9
5-20	REMOVAL OF REJECTED MATERIALS OR WORK .....	5-9
5-21	TEMPORARY SUSPENSION OR DELAY OF WORK .....	5-9
5-22	TERMINATION OF CONTRACT .....	5-10
5-23	TERMINATION OF UNSATISFACTORY SUBCONTRACTS.....	5-12

Construction Specifications

5-24 SURVIVAL OF OBLIGATIONS .....5-13

SECTION 6. LEGAL RELATIONS AND RESPONSIBILITIES .....6-1

6-1 COMPLIANCE WITH LAWS AND REGULATIONS .....6-1

6-2 INDEMNIFICATION .....6-4

6-3 CONTRACTOR'S LEGAL ADDRESS .....6-5

6-4 CONTRACTOR NOT AN AGENT OF AGENCY .....6-5

6-5 SUBSTITUTION OF SUBCONTRACTORS.....6-5

6-6 ASSIGNMENT OF CONTRACT .....6-6

6-7 ASSIGNMENT OF MONIES .....6-6

6-8 PROTECTION OF AGENCY AGAINST PATENT CLAIMS .....6-7

6-9 RESPONSIBILITY OF THE CONTRACTOR .....6-7

6-10 PERMITS AND LICENSES .....6-8

6-11 GENERAL SAFETY REQUIREMENTS .....6-8

6-12 PUBLIC CONVENIENCE AND SAFETY .....6-9

6-13 PUBLIC SAFETY AND TRAFFIC CONTROL .....6-10

6-14 TRAFFIC CONTROL PLANS (TCP) .....6-13

6-15 BARRICADING OPEN TRENCHES.....6-14

6-16 EXISTING UTILITIES .....6-14

6-17 APPROVAL OF CONTRACTOR'S PLANS NO RELEASE FROM LIABILITY .....6-16

6-18 CONTRACTOR SHALL NOT MORTGAGE EQUIPMENT.....6-17

6-19 PROPERTY RIGHTS IN MATERIALS .....6-17

6-20 EXCAVATION AND TRENCH SAFETY .....6-17

6-21 PRESERVATION OF PROPERTY .....6-18

6-22 OVERLOADING .....6-18

SECTION 7. PROSECUTION OF THE WORK .....7-1

7-1 BEGINNING OF WORK .....7-1

7-2 AMOUNT OF WORK UNDER CONSTRUCTION .....7-1

7-3 PRECONSTRUCTION CONFERENCE AND PROGRESS MEETINGS .....7-1

7-4 WORK TO BE PROSECUTED WITH ADEQUATE SUPERVISION, LABOR  
FORCE, EQUIPMENT AND METHODS .....7-1

7-5 SCHEDULES .....7-2

7-6 UNUSUAL SITE CONDITIONS .....7-4

7-7 PURSUANCE OF WORK DURING INCLEMENT WEATHER .....7-4

7-8 PEAK HOURS, HOURS OF DARKNESS, HOLIDAYS, AND WEEKENDS.....7-4

7-9 TEMPORARY FACILITIES AND SERVICES .....7-5

## Construction Specifications

7-10	PROTECTION OF WORK, PERSONS AND PROPERTY .....	7-5
7-11	PROOF OF COMPLIANCE WITH CONTRACT.....	7-5
7-12	DELAYS .....	7-6
7-13	NOTICE OF DELAYS.....	7-6
7-14	CARELESS DESTRUCTION OF STAKES AND MARKS NO CAUSE FOR DELAY .....	7-7
7-15	TIME OF COMPLETION.....	7-7
7-16	EXTENSION OF TIME NOT A WAIVER.....	7-7
7-17	INCLEMENT WEATHER AND CONTRACT TIME.....	7-7
7-18	EXTENSION OF TIME .....	7-7
7-19	SUBSTANTIAL COMPLETION .....	7-8
7-20	CLEANING UP.....	7-8
7-21	FINAL INSPECTION AND FIELD ACCEPTANCE .....	7-8
7-22	FINAL ACCEPTANCE AND NOTICE OF COMPLETION .....	7-8
SECTION 8. MEASUREMENT AND PAYMENT.....		8-1
8-1	BASIS AND MEASUREMENT OF PAYMENT QUANTITIES.....	8-1
8-2	SCOPE OF PAYMENT .....	8-2
8-3	WORK TO BE DONE WITHOUT DIRECT PAYMENT .....	8-3
8-4	PAYMENT FOR USE OF COMPLETED PORTIONS OF WORK.....	8-3
8-5	PROGRESS PAYMENT PROCEDURES.....	8-3
8-6	INSPECTION AND PROGRESS PAYMENTS NOT A WAIVER OF CONTRACT PROVISIONS.....	8-4
8-7	RETENTION.....	8-4
8-8	WITHHOLDINGS/DENIAL OF PROGRESS PAYMENT REQUEST .....	8-4
8-9	DEDUCTIONS FOR IMPERFECT WORK.....	8-5
8-10	LIQUIDATED DAMAGES FOR DELAY .....	8-5
8-11	FINAL ESTIMATE AND PAYMENT.....	8-5
8-12	FINAL PAYMENT TO TERMINATE LIABILITY OF AGENCY .....	8-6
8-13	DISPUTED PAYMENTS .....	8-6
SECTION 9. CHANGES AND CLAIMS .....		9-1
9-1	AUTHORITY FOR CHANGES .....	9-1
9-2	ORDERING OF CHANGES.....	9-1
9-3	CONSTRUCTION INCENTIVE CHANGE PROPOSAL (CICP).....	9-1
9-4	CHANGES TO THE CONTRACT.....	9-3
9-5	PROSECUTION OF CHANGES TO THE CONTRACT .....	9-3
9-6	COST AND PRICING DATA .....	9-4

## Construction Specifications

9-7	ACCESS TO RECORDS .....	9-4
9-8	PAYMENT FOR CHANGES .....	9-4
9-9	MARKUPS FOR CHANGED WORK.....	9-4
9-10	COMPENSABLE UNAVOIDABLE DELAYS .....	9-5
9-11	LIMITATIONS ON PAYMENTS FOR CHANGED WORK.....	9-6
9-12	TIME EXTENSIONS FOR CHANGES .....	9-6
9-13	EFFECT ON SURETIES OF CHANGES TO THE WORK .....	9-6
9-14	CONTRACT CHANGE ORDER (CCO).....	9-6
9-15	ACCEPTANCE OF ORDERS FOR CHANGES.....	9-6
9-16	DISPUTE REGARDING CONTRACT REQUIREMENTS .....	9-6
9-17	NOTICE OF POTENTIAL CLAIM.....	9-7
9-18	SUBMISSION OF CLAIMS .....	9-7
9-19	ENGINEER'S DECISION.....	9-8
9-20	ALTERNATIVE DISPUTE RESOLUTION .....	9-9
9-21	NO ALTERNATIVE CLAIMS PROCEDURE .....	9-11
9-22	ASSIGNMENT OF CLAIMS .....	9-11
SECTION 10. ENVIRONMENTAL CONTROLS AT WORK SITE.....		10-1
10-1	DUST CONTROL .....	10-1
10-2	AIR POLLUTION CONTROL .....	10-1
10-3	BURNING .....	10-1
10-4	EROSION, SEDIMENT, AND WATER POLLUTION CONTROL.....	10-1
10-5	CONTROL OF WATER IN THE WORK .....	10-5
10-6	NOISE CONTROL.....	10-5
10-7	CONTAMINATED AND HAZARDOUS MATERIALS OR ENVIRONMENTS .....	10-5
10-8	USE OF EXPLOSIVES.....	10-5
10-9	SANITARY REGULATIONS .....	10-6
10-10	CONFINED SPACES .....	10-6
10-11	CLEANING UP .....	10-7
10-12	ARCHEOLOGICAL AND CULTURAL RESOURCES .....	10-7
10-13	PROTECTION OF EXISTING TREES.....	10-7
SECTION 11. PRECONSTRUCTION PHOTOGRAPHS AND RECORD DRAWINGS.....		11-1
11-1	GENERAL.....	11-1
11-2	PRECONSTRUCTION PHOTOGRAPHS .....	11-1
11-3	RECORD DRAWINGS.....	11-1
11-4	MEASUREMENT AND PAYMENT .....	11-2

Construction Specifications

SECTION 12. TECHNICAL PROVISIONS .....12-1

12-1 USE OF SACRAMENTO COUNTY CONSTRUCTION SPECIFICATIONS  
SECTIONS 11 – 50 AND MODIFICATION TO THESE SPECIFICATIONS .....12-1

12-2 LED STREET LIGHTS.....12-4

12-3 BROADBAND INFRASTRUCTURE.....12-10

## SECTION 1.

### TERMS AND DEFINITIONS

#### 1-1 GENERAL

Whenever the following terms, titles, or abbreviations are used in these Specifications or in any document or instrument where these Specifications govern, the intent and meaning shall be as herein defined. Working titles having a masculine gender, such as "workman" and "journeyman" and the pronoun "he", are utilized in the specifications for the sake of brevity, and are intended to refer to persons of either gender.

#### 1-2 ABBREVIATIONS

Abbreviation	Description
AAN	American Association of Nurserymen
AASHTO	American Association of State Highway and Transportation Officials
AC	Asphalt Concrete
ACI	American Concrete Institute
AISC	American Institute of Steel Construction
AISI	American Iron and Steel Institute
APA	American Plywood Association
ASA	American Standards Association
ASME	American Society of Mechanical Engineers
ASTM	American Society for Testing and Materials
AWG	American Wire Gage
AWS	American Welding Society
AWWA	American Water Works Association
Cal-OSHA	California Occupational Safety and Health Administration
Caltrans	California Department of Transportation
CL	Centerline
CSI	Construction Specifications Institute
CY	Cubic Yards
DI	Drop Inlet
EA	Each
EP	Edge of Pavement
FS	Federal Specifications or Finished Surface
Inv	Invert

## Construction Specifications

Abbreviation	Description
ISA	International Society of Arboriculture
LB	Pound
LF	Linear Feet
LS	Lump Sum
NBFU	National Board of Fire Underwriters
NEC	National Electrical Code
NEMA	National Electrical Manufacturers Association
NFPA	National Fire Protection Association
NSF	National Sanitation Foundation
OSHA	Occupational Safety and Health Act
PCC	Portland Cement Concrete
SD	Storm Drain
SF	Square Foot/Feet
SS	Sanitary Sewer
STA	Station
Title 8	Title 8 (Construction Safety Orders) of the California Code of Regulations
Title 19	Title 19 (Public Safety) of the California Code of Regulations
Title 24	Title 24 (Building Standards) of the California Code of Regulations
TOC	Top of Curb
Typ.	Typical
UL	Underwriters' Laboratories, Inc.
UBC	Uniform Building Code (latest edition adopted by Agency)
USBR	United States Bureau of Reclamation
UMC	Uniform Mechanical Code (latest edition adopted by Agency)
UPC	Uniform Plumbing Code (latest edition adopted by Agency)
WCLA	West Coast Lumbermen's Association
WIC	Woodwork Institute of California

**1-3 DEFINITIONS**

<b>Term</b>	<b>Description</b>
<b>Agency</b>	Shall mean the City of Winters acting through its authorized representatives unless the context of a particular document section means another County, State or Federal Agency as appropriate.
<b>Allowance</b>	An amount of money set aside under the Contract for a special purpose identified in the Contract.
<b>Architect and/or Consulting Engineer</b>	A person or persons, firm, partnership, joint venture, corporation, or combination thereof or authorized representative thereof, acting in the capacity of consultant to the Agency. The Architect or Consulting Engineer shall issue directions to the Contractor only through the Agency. When the Specifications require that approval be obtained from the Architect or Consulting Engineer, such approval shall be requested from and be given by the Agency.
<b>As Shown, Etc.</b>	Where "as shown", "as latest indicated", "as detailed", or words of similar import are used, the reference is to the Contract unless specifically stated otherwise. Where "as directed", "as permitted", "approved", or words of similar import are used, they shall mean the direction, permission, or approval of the Agency.
<b>Bid</b>	When submitted on the prescribed bid form, properly signed and guaranteed, the Bid constitutes the offer of the Bidder to complete the Work at the price shown on the Bidder's bid form.
<b>Bidder</b>	Any person, persons, firm, partnership, joint venture, corporation, or combination thereof, submitting a Bid for the Work, acting directly or through a duly authorized representative.
<b>Bid Documents</b>	The sum of the documents that comprise the Bid by a Bidder to perform the Work.
<b>Bid Opening</b>	The event conducted by the Agency during which the sealed Proposals submitted by Bidders to perform the Work are opened and publicly read.
<b>Board of Supervisors</b>	The Board of Supervisors of the County of Yolo, a political subdivision of the State of California. Also referred to as "Board"
<b>Board of Directors</b>	The Board of Directors of the special district or agency named in the Notice to Contractors. Also referred to as "Board"
<b>Calendar Day</b>	Every day shown on the calendar. When the Contract Time is stated in Calendar Days, every day will be charged toward the Contract Time.
<b>Council</b>	Council of the City of Winters, a Municipal Corporation.

Construction Specifications

Term	Description
<b>Contract/Contract Documents</b>	The written agreement signed by the Agency and the Contractor covering the Work and the furnishing of labor, materials, tools, and equipment in the construction of the Work. The Contract shall include the Notice to Contractors, Bid, Plans, Specifications, Special Provisions, contract bonds, and any project-specific specifications or documents; also any and all supplemental agreements amending or extending the Work contemplated and which may be required to complete the Work in a substantial and acceptable manner. Supplemental agreements are written agreements covering alterations, amendments, or extensions to the Contract and include Contract Change Orders.
<b>Contract Change Order</b>	A Contract amendment approved by the Agency or by the Board that includes, but is not limited to, alterations, deviations, additions to, or deletions from, the Contract which are required for the proper completion of the Work.
<b>Contractor</b>	The person or persons, firm, partnership, joint venture, corporation, or combination thereof, private or municipal, who (that) has (have) entered into a Contract, as defined in these Specifications, with the Agency.
<b>Contract Time</b>	The time stated in the Contract for completion of the Work. The Contract Time may be a single allotment of time, a group of times specific to portions of the Work, or a combination of the two.
<b>County</b>	The County of Yolo, a political subdivision of the State of California.
<b>Engineer</b>	The <b>Error! Unknown document property name.</b> Engineer of the City of Winters, or Agency Engineer of the district or agency for which work will be done under these Specifications, acting personally or through agents or assistants duly authorized by the Engineer. The <b>Error! Unknown document property name.</b> Engineer shall represent the Contracting Agency unless otherwise stated in the Contract Documents.
<b>Estimated Quantities</b>	The list of items of work and the estimated quantities associated with the Work. The Estimated Quantities provide the basis for the Bid.
<b>Inspector</b>	The person or persons authorized to act as agent(s) for the Agency in the inspection of the Work.
<b>Notice To Contractors</b>	The written notice whereby interested parties are informed of the date, location, and time of the Bid Opening of a proposed Agency Project and the terms and conditions of submitting Bids to perform the Work.
<b>Notice To Proceed</b>	The written authorization by the Agency to the Contractor specifying the date the Work may begin and any conditions regarding the beginning of the Work.
<b>Plans</b>	The plans, drawings, profiles, cross sections, Working Drawings, and Supplemental Drawings, or reproductions thereof, approved by the Agency, which show the locations, character, dimensions, and details of the Work.
<b>Project</b>	Shall mean the Work.
<b>Proposal</b>	Shall mean "Bid"

## Construction Specifications

<b>Term</b>	<b>Description</b>
<b>Record Drawings</b>	Drawings prepared by the designer that document changes to, additions to, or deductions from the Plans, and which represent the Work as constructed.
<b>Schedule of Values</b>	A statement furnished by the Contractor to the Agency reflecting the portions of the Total Contract Price allotted for the various parts of the Work for each work activity contained on the project schedule. Unless otherwise indicated in the Specifications, the total of the Schedule of Values shall equal the full cost of the Work, including all labor, material, equipment, overhead, and profit. For lump sum contracts, the Schedule of Values is the basis for reviewing the Contractor's application for progress payments.
<b>Special Provisions</b>	The Special Provisions are specific clauses setting forth conditions or requirements peculiar to the Work and supplementary to these Standard Construction Specifications.
<b>Standard Construction Specifications</b>	The directions, provisions, and requirements contained herein. When the term "Standard Specifications" or "these Specifications" is used, it means the provisions as set forth herein, together with any amendments or revisions that may be set forth in the Special Provisions. The Standard Specifications are comprised of "General Provisions" and "Technical Provisions".
<b>Standard Drawings or Plans</b>	The Standard Drawings of the Agency, which are incorporated into the Standard Construction Specifications, and made a part of the Plans by reference to one or more specific Standard Drawings.
<b>State</b>	The State of California.
<b>State Specifications</b>	The version of the Standard Specifications of the State of California, Department of Transportation, in effect at the time of Notice to Contractors.
<b>State Plans</b>	The version of the Standard Plans of the State of California, Department of Transportation, in effect at the time of Notice to Contractors.
<b>Subcontractor</b>	A properly licensed party under contract to and responsible to the Contractor for performing a specified part of the Work; or a properly licensed party under contract and responsible to a Subcontractor of the Contractor.
<b>Supplemental Drawing</b>	Supplemental Drawings define the Plans or Specifications in greater detail by providing additional information that may have not been specifically or clearly shown or called out on the Plans or in the Specifications.
<b>Technical Provisions</b>	The provisions of the Standard Construction Specifications that describe the technical aspects of the Work.
<b>Total Contract Price</b>	The total price for the Work as bid by the Contractor, including any additions or subtractions made via Contract Change Orders.
<b>Work</b>	All actions which the Contractor is contractually required to do as specified, indicated, shown, contemplated, or implied in the Contract to construct the Work, including all alterations, amendments, or extensions made by Contract Change Order or other written orders or directives of the Agency. Unless specified otherwise in the Contract, the Work includes furnishing all materials, supplies, equipment, tools, labor, transportation, supervision, and all incidentals necessary to complete the Work.

<b>Term</b>	<b>Description</b>
<b>Working Day</b>	Any day except: (a) Saturdays, Sundays, and Agency’s legal holidays; (b) days on which the Contractor is specifically required by the Special Provisions or by law to suspend construction operations; or (c) days on which the Contractor is prevented from proceeding with the current controlling operation or operations of the Work for at least five (5) hours per day due to inclement weather, or conditions resulting immediately therefrom.
<b>Working Drawings</b>	Working Drawings detail a particular item of work and the manner in which it is to be accomplished or performed. Working Drawings are prepared by the Contractor as a submittal or a portion of a submittal and may be specifically requested by the Agency or required in the Contract or a Field Instruction or other written directive.

**1-4 UNITS OF MEASURE**

U.S. Standard Measures, also called U.S. Customary System or “English”, shall be the principal system of measurement used for construction, unless otherwise stated in the Contract Documents. Whenever a dual set of measurements are shown on referenced Standard Plans, the U.S. Customary System shall be used. SI or metric measurements are acceptable when they are the only set of measurements shown on reference Plans or Specifications.

## SECTION 2.

### BID REQUIREMENTS AND CONDITIONS

#### 2-1 BID FORM

The Agency will furnish to each prospective Bidder a bid form which, when properly completed and executed, must be submitted as the Bidder's Bid for the Work. All Bids must be submitted on the Agency-furnished bid form to be valid and accepted. Bids that are not submitted on the Agency-furnished bid form will be rejected. The completed bid form shall be in English and legible, and shall be properly signed in longhand by the Bidder, if an individual, by a member of a partnership, by an officer of a corporation authorized to sign contracts on behalf of the corporation, or by an agent of the Bidder. If submitted by a corporation, the Bid shall show the name of the state under the laws of which the corporation is chartered or organized.

The Bid shall be made on the bid form in clearly legible figures as follows:

##### 2-1.01 UNIT PRICE BID

Where the bid for an item of work is to be submitted on a unit price basis, the Bidder shall bid a unit price as total compensation for completion of one unit of the work described under that item. This price shall be multiplied by the Estimated Quantity included in the bid form to derive a total bid price for that item. The total amount bid for a unit price contract shall be entered on the space provided on the bid form as a grand total of all individual items.

The Estimated Quantities included on the bid form are approximate and are only included in the bid form as a basis for comparison of Bids. The Agency does not, expressly or by implication, represent or agree that the actual amount of work will equal the approximate Estimated Quantities. Payment will be made for the actual quantity of Work performed in accordance with the Contract. The Agency reserves the right to increase or decrease the amount of any class or portion of the Work, or to omit portions of the Work, as may be deemed necessary or advisable in the sole discretion of the Agency. For compensation for alterations in quantities of work, including deviations greater than twenty-five percent (25%), see Section 9-8.02, "Payment for Changes - Unit Prices", of these Specifications.

##### 2-1.02 LUMP SUM BID

Where the bid for an item of work is to be submitted on a "Lump Sum" or "Job" basis, a single lump-sum price shall be submitted in the appropriate place on the bid form. Items bid on a lump-sum basis shall result in a complete structure, operating plant, or system, in satisfactory working condition with respect to the functional purposes of the installation, as described in the Contract, and no extra compensation will be paid for anything omitted but fairly implied.

##### 2-1.03 ALLOWANCES

Where specific allowance items have been entered on the bid form by the Agency, the total amount entered on the bid form shall be included in the Total Bid Price. However, the total amount to be paid for the Work included in the Allowance shall be the amount of the Allowance actually utilized in the course of completing the Work.

## **2-2 PREPARATION AND SUBMISSION OF BIDS**

By submission of a Bid, the Bidder acknowledges acceptance of the nature and location of the Work, the general and local conditions, conditions of the site, the character, quality and scope of work to be performed, the availability of labor, electric power, water, the kind of surface and subsurface materials on the site, the materials and equipment to be furnished, and all requirements of the Contract or other matters which may affect the Work or the cost. Any failure of a Bidder to become acquainted with all of the available information concerning conditions will not relieve the Bidder from the responsibility for estimating properly the difficulties or cost of the Work.

The Bidder declares by the submission of a Bid that the Bid is not made in the interest of, or on behalf of, any undisclosed person, partnership, company, association, organization, or corporation; that the Bid is genuine and not collusive or a sham; that the Bidder has not directly or indirectly Induced or solicited any other Bidder to put in a false or sham Bid, and has not directly or indirectly colluded or agreed with any Bidder or anyone else to put in a sham Bid or to refrain from bidding; that the Bidder has not directly or indirectly sought by agreement, communication, or conference with anyone to fix the Bid price or the Bid price of any other Bidder, or to fix any overhead, profit, or cost element of such Bid price or that of any other Bidder, or to secure any advantage against the Agency, anyone interested in the Bid as principal, or those named within the Bid; that all statements contained in the Bid are true; that the Bidder has not directly or indirectly submitted a Bid price or any breakdown thereof or the contents thereof, or divulged information or data relative thereto, to any other person, partnership, corporation or association, except to person or persons as have a direct financial interest in the Bidder's general business.

Bid prices shall include everything necessary for the completion of the Work and fulfillment of the Contract, including but not limited to furnishing all materials, equipment, tools, excavation sheeting, bracing and supports, plant, labor and services, except as may be provided otherwise in the Contract. Bid prices shall include all Federal, State, and local taxes, and all other fees and costs not expressly paid for by the Agency as stated in the Special Provisions.

The Bid shall be submitted in a sealed envelope as directed in the Notice to Contractors. The Bidder shall plainly mark the exterior of the envelope in which the Bid is submitted to indicate that it contains a Bid for the project for which the Bid is submitted, and the date of the Bid opening therefore.

Bids submitted in envelopes that are not properly marked will be rejected.

### **2-2.01 AGENCY EMPLOYEES AND DESIGN ENGINEERS MAY NOT BID ON CONSTRUCTION CONTRACT**

No employee of the Agency shall be eligible to submit a proposal for, nor to subcontract for any portion of, nor to supply any materials for any contract administered by the City.

No engineering or architectural firm which has provided design services for a project shall be eligible to submit a proposal for the contract neither to construct the project nor to subcontract for any portion of the work. The ineligible firms include the prime contractor for design, subcontractors of portions of the design and affiliates of either. An affiliate is a firm which is subject to the control of the same persons, through joint ownership or otherwise.

## **2-3 EXAMINATIONS OF PLANS, SPECIFICATIONS, AND SITE OF WORK**

The Bidder shall examine carefully the site of the proposed Work and the Plans, Specifications and Bid Documents, and shall be satisfied as to the character, quality, and quantity of surface and subsurface materials or obstacles to be encountered. The submission of a Bid shall be conclusive evidence that the Bidder is satisfied through the Bidder's own investigation as to the conditions to be encountered; the character, quality, quantity and scope of work to be performed; and the materials and equipment to be furnished.

If material discrepancies or apparent material errors are found in the Plans and Specifications prior to the date of bid opening, an Addendum may be issued (see Section 2-9, "Addenda", in this Section of these Specifications). Otherwise, in figuring the Work, Bidders shall consider that any discrepancies or conflict between Plans and Specifications will be governed by Section 4-1, "Intent of Contract Documents".

#### **2-4 SUBSURFACE CONDITIONS**

Where investigations of subsurface conditions have been made by the Agency with respect to subsurface conditions, utilities, foundation, or other structural designs, and that information is shown in the Plans, it represents only a statement by the Agency as to the character of materials which have actually been encountered by the Agency's investigation. This information is only included for the convenience of Bidders.

Investigations of subsurface conditions are made for the purpose of design only. The Agency assumes no responsibility with respect to the sufficiency or accuracy of borings or of the log of test borings or other preliminary investigations or of the interpretation thereof. There is no guaranty, either expressed or implied, that the conditions indicated are representative of those existing throughout the Work, or any part of it, or that unanticipated conditions may not occur. When a log of test borings is included in the Plans, it is expressly understood and agreed that said log of test borings does not constitute a part of the Contract. The log of test borings represents only an opinion of the Agency as to the character of the materials to be encountered, and is included in the Plans only for the convenience of the Bidders. Making information available to Bidders is not to be construed in any way as a waiver of the provisions of the first paragraph of this Section, and Bidders must satisfy themselves through their own investigations as to conditions to be encountered.

#### **2-5 CONTRACTORS/SUBCONTRACTORS REQUIRED TO BE LICENSED**

The Bidder shall be licensed under the provisions of Chapter 9, Division 3, of the Business and Professions Code to do the type of work contemplated in the project, and shall be skilled and regularly engaged in the general class or type of work called for under the contract. The specific type of license required will be indicated in the "Notice to Contractors". Unless specified otherwise in the Special Provisions, the Bidder shall indicate the license number and class in the space provided for that purpose on the bid form.

All Subcontractors engaged to perform portions of the Work shall be licensed under the provisions of Chapter 9, Division 3, of the Business and Professions Code to do the type of work for which they are subcontracted, and shall be skilled and regularly engaged in the general class or type of work called for under their subcontracts.

Attention is also directed to the provisions of Public Contract Code Section 20103.5, which addresses Contractor licensing requirements. The Agency may not award the Contract if it cannot be verified that the low Bidder is an appropriately licensed Contractor at the time of Contract award.

#### **2-6 COMPETENCY OF BIDDERS**

It is the intention of the Agency to award a Contract only to a Bidder who furnishes satisfactory evidence that the Bidder has the requisite experience and ability, and has sufficient capital, facilities, and plant to enable the Contractor to prosecute the Work successfully and promptly, and to complete the Work within the time stated in the Contract.

If required by the Special Provisions, a statement of experience and business standing, together with that of all Subcontractors that were designated in the Bid, shall be submitted on an Agency-provided form by the three (3) apparent low Bidders within seven (7) days after the opening of Bids. To determine the experience of a Bidder, any relevant evidence will be considered that the Bidder, or personnel, has satisfactorily performed on other contracts of similar nature and magnitude or difficulty.

## **2-7 DISQUALIFICATION OF BIDS**

More than one Bid from any individual, firm, partnership, corporation or association, under the same or different names, will not be considered. Reasonable ground for believing that any Bidder has interests in more than one Bid for the Work will cause rejection of all Bids in which such Bidder has interest. If there is reason to believe that collusion exists among Bidders, none of the participants of such collusion will be considered.

## **2-8 JOINT VENTURE BIDS**

If two or more prospective Bidders desire to bid jointly as a joint venture on a single project, the joint venture Bid must be accompanied by a notarized copy of a valid license issued to the joint venture by the Contractor's State License Board. If a copy of the joint venture license is not filed with the Bid, the Bid will be rejected.

## **2-9 SUBCONTRACTORS**

In accordance with the Subletting and Subcontracting Fair Practices Act, of the Public Contract Code, Section 4100 et seq., each Bidder shall list in the bid form:

1. The name and the location of the place of business of each Subcontractor whom the Bidder proposes to perform work or labor or render service to the prime Contractor in or about the construction of the Work, or a Subcontractor licensed by the State of California who, under subcontract to the prime Contractor, is proposed by the Bidder to specially fabricate and install a portion of the Work according to detailed drawings contained in the Contract, in an amount in excess of one-half of one percent (0.5%) of the Total Bid or, in the case of a Bid for the construction of streets or highways, including bridges, in excess of one-half of one percent (0.5%) of the Bidder's Total Bid or ten thousand dollars (\$10,000), whichever is greater.
2. The portion of the Work [type of work and percentage if not one hundred percent (100%)] that will be done by each Subcontractor. The Bidder shall list only one Subcontractor for each portion as is defined by the Bidder in the Bid.

If a Bidder fails to specify a Subcontractor for any portion of the Work to be performed under the Contract (or specifies more than one Subcontractor for the same work), the Bidder agrees that the Bidder is fully qualified and shall perform that portion of the Work. If after the award of the Contract, the Contractor subcontracts any portion of the Work, except as provided in Section 4107 or 4109 of the Act, the Contractor shall be subject to the penalties specified in Section 4111 of the Act.

A listed Subcontractor shall perform with the Subcontractor's own organization and with workers under the Subcontractor's immediate supervision, work of a value of not less than seventy-five percent (75%) of the value of each item of work for which the Subcontractor is listed. Pursuant to Public Contract Code Section 6109, a Contractor may not perform work with a Subcontractor who is ineligible to perform work on public works projects pursuant to Labor Code Sections 1777.1 and 1777.7.

The apparent low Bidder shall submit the license numbers of all Subcontractors to the Agency within three (3) days, not counting Saturdays, Sundays, and holidays, of Bid opening. If the low Bidder is not the apparent low Bidder, the low Bidder shall submit the license numbers of all listed subcontractors to the Agency within three (3) days, not counting Saturdays, Sundays, and holidays, of the date notified.

The Contractor shall include provisions in every Subcontract that the Contract between the Contractor and the Agency is part of the Subcontract, and that all terms and provisions of the Contract are incorporated in the Subcontract. Copies of all Subcontracts shall be available to the Agency upon written request.

**2-10 ADDENDA**

The correction of any material discrepancies in, or material additions to/omissions from, the Plans, Specifications, or other Contract, or any interpretation thereof, during the bidding period will be made only by an Addendum issued by the Agency. A copy of each Addendum issued by the Agency will be mailed or delivered to each planholder listed on the Agency planholder list and is a part of the Contract. Any interpretation or explanation not included in the addenda will not be considered binding.

**2-11 ASSIGNMENT OF ANTITRUST ACTIONS**

The Bidder is required to comply with Public Contract Code Section 7103.5(b), which addresses assignment of antitrust actions.

**2-12 BID GUARANTEE**

The Bid shall be accompanied by a Bid Guarantee in the form of cash, a certified check, a cashier's check, or a bidder's bond in the form provided by the Agency. The Bid Guarantee shall be executed by an admitted surety insurer in favor of the Agency, the amount of which shall be not less than ten percent (10%) of the Base Bid amount, or other security acceptable to the Agency. No Bid will be considered unless accompanied by a Bid Guarantee.

The Agency is authorized to forfeit such Bid Guarantee as necessary to reimburse for costs incurred for failure of the successful Bidder to enter into a contract. The amount of the Bid Guarantee shall not be deemed to constitute a penalty or liquidated damages. The Agency is not precluded by a Bid Guarantee from recovering from the defaulting Bidder damages in excess of the amount of said Bid Guarantee incurred as a result of the failure of the successful Bidder to enter into a contract with the Agency for the Work.

**2-13 WITHDRAWAL OF BID**

A Bid may be withdrawn at any time prior to the hour fixed in the Notice to Contractors for the submission of Bids by a written request of the Bidder filed with the Agency at the location where the Bid was submitted. The withdrawal of a Bid will not prejudice the right of a Bidder to file a new Bid within the time prescribed.

**2-14 PUBLIC OPENING OF BIDS**

Bids will be opened and read publicly at the time and place indicated in the Notice to Contractors or in a subsequent Addendum. Bidders or their authorized representatives and other interested parties are invited to be present.

**2-15 REJECTION OF BIDS**

The Agency reserves the right to reject any and all Bids. The Agency reserves the right to waive irregularities in a Bid and to make an award in the best interest of the Agency.

Bids containing omissions, erasures, alterations, conditions, or additions not called for may be rejected.

**2-16 RELIEF OF BIDDERS**

Bidder shall comply with Public Contract Code Sections 5100 through 5107, concerning relief of Bidders and in particular to the requirement therein that if the Bidder claims a material mistake was made in its Bid, the Bidder shall give the Agency written notice within five (5) days after the opening of the Bids (excluding Saturdays, Sundays, or legal holidays) of the alleged mistake, explaining in the notice in detail how the mistake occurred.

**2-17 BID PROTESTS**

As set forth in the Resolution of Disputes Regarding the Bidding Process form to be included with the bids, any Bidder may file a protest against the award of the Contract to any other Bidder. All Bidders shall be provided with notice of the date and time of the City Council meeting at which the award of the Contract for the Project shall be considered. All Bidders will be provided with an opportunity to bring to the City Council's attention disputes and/or protests regarding the bidding process. No Bidder may bring any action or proceeding challenging the bidding process unless the alleged grounds for the dispute and/or protest are presented to the City Council before or during the meeting referenced herein, and before action by the City Council on award of the Contract. Any Bidder complying with these procedures may bring an action within sixty (60) Calendar Days from the action of the City Council, in accordance with Section 860 of the California Code of Civil Procedure, to determine the validity of the City Council's action on the award of the Contract.

See form for Resolution of Disputes Regarding the Bidding Process governing the procedures for disputes and/or protests regarding the bidding process.

## **SECTION 3.**

### **AWARD AND EXECUTION OF CONTRACT**

#### **3-1 AWARD OF CONTRACT**

The award of the Contract, if the Contract is to be awarded, will be to the lowest responsive, responsible Bidder. In addition to price in determining the lowest responsive, responsible Bidder, consideration will be given to;

1. The ability, capacity and skill of the Bidder to perform the Work;
2. The ability of the Bidder to perform the Work within the time specified, without delay;
3. The ability of the Bidder to perform the Work in a safe manner;
4. The character, integrity, reputation, judgment, experience and efficiency of the Bidder; and
5. The quality of the Bidder's performance on previous work with the Agency.

#### **3-2 TIME OF AWARD**

The award, if made, will be made within thirty (30) days after the Bid Opening unless specified otherwise in the Bid Document. If the lowest responsive, responsible Bidder refuses or fails to execute the Contract, the Agency may award the Contract to the second lowest responsive, responsible Bidder. The specified period of time within which the award of the Contract may be made may be subject to extension for further periods as agreed upon in writing by the Agency and the Bidder.

#### **3-3 CONSIDERATION OF BIDS**

After the Bids have been opened and read, they will be checked for accuracy and compliance with the Specifications.

In the event that the product of a unit price and an estimated quantity does not equal the extended amount quoted, the unit price shall govern and the correct product of the unit price and the estimated quantity shall be deemed to be the amount bid. If the sum of two or more items in a bidding schedule or the sum of two or more bidding schedules does not equal the total amounts quoted, the individual item or schedule amounts shall govern and the correct total shall be deemed to be the amount bid. If the Bid is missing the unit price, then it may be deemed incomplete and the Bid may be rejected.

After the Agency has made any necessary corrections in mathematical errors appearing on the face of the Bid, all Bids will be compared based on the bid form.

#### **3-4 PERFORMANCE AND PAYMENT BONDS**

The format of the Performance Bond and Payment Bond forms shall be those contained in the Bid Document.

As part of the execution of the Contract, the successful Bidder shall furnish the following corporate surety bonds to the benefit of the Agency. Bonds shall be executed by a surety company authorized to do business in the State of California and listed in the current Federal Department of Treasury Circular 570. When the amount to be paid to the Contractor is based upon units of work to be performed or items to be provided, the term "Total Contract Price" as used below for the purpose of posting Performance and Payment Bonds shall be computed on the basis of the unit price bid multiplied by the Estimated Quantities of work to be performed.

#### **3-4.01 PERFORMANCE BOND**

The Performance Bond, to guarantee the performance of all covenants and stipulations of the Contract, shall be on the form provided by the Agency and shall be in a sum not less than one hundred percent (100%) of the original Total Contract Price as set forth in the Contract.

#### **3-4.02 PAYMENT BOND**

The Payment Bond, to guarantee the payment of wages and of bills contracted for materials, supplies, or equipment used in the performance of the Contract, shall be on the form provided by the Agency and shall be in a sum not less than one hundred percent (100%) of the original Total Contract Price as set forth in the Contract.

#### **3-5 NOTIFICATION OF SURETY COMPANIES**

The surety company shall be familiar with all the provisions and conditions of the Contract. It is understood and agreed that the surety company waives notice of change, extension of time, alteration or addition to the terms of the Contract or to the work to be performed thereunder or to the specifications accompanying the same, or any other act or acts by the Agency or the Agency's authorized agents under the terms of the Contract; and failure to so notify the surety company of changes shall in no way relieve the surety company of its obligations under the Contract.

#### **3-6 RETURN OF BID GUARANTEES**

After Bids have been received and reviewed by the Agency, Bid Guarantees will be returned to the respective Bidders except those submitted by the three lowest responsive, responsible Bidders.

Bid Guarantees for Bids not to be further considered in executing the Contract will be returned within ten (10) days after the award of the Contract. The Bid Guarantees of the three lowest responsive, responsible Bidders will be returned within ten (10) days after the successful Bidder has filed satisfactory bonds and proof of insurance as specified and the Bidder and the Agency have executed the Contract.

If all Bids are rejected and no award is made, all Bid Guarantees will be returned within ten (10) days of the decision of the Council to not award the Contract.

#### **3-7 EXECUTION OF CONTRACT**

The Contract shall be executed by the successful Bidder and returned to the Agency, together with the Performance Bond, Payment Bond, certificates of insurance, and endorsements within ten (10) working days of the Bidder's receipt of the documents. Insurance certificates shall be signed by a person authorized by the insurer to bind coverage on its behalf and shall be accompanied by copies of all endorsements required by Section 3-9 in this Section of these Specifications. When requested by the Agency, the successful bidder shall furnish complete, certified copies of all required insurance policies, including endorsements specifically required by Section 3-9. After execution by the Agency, one copy of the Contract, bonds, and certificates of insurance will be returned to the Contractor.

#### **3-8 FAILURE TO EXECUTE CONTRACT**

If the Bidder to whom the Contract is awarded fails to execute the Contract and file acceptable bonds and insurance certificates as provided herein within ten (10) days from the time the Contract forms are received by the Bidder, the award may be annulled and the Bidder's Bid Guarantee forfeited to the Agency. At the Agency's discretion, the Contract may then be awarded to the next lowest responsive, responsible Bidder.

If the Agency awards the Contract to the second lowest responsive, responsible Bidder, the amount of the lowest responsive, responsible Bidder's Bid Guarantee shall be applied by the Agency to the difference

## Construction Specifications

between the lowest Bid and the Bid of the second lowest responsive, responsible Bidder, and the surplus, if any, will be returned to the lowest responsive, responsible Bidder if a check or cash is used, or credited to the surety on the Bidder's Bond if a bond is used.

On refusal or failure of the second lowest responsive, responsible Bidder to execute the Contract, the Agency may award it to the third lowest responsive, responsible Bidder. If the Agency awards the Contract to the third lowest responsive, responsible Bidder, in addition to application of the lowest Bidder's Bid Guarantee as aforesaid, the amount of the second lowest responsive, responsible Bidder's Bid Guarantee shall be applied by the Agency to the difference between the Bid of the second lowest responsive, responsible Bidder and the Bid of the third lowest responsive, responsible Bidder, and the surplus, if any, shall be returned to the second lowest responsive, responsible Bidder if a check or cash is used, or credited to the surety on the second lowest Bidder's Bid Bond if a bond is used.

### **3-9 INSURANCE**

The Contractor shall procure, maintain, and keep in force at all times during the term of the Contract, at the Contractor's sole expense, the following insurance;

#### **3-9.01 GENERAL LIABILITY**

General Liability insurance including, but not limited to, protection for claims of bodily injury and property damage liability, personal and advertising injury liability, and products and completed operations liability. Coverage shall be at least as broad as "Insurance Services Office Commercial General Liability Coverage Form CG 0001" (occurrence). The limits of liability shall be not less than;

The policy shall cover contractual liability applicable to the Contractor's assumed liability under this

Each Occurrence	One Million Dollars (\$1,000,000)
Personal & Advertising Injury	One Million Dollars (\$1,000,000)
Products and Completed Operations Aggregate	Two Million Dollars (\$2,000,000)
General Aggregate	Two Million Dollars (\$2,000,000)
Fire Damage	One Hundred Thousand Dollars (\$100,000)

Contract.

The policy shall provide coverage for claims arising out of subsidence. The Products and Completed Operations coverage shall be maintained for at least two years after completion of the Contract.

#### **3-9.02 AUTOMOBILE LIABILITY**

Automobile Liability insurance providing protection against claims of bodily injury and property damage arising out of ownership, operation, maintenance, or use of owned, hired, and non-owned automobiles. Coverage shall be at least as broad as "Insurance Services Office Business Auto Coverage Form CA 0001," symbol 1 (any auto). The limits of liability shall not be less than:

Bodily Injury and Property Damage Combined Single Limit	One Million Dollars (\$1,000,000)
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**3-9.03 WORKERS' COMPENSATION**

Workers' Compensation insurance is required, with coverage by the State of California (unless the Contractor is a qualified self-insurer with the State of California), and Employers' Liability coverage. The limits of Employers' Liability shall not be less than:

Each Accident	One Million Dollars (\$1,000,000)
Disease Each Employee	One Million Dollars (\$1,000,000)
Disease Policy Limit	One Million Dollars (\$1,000,000)

The Workers' Compensation policy required hereunder shall be endorsed to state that the Workers' Compensation carrier waives its right of subrogation against the City of Winters, its officers, officials, employees, agents or volunteers.

In the event the Contractor is self-insured, the Contractor shall furnish a Certificate of Permission to Self-Insure by the Department of Industrial Relations Administration of Self-Insurance, Sacramento.

**3-9.04 EXCESS OR UMBRELLA LIABILITY**

If the Special Provisions require limits of general liability insurance of more than one million dollars (\$1,000,000) per occurrence, the Contractor shall carry excess or umbrella liability insurance providing excess coverage at least as broad as the underlying coverage for general, automobile and employer's liability with a limit equal to the amount stated in the Special Provisions per occurrence and aggregate.

**3-9.04.A CONTRACTOR'S EQUIPMENT**

The Contractor, and each of its Subcontractors, shall separately insure its own equipment for loss and damage. The Contractor's Property and Inland Marine policies shall include, or be endorsed to include, a waiver of subrogation against the Agency, its officers, officials, employees, agents, and volunteers which might arise by reason of damage to the Contractor's property or equipment (owned, leased or borrowed) in connection with work performed under this Contract by the Contractor.

**3-9.04.B RAILROAD PROTECTIVE LIABILITY**

When stated as a requirement in the Special Provisions, the Contractor shall procure, maintain, and keep in force at all times during the term of the Contract, at the Contractor's sole expense, Railroad Protective Liability insurance with limits of liability as set forth in the Special Provisions.

**3-9.04.C BUILDER'S RISK INSURANCE**

When stated as a requirement in the Special Provisions, the Contractor shall procure, maintain, and keep in force at all times during the term of the Contract and until the date of transfer of the insurable interest to and acceptance by the Agency, at the Contractor's sole expense, Builder's Risk insurance with limits of liability equal to one hundred percent (100%) of the replacement cost of the Work.

1. Coverage shall be written on a completed value, non-reporting form, on a replacement cost basis, and shall cover the property against all risks of physical loss or damage including:
  - a. land movement and flood
  - b. loss that ensues from design error, defective materials, or faulty workmanship
  - c. mechanical breakdown or electrical damage including testing, magnetic disturbance and changes in temperature or humidity.

## Construction Specifications

The property covered shall include the Work, including any materials, equipment, or other items to be incorporated therein while the same are located at the construction site, stored off site, while in transit or at the place of manufacture. The policy shall contain a provision that both the interests of the Agency and the Contractor are covered and that any loss shall be payable to the Agency and the Contractor as their interests may appear.

When stated as a requirement in the Special Provisions, Builders Risk insurance shall include Delay in Opening coverage with limits of liability, and for the period of time, as set forth in the Special Provisions. Coverage shall include debt service, expense, loss of earnings or rental income or other loss incurred by the Agency, without deduction, due to the failure of the project being completed on schedule.

2. The maximum deductible for land movement and flood allowable under this policy shall be five percent (5%) of replacement value at the time loss or one hundred thousand dollars (\$100,000), whichever is less, per occurrence and in the aggregate. The maximum deductible for all other perils allowable under this policy shall be ten thousand dollars (\$10,000). All deductibles shall be borne solely by the Contractor, and the Agency shall not be responsible to pay any deductible, in whole or in part.
3. The Agency and the Contractor waive all rights against each other and against all other contractors for loss or damage to the extent reimbursed by Builders' Risk insurance or any other property or equipment insurance applicable to the Work, except such rights as they may have to the proceeds of such insurance. If the policies of insurance referred to in this section require an endorsement or consent of the insurance company to provide for continued coverage where there is a waiver of subrogation, the owners of such policies will cause them to be so endorsed to obtain such consent.
4. If not covered by Builders' Risk insurance or any other property or equipment insurance required by this Contract, the Contractor shall procure, maintain, and keep in force at all times during the term of the Contract, at the Contractor's sole expense, property insurance for portions of the Contractor's work and/or equipment to be incorporated therein stored offsite or in transit.

### **3-9.04.D ENVIRONMENTAL LIABILITY INSURANCE**

When stated as a requirement in the Special Provisions, the Contractor shall procure, maintain, and keep in force at all times during the term of the Contract, at the Contractor's sole expense, Environmental Liability insurance which includes coverage for sudden and accidental pollution arising out of the handling of hazardous materials or hazardous wastes, and coverage for liability arising out of the handling of asbestos. If coverage for Environmental Liability insurance is written on a claims-made form, the following provisions apply:

1. The "Retro Date" must be shown, and must be on or before the date of the Contract or the beginning of the Work.
2. Insurance must be maintained and evidence of insurance must be provided for at least one (1) year after completion of the Contract.
3. If coverage is cancelled or non-renewed, and not replaced with another claims-made policy form with a "Retro Date" prior to the Contract effective date, the Contractor must purchase "extended reporting" coverage for a minimum of one (1) year after completion of the Contract.

### **3-9.04.E OTHER PROVISIONS**

1. The Contractor's General Liability, Automobile Liability, and any Excess or Umbrella Liability, shall contain the following provisions:

## Construction Specifications

- a. The Agency, its officers, officials, employees, agents, and volunteers shall be covered as additional insured as respects liability arising out of the activities performed by or on behalf of the Contractor, products and completed operations of the Contractor, premises owned, occupied, or used by the Contractor, or automobiles owned, leased, hired, or borrowed by the Contractor. The policy shall contain no special limitations on the scope of coverage afforded to the Agency, its officers, officials, employees, agents, or volunteers.
  - b. For any claims related to this Contract, the Contractor's insurance coverage shall be primary insurance as respects the Agency, its officers, officials, employees, agents, or volunteers. Any insurance or self-insurance maintained by the Agency, its officers, officials, employees, agents, or volunteers shall be excess of the Contractor's insurance and shall not contribute with it.
  - c. Any failure to comply with reporting or other provisions of the policies on the part of the Contractor, including breaches of warranties, shall not affect coverage provided to the Agency, its officers, officials, employees, agents, or volunteers.
2. The Contractor's General Liability and any Excess or Umbrella Liability insurance policies shall contain an endorsement stating that any aggregate limits shall apply separately to the Work.
  3. The Contractor's insurance shall apply separately to each insured against whom claim is made or suit is brought, except with respect to the limits of the insurer's liability.
  4. Each insurance policy shall state that coverage shall not be suspended, voided, cancelled by the Contractor or the Agency, reduced in scope of coverage or in limits, non-renewed, or materially changed unless the insurer(s) provide thirty (30) days written notice by certified mail to the Agency prior to such change- Ten (10) days prior written notice by certified mail shall be given to the Agency in the event of cancellation due to nonpayment of premium.
  5. All of the Contractor's insurance coverage, except as noted below, shall be placed with insurance companies with a current A.M. Best rating of at least A-VII. Exceptions;
    - a. Underwriters at Lloyd's of London, which are not rated by A.M. Best,
    - b. Workers' Compensation which is provided through a State Compensation Insurance Fund or a qualified self-insurer for Workers' Compensation under California law.
    - c. For liability insurance required under Section 3-9.04D (Environmental Liability insurance), insurance requirements shall be placed with insurance companies with a current A.M. Best rating of at least B+;VII.
  6. The Contractor shall sign and file with the Agency the following certification prior to performing any work of a Contract. This certification is included in the Contract. Signature and return of the Contract shall constitute signing and filing of the said certification:

"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 to undertake self-insurance in accordance with the provisions of the Code, and I will comply with such provisions before commencing the performance of the Work of this Contract."
  7. The Agency, at its discretion, may require new types of insurance coverage or increase the limits of insurance coverage required hereunder at any time during the term of the Contract by giving thirty (30) days written notice to the Contractor. Contractor shall immediately procure such insurance or increase the limits of coverage and provide certificates of insurance, including copies

## Construction Specifications

- of all required endorsements, to the Agency within thirty (30) days of receipt of the Agency's request.
8. The required insurance coverage shall be subject to the approval of the Agency, but any acceptance of insurance certificates by the Agency shall in no way limit or relieve the Contractor of its duties and responsibilities in this Contract.
  9. If the Contractor fails to procure or maintain insurance as required by this Section and any Special Provisions, or fails to furnish the Agency with proof of such insurance, the Agency, at its discretion, may procure any or all such insurance. Premiums for such insurance procured by the Agency shall be deducted and retained from any sums due the Contractor under the Contract. Failure of the Agency to obtain such insurance shall in no way relieve the Contractor from any of the Contractor's responsibilities under the Contract. Any failure of the Contractor to maintain any item of the required insurance is sufficient cause for termination of the Contract.
  10. The making of progress payments to the Contractor shall not be construed as relieving the Contractor of responsibility for loss or damage, or destruction occurring prior to final acceptance by the Agency.
  11. The Agency is authorized to execute amendments and waivers, with or without conditions, to the insurance requirements of the Contract. The Agency will provide such amendments or waivers in writing to the Contractor. The failure of the Agency to enforce in a timely manner any of the provisions of this Section shall not act as a waiver to enforcement of any of these provisions at any time during the term of the Contract.

### 3-9.05 NOTIFICATION OF ACCIDENT OR OCCURRENCE

The Contractor shall report by telephone to the Agency within twenty-four (24) hours and also report in writing to the Agency within fifteen (15) days after the Contractor or any subcontractors or agents have knowledge of any accident or occurrence involving death of or injury to any person or persons, or damage in excess of ten thousand dollars (\$10,000) to the Work, property of the Agency or others, arising out of any work done by or on behalf of the Contractor as part of the Contract. Such report shall contain:

1. The date and time of the occurrence,
2. The names and addresses of all persons involved, and
3. A description of the accident or occurrence and the nature and extent of injury or damage.

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## SECTION 4.

### SCOPE OF WORK

#### 4-1 INTENT OF CONTRACT DOCUMENTS

The Work shall be performed and completed according to the Contract documents. The Contract documents provide the details for completing the Work in accordance with the terms of the Contract. Each Contract document is an integral part of the Contract, and a requirement occurring in one is as binding as though occurring in all. The Contract documents shall be interpreted as being explanatory and complementary in requiring complete work ready for use and occupancy or operation in satisfactory working condition with respect to the functional purposes of the installation.

The Contractor shall do all of the work and furnish all labor, materials, tools, equipment, and appliances, except as otherwise herein expressly stipulated, necessary or proper for performing and completing the work herein required, including any Change Order work or disputed work directed by the Agency in conformity with the true meaning and intent of the Contract drawings, Specifications, and all provisions of the Contract, within the time specified.

The Contractor shall perform, with the Contractor's own organization and with workers under the Contractor's immediate supervision, work of a value not less than fifty percent (50%) of the value of original Total Contract Price less "Specialty Items". "Specialty Items" may be performed by subcontract and the cost of any "Specialty Items" so performed may be deducted from the original Total Contract Price before computing the amount of work required to be performed by the Contractor. Where an entire item is subcontracted, the value of work subcontracted will be based on the Contract item bid price. When a portion of an item is subcontracted, the value of work subcontracted will be based on the estimated percentage of the contract item bid price, determined from information submitted by the Contractor, subject to approval by the Agency. "Specialty Items" will be identified by the Agency in the project Special Provisions.

All work shown on the Plans, the dimensions of which are not figured, shall be accurately followed to the scale to which the drawings are made; however, figured dimensions shall in all cases be followed, even if they differ from scaled measurements. Full-size drawings shall be followed in the execution of the Work.

If the Contract does not specifically allow the Contractor a choice of quality or cost of items to be furnished, but could be interpreted to permit such a choice, the Contractor shall furnish the highest quality under current industry standards, regardless of the cost of the item.

Unless otherwise specified, the Contractor agrees to furnish all tools, equipment, apparatus, facilities, labor, material, and transportation necessary to perform and complete the Work in a good and workmanlike manner to the satisfaction of the Agency, in the manner designated, and in strict conformity to the Contract. When portions of the Work are described in general terms, but not in complete detail, it is understood that the Contractor will employ only the best general practice and incorporate only the best quality materials and workmanship in the Work.

No extra compensation will be allowed for anything omitted but fairly implied. The prices paid for the various items will include full compensation for furnishing all labor, materials, tools, equipment, overhead, and incidentals and doing all work necessary to complete the Work as provided in the Contract. The prices paid include all markups and profit.

If the Contractor discovers any discrepancies during the course of the Work between the Contract drawings and conditions in the field, or any errors or omissions in the Contract drawings and conditions in the field, or any errors or omissions in the Contract drawings, the Specifications, or in the layout given

by stakes, points, or instructions, it shall be the Contractor's duty to inform the Agency immediately, and the Agency shall promptly verify the same. Any work done after such discovery, until authorized by the Agency, will be done at the Contractor's risk.

#### 4-1.01 **DIFFERING SITE CONDITIONS**

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 those conditions shall promptly notify the other party in writing of the specific differing conditions before they are disturbed and before the affected work is performed.

Upon written notification, the Engineer will investigate the conditions, and if the Engineer determines 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 loss of anticipated profits, will be made and the contract modified in writing accordingly. The Engineer will notify the Contractor of the Engineer's determination whether or not an adjustment of the contract is warranted.

No contract adjustment which results in a benefit to the Contractor will be allowed unless the Contractor has provided the required written notice.

No contract adjustment will be allowed under the provisions specified in this section for any effects caused on unchanged work.

Any contract adjustment warranted due to differing site conditions will be made in conformance with the provisions in Section 4-1.03, "Changes," except as otherwise provided.

#### 4-1.02 **HAZARDOUS OR TOXIC MATERIALS**

For any work which involves digging trenches or other excavations that extend deeper than four feet below the surface, the following provisions shall apply:

1. The Contractor shall promptly, and before the following conditions are disturbed, notify the Engineer, in writing, of any:
  - a. Material that the Contractor believes may be hazardous waste, as defined in Section 25117 of the Health and Safety Code, and that is required to be removed to a Class I, Class II, or Class III disposal site in accordance with provisions of existing law.
  - b. Subsurface or latent physical conditions at the site differing from those indicated.
  - c. Unknown physical conditions at the site of any unusual nature, different materially from those ordinarily encountered and generally recognized as inherent in work of the character provided for in the contract.
2. The Engineer shall promptly investigate the conditions, and if he finds that the conditions do materially so differ, or do involve hazardous waste, and cause a decrease or increase in the Contractor's cost of, or the time required for, performance of any part of the work, then the Engineer shall issue a change order under the procedures described in the contract.
3. That, in the event that a dispute arises between the Agency and the Contractor whether the conditions materially differ, or involve hazardous waste, or cause a decrease or increase in the Contractor's cost of, or time required for, performance of any part of the work, the Contractor shall not be excused from any scheduled completion date provided for by the contract, but shall proceed with all work to be performed under the contract. The Contractor shall retain any and all

## Construction Specifications

rights provided either by contract or by law which pertain to the resolution of disputes and protests between the Agency and the Contractor.

### **4-2 PLANS AND SPECIFICATIONS FURNISHED**

The Agency will provide, at no cost to the Contractor, copies of Project Plans, Specifications and Special Provisions (Contract Documents), except Standard Specifications, Standard Drawings or Standard Plans, and the fully executed Contract for the Contractor's use in prosecuting the Work. The total number of copies of the provided documents shall equal the total of the prime Contractor plus the number of Subcontractors listed in the Bid. The Contractor may purchase additional copies at cost.

The Contractor shall retain an approved set of Contract documents on the Job during the progress of the Work. This set shall be used by the Contractor as the Record Drawings as described in Section 11-3, "Record Drawings", of these Specifications.

### **4-3 CONFORMANCE WITH CODES AND STANDARDS**

The Work shall be in full compliance with the latest adopted edition of the following applicable standards and regulations:

1. State Fire Marshal
2. UBC
3. Title 8
4. Title 24
5. NEC
6. UPC
7. Other codes, laws or regulations applicable to the Work or the Contract.

Nothing in the Contract is to be construed to permit work not conforming to these requirements. When the work detailed in the Plans and Specifications differs from governing codes, the Contractor shall complete the Work in accordance with the higher standard. If the higher standard is more expensive than the work detailed in the Plans and Specifications, the Contractor will be compensated for the Contractor's additional costs by Contract Change Order as provided in Section 9, "Changes and Claims", of these Specifications.

### **4-4 SUPPLEMENTAL DRAWINGS**

In addition to the Plans incorporated in the Contract at the time of signing, the Agency may furnish Supplemental Drawings as necessary to clarify or define in greater detail the intent of the Contract. In furnishing such Supplemental Drawings, the Agency may make minor changes in the Work, not involving extra cost and not inconsistent with the nature of the Work. The Supplemental Drawings shall become a part of the Contract.

### **4-5 FIELD INSTRUCTIONS OR OTHER WRITTEN DIRECTIVES**

The Engineer may issue Field Instructions or other written directives during the course of the Work, and the Contractor shall comply with the Field Instruction or other written directive. A Field Instruction or other written directive may be used to add, delete, modify, or reject work, to note deficiencies in work, to clarify the Contract or to order work to be performed. Work required by a Field Instruction or other written directive shall be in accordance with the Contract and any previously executed Contract Change Orders, except as delineated otherwise in the Field Instruction or other written directive. Drawings

## Construction Specifications

included with Field Instructions or other written directives are part of the Contract and shall be incorporated into the Record Drawings.

If the Contractor refuses or neglects to comply with or make progress in the execution of any Field Instruction or other written directive, the Agency may employ any person or persons to perform such work, and the Contractor shall not interfere with the person or persons so employed.

At appropriate intervals, Field Instructions and other written directives that alter the Contract will be grouped to form a Contract Change Order as described in Section 9, "Changes and Claims", of these Specifications,

### **4-6 DOCUMENT PRECEDENCE**

The component Contract documents are intended to provide explanation for each other. Any work shown on the Plans and not in the Specifications, or vice versa, is to be executed as if indicated in both. In case of conflict in the Contract, the following order of precedence will govern interpretation of the Contract:

1. Field Instructions or other written directives
2. Special Provisions and Project-specific Specifications
3. Project Plans
4. Standard Drawings
5. Standard Specifications
6. Other Referenced Standard Plans
7. Other Referenced Standard Specifications

Any work for which there are no provisions in these Specifications, the Special or Technical Provisions, or on the Contract drawings, shall be performed in accordance with the provisions of the Standard Specifications.

### **4-7 REQUESTS FOR INFORMATION**

#### **4-7.01 GENERAL**

Contractor shall prepare a Request for Information (RFI) when additional information, clarification, or interpretation of the Contract is required. RFI's may also be used for apparent conflicts, inconsistencies, ambiguities, or omissions.

RFI's shall be submitted to the Agency sufficiently in advance of the work to permit time for investigation and preparation of a response. Any work undertaken prior to receipt of a response to an RFI will be at the Contractor's risk.

RFI's shall not be used for submittals or for substitution of material or equipment, or for waiving of requirements.

#### **4-7.02 PROCEDURE**

An RFI shall be submitted on an approved form as defined at the preconstruction meeting, and shall be numbered consecutively. A status log shall be prepared and updated by the Contractor and reviewed with the Agency at each progress meeting. Each RFI shall deal with only one topic, item, issue, or system.

The RFI shall clearly describe and specifically state what is being requested. Relevant portions of the Contract shall be cited, marked-up, and attached.

## Construction Specifications

The Contractor shall review each RFI before submittal and compare it with the Contract to verify that a response is required. RFI's will only be accepted from the Contractor and not from Subcontractors or suppliers.

A recommendation or proposed solution may be included when appropriate or expedient. RFI's that are not clear or RFI's for which a response is clearly identified in the Contract will not be accepted.

### **4-7.03 RESPONSE**

The Agency will normally respond within fifteen (15) Working Days. The Agency will provide a written response, and that response shall control.

The Contractor shall indicate a priority for responses to RFI's if more than five (5) RFI's are pending at the same time. In case of a dispute between the Contractor and the Agency, protest may be made as provided in Section 9-16, "Dispute Regarding Contract Requirements", of these Specifications.

Subsequent resubmittals of an RFI shall be identified with the same RFI number and a letter designation. Resubmittals shall clearly state the reason for the resubmittal.

Responses to RFI's shall be recorded by the Contractor on the Record Documents in accordance with Section 11-3, "Record Drawings", of these Specifications,

### **4-8 DELETED ITEMS**

The Agency may delete from the Work any item of work. The Contractor will be paid for all work done toward the completion of the item prior to such omission, as provided in Section 9, "Changes and Claims", of these Specifications but in no event will the amount paid exceed the Bid or Schedule of Values amount less the value of the deleted work.

The Contractor shall make no claim, nor receive any compensation for profits, for loss of profit, for damages, or for any extra payment whatever because of any deleted items of work.

### **4-9 EXTRA WORK**

Work not covered by the Contract but necessary for the proper completion of the Project will be classed as extra work and shall be performed by the Contractor when directed in writing by the Agency. Extra work shall be performed in accordance with the Contract and as directed by the Agency.

Extra work must be authorized in writing by the Agency before the work is started. Payment for extra work will not be made unless such prior written authorization is obtained.

In the event of an emergency or other situation that endangers the Work or endangers public safety, the Agency will direct the Contractor to perform such extra work necessary to protect the Work or the public.

### **4-10 USE OF COMPLETED PORTIONS**

The Agency has the right during the progress of the Work to take over and place in service any completed or partially completed portion of the Work. Taking possession shall not be deemed acceptance of any other portions of the Work, nor work on those portions not completed in accordance with the Contract.

### **4-11 LANDS AND RIGHTS-OF-WAY**

The Agency shall provide the lands, rights-of-way, and easements upon which the Work is to be done, and such other lands as may be designated on the Plans for the use of the Contractor. The Contractor shall confine his operations to within these limits.

The Contractor shall provide at the Contractor's own expense any additional land and access that is required for temporary construction facilities or storage of materials. The Contractor shall obtain all

required permissions for use of private property prior to taking possession or use. The permission shall be obtained in writing and a copy forwarded to the Agency prior to the Contractor taking possession of said property.

#### **4-12 WARRANTY**

The Performance Bond furnished by the Contractor as part of the execution of the Contract shall define the terms and time period of the Warranty of the Contractor's work unless otherwise specified in the Special Provisions. If no time period is specified in the Bond, the time period will be one year after field acceptance of Work (see Section 7-21, "Final Inspection and Field Acceptance", of these Specifications).

If required by the Special Provisions, the Contractor shall enter into and sign Warranty statements in the form provided to warranty various segments of the Work for the time specified.

If failure of any portion of the Work can be attributed to faulty materials, poor workmanship, defective equipment, or any other reason that can be attributed to Contractor's performance, and occurs within the specified warranty period, the Contractor shall promptly make the needed repairs at the Contractor's expense.

The Agency is hereby authorized to make such needed repairs if the Contractor fails to undertake, with due diligence, the needed repairs within ten (10) Calendar Days after the Contractor is given written notice of such failure and without notice to the surety; provided, however, that in case of emergency where, in the opinion of the Agency, delay would cause serious loss or damages or a serious hazard to the public, the repairs may be made or lights, signs, and barricades erected without prior notice to the Contractor or surety, and the Contractor shall pay the entire costs.

## **SECTION 5.**

### **CONTROL OF WORK AND MATERIALS**

#### **5-1 AUTHORITY OF AGENCY**

The Agency will decide all questions regarding the quality and acceptability of materials furnished, work performed, and rate of progress of the Work. The Agency will decide all questions regarding the interpretation and fulfillment of the Contract on the part of the Contractor, and all questions as to the rights of different contractors involved with the Work. The Agency will determine the amount and quality of the Work performed and materials furnished for which payment is to be made under the Contract.

The Agency will administer its authority through a duly designated representative identified at the preconstruction meeting. The Contractor and the Agency representative shall make good faith attempts to resolve disputes that arise during the performance of the Work.

Any order given by the Agency not otherwise required by the Contract to be in writing will be given or confirmed by the Agency in writing at the Contractor's request. Such request shall state the specific subject of the decision, order, instruction, or notice and, if it has been given orally, its date, time, place, author and recipient.

#### **5-2 ATTENTION AND COOPERATION OF CONTRACTOR**

The Contractor shall comply with any instruction delivered to the Contractor or the Contractor's authorized representative.

#### **5-3 SUGGESTIONS TO CONTRACTOR**

Any plan or method suggested to the Contractor by the Agency, but not specified or required in writing, if adopted or followed in whole or in part by the Contractor, shall be used at the risk and responsibility of the Contractor. The Agency assumes no responsibility.

#### **5-4 SEPARATE CONTRACTS**

The Agency reserves the right to award other Contracts in connection with the Work. The Contractor shall afford other contractors reasonable opportunity for the delivery and storage of their materials and the execution of their work and shall properly connect and coordinate their work with the other contractors.

If any part of the Contractor's work depends upon the work of any other contractor for proper execution or results, the Contractor shall inspect and promptly report to the Agency any defects in such work that render it unsuitable for proper execution and results. The Contractor's failure to so inspect and promptly report shall constitute an acceptance of the other contractor's work as fit and proper for the reception of the Contractor's work, unless defects develop in the other contractor's work after the execution of the Contractor's work.

#### **5-5 COOPERATION WITH OTHER CONTRACTORS**

The Agency or adjacent property owners may perform work adjacent to or within the Work area concurrent with the Contractor's operations. The Contractor shall conduct operations to minimize interference with the work of other forces or contractors.

Any disputes or conflicts between the Contractor and other forces or contractors retained by the Agency which create delays or hindrance to each other shall be referred to the Agency for resolution. If the

## Construction Specifications

Contractor's work is delayed because of the acts or omissions of any other force or contractor, the Contractor shall have no claim against the Agency other than for an extension of time (see Section 7-18, "Extension of Time", of these Specifications).

### **5-6 CONTRACTOR'S DISMISSAL OF UNSATISFACTORY EMPLOYEES**

If any person employed by the Contractor or any Subcontractor shall fail or refuse to carry out the directions of the Agency or the provisions of the Contract, or is, in the opinion of the Agency, incompetent, unfaithful, intemperate, or disorderly; or uses threatening or abusive language to any person on or associated with the Work; or is acting or working in a manner that compromises the safety of the Work or persons or property involved with the Work, or is otherwise unsatisfactory, the Contractor shall, when requested by the Agency, remove the worker from the Work immediately, and shall not again employ the removed worker on the Work except with the written consent of the Agency.

### **5-7 CONTRACTOR'S EQUIPMENT**

The Contractor shall provide adequate and suitable equipment, labor, and means of construction to meet all the requirements of the Work, including completion within the Contract Time. Only equipment suitable to produce the quality of work required will be permitted to operate on the Project. Specific types of equipment may be requested by the Agency on component parts of the Work.

The Agency may, at the Agency's option, permit the use of new or improved equipment. If such permission is granted, it is understood that it is granted for the purpose of testing the quality and continuous attainment of work produced by the equipment, and the Agency shall have the right to withdraw such permission at any time that the Agency determines that the alternative equipment is not producing work that is equal in all respects to that specified, or will not complete the Work in the time specified in the Contract.

In any case where the use of a particular type or piece of equipment has been banned, or in cases where the Agency has condemned for use on the Work any piece or pieces of equipment, the Contractor shall promptly remove such equipment from the site of the work. Failure to do so within a reasonable time may be considered a breach of contract.

### **5-8 CONTRACTOR'S SUBMITTALS**

#### **5-8.01 SUBMITTALS - GENERAL**

The Contractor shall furnish all working drawings, plans, specifications, descriptive data, certificates, samples, tests, methods, schedules, and manufacturer's instructions as required in the Contract, and any other information required to demonstrate that the materials and equipment to be furnished and the methods of work comply with the provisions and intent of the Contract. Submittals shall be submitted by the dates specified in the Contract or a per diem fine will be levied until the appropriate Submittals are properly submitted.

Submittals for systems shall be bound together and include all information for the system. Six (6) copies of all submittals shall be furnished, two (2) of which will be returned after review. Depending on the complexity of the submittal, the number of submittals, and the express needs of the Contractor, the submittal will be returned to the Contractor within thirty (30) days, exclusive of any time awaiting clarification or further information. Submittals shall be transmitted using submittal transmittal forms provided by the Agency. Where any item of the work is required to be installed in accordance with the manufacturer's recommendations, the Contractor shall furnish six (6) complete sets of the manufacturer's installation recommendations to the Agency prior to starting the installation. These submittals will be retained by the Agency.

## Construction Specifications

If the information furnished in a submittal shows any deviation from the Contract requirements, the Contractor shall, by a statement in writing accompanying the information, advise the Agency of the deviation and state the reasons. It shall be the Contractor's responsibility to ensure there is no conflict with other submittals and to notify the Agency in any case where the Contractor's submittal may concern work by another contractor or the Agency. The Contractor is solely responsible for coordination of submittals among all related crafts performing the Work. The Contractor shall verify that its Subcontractors' submittals are complete in every way and meet the requirements of the Contract.

The approval of the Contractor's submittals shall not relieve the Contractor of responsibility for any error or of any obligation for accuracy of dimensions and details, for agreement with and conformity to the Contract, or responsibility to fulfill the Contract as prescribed. Nor shall such approval be considered as approval of any deviation or conflict unless the Agency has been expressly advised of the same as set forth immediately above, and the Agency has expressly approved such deviation or conflict.

The Contractor shall make no changes to any submittal after it has been approved, and the equipment or materials shall not deviate in any way except with written approval by the Agency. Fabrication or other work performed in advance of approval shall be done entirely at the Contractor's risk.

Minimum requirements for submittals are contained in these Specifications. Additional and/or project-specific requirements may be contained in the Contract. The Contractor is responsible for identifying and providing all required submittals.

### 5-8.02 RESUBMITTALS

Resubmittals shall address all comments from the Agency. Partial resubmittals may be returned "REJECTED". The Contractor is responsible for the Agency's review costs for each resubmittal in excess of the first resubmittal. These costs will be back charged to the Contractor and will be deducted from progress payments.

### 5-8.03 SUBMITTALS CONTAINING PROPRIETARY INFORMATION

All required information shall be provided even though some or all of such information may be considered proprietary. If any of the information required herein is considered proprietary, a Proprietary Information Agreement (see sample Agreement in Appendix A) shall be executed between the Agency and the Contractor, stipulating that all such information will be supplied by the Contractor and kept confidential by the Agency. All proprietary data shall be identified as part of the Contractor's Bid and the Agency's standard proprietary agreement shall be executed before award of the Contract. Proprietary information is defined as any information or data describing or defining a product, process or system which 1) was developed at the expense of the Contractor, a Subcontractor or supplier; 2) is not generally available in the industry; and 3) is kept secret by its owner for purposes of preventing its use by others. Application software and all other documentation, or any other product, prepared by the Contractor, Subcontractor, or supplier at the expense of the Agency for specific use on the facility being constructed under the Contract shall not be considered proprietary.

All submitted proprietary information shall describe the final record Work. No part of the Work covered by the proprietary agreement shall be modified after proprietary submittal acceptance until updated proprietary information has been submitted by the Contractor and accepted by the Agency. Updated proprietary information shall fully document all modifications to be implemented. All proprietary data shall be marked "PROPRIETARY" by the Contractor.

### 5-8.04 ELECTRICAL, INSTRUMENTATION, CONTROL, AND COMMUNICATION SYSTEMS

Electrical, instrumentation, control, and communication system drawings shall include elementary and loop diagram drawings, functional single line system layout drawings, connection drawings,

## Construction Specifications

interconnection drawings, panel/cabinet fabrication drawings, and detailed circuit board and component drawings. Detailed circuit schematics and circuit board layout drawings shall clearly show, locate, and identify all components and wiring. Each circuit board component shall be identified by the component's original manufacturer name and part number. Industry standard part numbers shall be used. Component values, voltage/current levels, set points, and timing values shall be defined. Drawings shall be in the latest version of AutoCAD or other electronic reproducible medium specified by the Agency.

Complete annotated software/firmware source code listings and program documentation shall be provided for all electronic/electrical systems, subsystems, assemblies, parts, components, and equipment that incorporate programmable devices. All instructions and hardware necessary to load, store, modify, and activate software/firmware source codes and programs shall be provided.

Not more than seventy percent (70%) of all electronic/electrical work shall be paid for until all proprietary information has been submitted and approved. All submitted proprietary information shall be that which describes the final as-built work. No part of the work covered by the proprietary agreement shall be modified after proprietary submittal acceptance until after updated proprietary information has been submitted by the Contractor and accepted by the Agency. Updated proprietary information shall fully document all modifications to be implemented. All proprietary data shall be marked "PROPRIETARY" by the Contractor.

### 5-8.05 MAINTENANCE AND OPERATIONS (M&O) SUBMITTALS

For use in subsequent maintenance and operations the Contractor shall furnish, unless otherwise provided for in the Special Provisions, one (1) original and five (5) copies, bound and indexed, of maintenance and operation information, including all the highest level of factory maintenance manuals that are available to factory representatives with a three-year subscription to newsletters and updates supplied by the manufacturer covering all equipment and systems included in the Contract, The Agency may withhold up to thirty percent (30%) of the Total Contract Price until M&O submittals have been submitted and approved- The submittal shall include at a minimum:

1. Drawings
2. Illustrations
3. Parts lists
4. Wiring diagrams of systems
5. Internal wiring diagrams and circuit board schematics and layout drawings
6. Manufacturer's recommended spare parts lists
7. Name, address and phone number of nearest parts and service agency
8. Systems balance data
9. Maintenance and service instructions
10. Operation instructions
11. Software including annotated source lists and programs

The submittal of maintenance and operation information is required for all mechanical, electrical, instrumentation, control, communications, sound, or special equipment and systems. The Contractor shall submit the required data for review at least thirty (30) Calendar Days prior to any required training or the final inspection date. Corrections, additions, and/or resubmittal of data shall be made as directed by the Agency.

## Construction Specifications

The Agency, and such representatives as the Agency may designate, shall receive complete maintenance and operating instructions for all items included above prior to final inspection of the Work.

### **5-9 SURVEYS**

#### **5-9.01 AGENCY-FURNISHED SURVEYS**

The Contractor shall notify the Agency, at least two (2) Working Days in advance, of the times and places the Contractor will need lines, elevations, and reference points. Unless authorized by the Agency, any work done without line and grade will be done at the Contractor's risk.

Unless otherwise set forth in the Special Provisions, the Agency will furnish the following surveys:

##### **5-9.01.A STREETS AND HIGHWAYS**

1. Slope Stakes: One line of slope stakes at fifty-foot (50') intervals for the construction of each pavement edge. The Contractor shall set back and reference the stakes.
2. Subgrade: One line of blue tops at centerline or at a location directed by the Agency for each two (2) lanes of the roadway at fifty-foot (50') intervals, and three (3) lines on super-elevated sections for each two (2) lanes. The Contractor shall reference subgrade stakes for the subbase and base layers.
3. Finished Base: One (1) line of blue tops at centerline or at a location directed by the Agency for each two (2) lanes of roadway at fifty-foot (50') intervals, and three (3) lines for each (2) lanes on super-elevated and widened sections.
4. All necessary line, location, and elevation stakes for curb and gutter, inlets, pipes, drainage structures, signals, box culverts, and other miscellaneous facilities.

##### **5-9.01.B SEWER, WATER, AND DRAINAGE FACILITIES**

1. For all pipelines to be laid on grade; the Agency will establish an offset line at fifty-foot (50') intervals, furnish cut sheets and necessary land surveys, and establish bench marks, base lines, and reference points for locating principal structures.
2. For drainage channels: the Agency will furnish slope stakes at fifty-foot (50') intervals. From this information, the Contractor shall develop and make all additional detail surveys and measurements necessary for the construction of the Work.

#### **5-9.02 SURVEY MONUMENTS**

The Agency shall show, to the best of its knowledge, the location and character of survey monuments on the construction plans located within the construction area. It is the Contractor's responsibility to arrange and pay for a diligent and thorough search for survey monuments. This shall be performed by or under the direction of a California Licensed Land Surveyor or a California Registered Civil Engineer authorized to practice Land Surveying, prior to the beginning of construction or maintenance work that could disturb or destroy a survey monument. Any monuments found shall be referenced and reset by or under the direction of a California Licensed Land Surveyor or a California Registered Civil Engineer authorized to practice Land Surveying in accordance with Business and Professions Code Section 8771. On thin surface treatments, such as chip seals, the monuments can be covered in advance of the maintenance treatment with a suitable material and then removed to expose the monument. When survey monuments not shown on the plans are discovered, the Contractor shall bring them to the attention of the Agency prior to damaging them. Any damaged or destroyed Agency survey monuments shall be reset by the Agency at the Contractor's expense. Any other damaged or destroyed survey monuments shall be reset by the Contractor in accordance with the Land Surveyors Act (Business & Professions Code 8700 et seq.).

## Construction Specifications

When the Special Provisions require that the Contractor provide all surveys, the Contractor shall be responsible for referencing, resetting, and filing of corner records for all survey monuments disturbed or destroyed by construction activities in accordance with Business and Professions Code Section 8771.

All survey monuments and references shall be set or reset by or under the direction of a California Licensed Land Surveyor or a California Registered Civil Engineer authorized to practice Land Surveying.

### **5-9.03 CONTRACTOR SURVEYS**

Except as set forth in this Section or in the Special Provisions, the Contractor shall be responsible for performing all necessary surveys to lay out and control the Work to the locations, elevations, lines, and dimensions shown or specified in the Contract. Any deviations must receive prior written approval of the Agency. All surveys affecting the line or elevation of underground drainage, sewers, or utilities, and all other work within public rights-of-way or easements, shall be performed by or under the direction and supervision of a California Registered Civil Engineer authorized to practice land surveying or a California Licensed Land Surveyor. The Contractor shall be responsible for protecting and perpetuating survey monuments affected by construction activities in accordance with Business and Professions Code Section 8771 (b). The Contractor shall be responsible for the accuracy of the Contractor's own layout work, and shall be liable for the preservation of all established lines and grades. Stakes damaged or destroyed by the operations of the Contractor shall be replaced at the Contractor's expense.

### **5-10 RESPONSIBILITY FOR ACCURACY**

All work shall be constructed true to the lines, elevations and grades indicated on the Plans. The Contractor shall obtain all necessary measurements for and from the Work, and shall check dimensions, elevations, and grades for all layout and construction work and shall supervise such work; the accuracy for all of which the Contractor shall be responsible. The Contractor is responsible for adjusting, correcting, and coordinating the work of all Subcontractors so that no discrepancies result.

### **5-11 DUTIES AND POWERS OF INSPECTORS**

Inspectors are the field authorized representatives of the Agency. Their duty is to inspect materials and workmanship of those portions of the Work to which they are assigned, either individually or collectively, under instructions of the Agency, and to report all deviations from the Contract.

### **5-12 INSPECTION**

The inspection of the Work does not relieve the Contractor of the obligation to fulfill all Contract requirements. Any work, materials, or equipment not meeting the requirements and intent of the Contract will be rejected, and unsuitable work or materials shall be made good, notwithstanding the fact that such work or materials may have previously been inspected or approved and payment may have been made.

Re-examination of any part of the Work may be ordered by the Agency, and such part of the Work shall be uncovered by the Contractor. The Contractor shall pay the entire cost of such uncovering, reexamination, and replacement if the reexamined work does not conform to the Contract.

All work and materials furnished pursuant to the Contract shall be subject to inspection and approval by the Agency. The Contractor shall provide the Agency and Inspectors with access to the Work during construction and shall furnish every reasonable facility and assistance for ascertaining that the materials and the workmanship are in accordance with the requirements and intent of the Contract.

Unless authorized in writing by the Agency, any work done in the absence of an Inspector, whether completed or in progress, shall be subject to inspection. The Contractor shall furnish all tools, labor, materials, access facilities, and other facilities necessary to allow such inspection, even to the extent of uncovering or taking down completed portions of the Work. The Contractor shall pay all costs incurred,

whether or not any defective work is discovered. The Contractor shall also be solely responsible for any costs associated with the removal of any defective work discovered during the inspection and the complete cost of reconstruction.

The Contractor shall notify the Agency of the time and place of any factory tests and submit test procedures for approval thirty (30) Calendar Days in advance for any tests that are required by the Contract. The Contractor shall report the time and place of preparation, manufacture or construction of any material for the Work, or any part of the Work, that the Agency wishes to inspect. The Contractor shall give five (5) Working Days notice in advance of the beginning of work on any such material or of the beginning of any such test to allow the Agency to make arrangements for inspecting and testing or witnessing.

### **5-13 QUALITY OF MATERIALS AND WORKMANSHIP**

Unless otherwise allowed or required by the Special Provisions, all materials shall be new and of a quality at least equal to that specified. When the Contractor is required to 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. If not ordinarily carried in stock, the articles shall conform to the usual standards for first-class materials or articles of the kind required. The work performed shall secure the best standard of construction and equipment of the work as a whole or in part.

Materials shall be furnished in sufficient quantities and at such times to ensure uninterrupted progress of the Work. All required spare parts shall be delivered in new condition, not in a used or unknown condition, and with any certificates required. Materials, supplies, and equipment shall be stored properly and protected as required. The Contractor shall be entirely responsible for damage or loss by weather or other causes.

### **5-14 SUBSTITUTIONS**

Certain materials, articles, or equipment may be designated in the Contract by brand or trade name or manufacturer together with catalog designation or other identifying information. Substitute material, article, or equipment which is of equal quality and of required characteristics for the intended purpose may be proposed for use, provided the Contractor complies with the requirements of the following paragraphs.

#### **5-14.01 WRITTEN REQUEST**

The Contractor shall submit any request for substitution in writing no later than five (5) Working Days after Bid opening.

#### **5-14.02 DOCUMENTATION**

If requested by the Agency, a proposal for substitution must be accompanied by complete information and descriptive data, including cost of operation, cost of maintenance, and physical requirements necessary to determine the equality of offered materials, articles, or equipment. The Contractor shall also submit such shop drawings, descriptive data, and samples as requested. The burden of proof of comparative quality, suitability, and performance of the offered proposal shall be upon the Contractor. The determination of equal quality suitability, and performance shall be at the sole discretion of the Agency. The Agency will examine such submittals with reasonable promptness. If the Agency rejects the request for such substitution, then one of the particular products designated by brand name in the Contract shall be furnished. Acceptance of substitution by the Agency shall not relieve the Contractor from responsibility for deviations from the Plans and Specifications or from responsibility for errors in submittals. Failure by

## Construction Specifications

the Contractor to identify deviations in the request material from the Plans and Specifications shall void the submittal and any action taken thereon by the Agency.

If mechanical, electrical, structural or other changes are required for proper installation and fit of substitute materials, articles or equipment, or because of deviations from the Contract, such changes shall not be made without the written consent of the Agency and shall be made by the Contractor without additional cost to the Agency. The Contractor shall pay the costs of design, drafting, architectural or engineering services and building alterations of the construction required to accommodate any Contractor substitution or construction error to maintain the original function and design.

### **5-15 PREPARATION FOR TESTING**

The Contractor shall maintain proper facilities and provide safe access for inspection by the Agency to all parts of the Work and to the shops wherein parts of the Work are in preparation. Where the Contract requires work to be tested or approved, such work shall not be tested or covered up without at least a five (5) Working Day notice to the Agency of its readiness for inspection, unless the written approval of the Agency for such testing or covering is first obtained.

### **5-16 MATERIALS SAMPLING AND TESTING**

Materials to be used in the Work will be subject to sampling and tests by the Agency. The Contractor shall furnish the Agency with a list of the Contractor's sources of materials and the locations at which such materials will be available for inspection. The list shall be submitted on an Agency form and shall be furnished to the Agency in time to permit the inspection and testing of materials in advance of their use.

Testing shall be done to such standards as set forth in the Plans, Specifications, or Special Provisions. References made in these documents to standard methods of testing materials shall make such standards a part of the Specifications.

Whenever a reference is made in the Specifications to a specification or test designation of any recognized national organization or State of California agency, and the number or other identification representing the year of adoption or the latest revision is omitted, it shall mean the specification or test designation in effect on the date of the original Notice to Contractors for the Work.

When requested by the Agency, samples or test specimens of the proposed materials shall be prepared at the expense of the Contractor and furnished by the Contractor in such quantities and sizes required for proper examination and tests, and with complete information describing type, kind, or size of material, and its source. All samples shall be submitted in time to permit the making of proper tests, analyses, or examinations before incorporating the materials into the Work. No material shall be used in the Work unless or until it has been approved by the Agency. All material tests shall be made by the Agency in accordance with recognized standard practice. The Contractor shall pay the cost of the second retest and any subsequent retest of any area or material- The Agency will secure and test samples whenever necessary.

### **5-17 APPROVAL OF MATERIALS**

#### **5-17.01 SOURCES OF SUPPLY**

The Agency's approval at the source of supply may be required prior to procurement. Such approval shall not prevent subsequent disapproval or rejection of materials by the Agency if the quality is less than required by the Contract.

#### **5-17.02 PLANT INSPECTION**

The Agency assumes no obligation to inspect materials at the source of supply. The Contractor is responsible for incorporating satisfactory materials into the Work, notwithstanding any prior inspections or tests.

The Agency will inspect materials at the source if the Contractor submits a written request and if the Agency deems the inspection necessary. The Contractor and the supplier will cooperate with and assist the Agency while performing the inspection. The Agency shall have access to all production areas of the plant,

#### **5-18 PROVISIONS FOR EMERGENCIES**

The Agency may provide necessary labor, material and equipment to correct any emergency resulting from the Contractor's operation including noncompliance with the Contract, public convenience, safety, traffic control, and protection of work, persons and property. The nature of the emergency may prevent the Agency from notifying the Contractor prior to taking action. The costs of such labor, material, and equipment will be deducted from progress payments.

The performance of such emergency work under the direction of the Agency shall not relieve the Contractor from any damages resulting from the emergency.

#### **5-19 RIGHT TO RETAIN IMPERFECT WORK**

If any portion of the work done or materials furnished under the Contract shall prove defective or not in accordance with the Contract, and if the defect in the work or materials is not of sufficient magnitude or importance to make the work dangerous or undesirable, or if the removal of such work or materials is impracticable or will create conditions which are dangerous or undesirable, the Agency shall have the right and authority to retain the work or materials instead of requiring it to be removed and reconstructed or replaced. Progress payment deductions will be made as described in Section 8-9, "Deductions for Imperfect Work", of these Specifications.

#### **5-20 REMOVAL OF REJECTED MATERIALS OR WORK**

The Contractor shall remove all rejected or condemned materials or structures brought to or incorporated in the Work within two (2) Working Days of the Agency's written order. No such rejected or condemned materials shall again be offered for use in the Work. The Contractor shall, at the Contractor's expense, bring into Contract compliance all rejected material or work in a manner acceptable to the Agency.

The Agency may bring into Contract compliance the rejected material if the Contractor fails to comply with this Section. All costs will be deducted from the Progress Payment.

#### **5-21 TEMPORARY SUSPENSION OR DELAY OF WORK**

The Agency has the authority to suspend or delay the Work, wholly or in part, for any period the Agency deems necessary. The Contractor shall immediately comply with the Agency's written order to suspend or delay the Work. The suspended or delayed work shall be resumed only when conditions are favorable or methods are corrected, as ordered or approved in writing by the Agency. Public safety and convenience must be maintained throughout the suspension or delay in accordance with Sections 6-12, "Public Convenience and Safety", and 6-13, "Public Safety and Traffic Control", of these Specifications.

Delays due to suspension of work shall be classified as Avoidable or Unavoidable Delays in accordance with Section 7-12, "Delays", of these Specifications.

Such suspension shall not relieve the Contractor of the Contractor's responsibilities as described in the Contract.

## **5-22 TERMINATION OF CONTRACT**

### **5-22.01 REASONS FOR TERMINATION**

The Council reserves the right to terminate the Contract for any of the reasons listed below:

#### **5-22.01.A CONTRACTOR BANKRUPT**

If the Contractor is adjudged bankrupt or makes an assignment for the benefit of the Contractor's creditors, or if a receiver is appointed because of the Contractor's insolvency, the Council may terminate the Contractor's control over the Work and so notify the Contractor and the Contractor's sureties.

#### **5-22.01.B COMPLETION DELAY**

The Council may terminate the Contract if the Contractor has not completed the Work on or before the completion date adjusted by Contract Change Order. The Contractor is not entitled to any compensation and is liable to the Agency for liquidated damages for all time beyond such Contract completion date until the Work is completed, if the Agency chooses to complete the Work.

#### **5-22.01.C ABANDONMENT AND UNSATISFACTORY PERFORMANCE**

The Council may give the Contractor and the Contractor's surety written notice that the Contract will be terminated if the following breaches are not corrected:

1. The Contractor abandons the Work.
2. The Work or any portion is sublet or assigned without the Agency's consent.
3. The rate of progress is not in accordance with the Contract.
4. Any portion of the Work is unnecessarily delayed.
5. The Contractor willingly violates any terms or conditions of the Contract.
6. The Contractor does not supply sufficient materials or properly skilled labor.
7. The Contractor fails to promptly pay its Subcontractors.
8. The Contractor disregards laws, ordinances, or Agency orders.
9. The Contractor fails to respond to defective work notices. The Contractor shall cease and terminate the Work if satisfactory arrangement for correction is not made within ten (10) Calendar Days from such notification.

#### **5-22.01.D TERMINATION OF CONTRACT FOR CONVENIENCE**

The Council may terminate the performance of work in whole or in part for any of the following reasons:

1. Issuance of an order of a court or other public authority having jurisdiction.
2. An act of government, such as a declaration of national emergency, causing material to be unavailable.
3. Conditions encountered during the Work make it impossible or impractical to proceed.
4. Such termination is in the best interest of the Agency.

### **5-22.02 NOTICE OF TERMINATION**

The Council may give written Notice of Termination of at least five (5) Calendar Days to the Contractor and the Contractor's sureties that the Contractor's control over the Work will be terminated for the reasons

## Construction Specifications

stated in the Notice of Termination. The surety shall have the right to take over and perform the Work except for reasons specified in Section 5-22.01.D. The Agency may take over the Work at the Contractor's expense if the surety does not commence performance within thirty (30) Calendar Days from the date of mailing the Notice of Termination. The Contractor shall be liable for any excess cost incurred by the Agency.

Immediately upon receipt of a Notice of Termination, except as otherwise directed in writing by the Agency, the Contractor shall:

1. Stop work under the Contract on the date and to the extent specified in the Notice of Termination.
2. Place no further orders or subcontracts for materials, services, or facilities except as necessary to complete the portion of the Work that is not terminated.
3. Terminate all orders and subcontracts to the extent that they relate to the performance of work terminated by the Notice of Termination.
4. Assign to the Agency, in the manner, at the times, and to the extent directed by the Agency, all of the rights, titles, and interests of the Contractor under the orders and subcontracts so terminated. The Agency shall have the right, at its discretion, to settle or pay any or all claims arising out of the termination of such orders and subcontracts.
5. Settle all outstanding liabilities and all claims arising out of such termination of orders and subcontracts with the approval or ratification of the Agency. The Agency's approval or ratification shall be final.
6. Transfer title to the Agency, and deliver in the manner, at the times, and to the extent directed by the Agency, fabricated or un-fabricated parts, work in process, completed work, supplies, other material produced as a part of, or acquired in connection with, the terminated work, and the completed or partially completed drawings, information, and other property that, if the Contract had been completed, would have been submitted to the Agency,
7. Sell, in the manner, at the times, to the extent, and at the price that the Agency directs or authorizes, any property of the types referred to in Item 6 of this Section (Section 5-22.02). The Contractor is not required to extend credit to any purchaser, and may acquire any such property under the conditions prescribed and at a price approved by the Agency- The proceeds of any such transfer or disposition shall be used to reduce any payments made to the Contractor under the Contract or be credited to the cost of the work covered by the Contract or paid as the Agency directs.
8. Complete performance of the Work not terminated by the Notice of Termination.
9. Take necessary action, or as the Agency directs, to protect and preserve the property related to the Contract in which the Agency has an interest.

### **5-22.03 PAYMENTS TO CONTRACTOR UPON TERMINATION OF CONTRACT**

The Contractor and the Agency may agree upon the amount paid to the Contractor for the total or partial termination of the Work. The amount may include those items specified in Section 9, "Changes and Claims", of these Specifications. However, such agreed amount shall not exceed the Total Contract Price, reduced by the amount of payments already made and the Contract price of work not terminated. The Contract shall be amended accordingly, and the Contractor shall be paid the agreed amount.

If the Contractor and the Agency fail to agree on the amount to pay the Contractor because of the termination of work under this Section, the Agency shall determine the amount due the Contractor.

If the work is completed as provided in Section 5-22.02 in this Section of these Specifications, the Contractor is not entitled to receive any portion of the amount to be paid under the Contract until it is

fully completed. After completion, if the unpaid balance exceeds the sum of the amount expended by the Agency in finishing the work, plus all damages sustained or to be sustained by the Agency, plus any unpaid claims on account of labor, materials, tools, equipment, or supplies contracted for by the Contractor for the Work, provided that sworn statements of said claims shall have been filed as required by Section 9, "Changes and Claims", of these Specifications, the excess not otherwise required by these Specifications to be retained shall be paid to the Contractor. If the sum so expended exceeds the unpaid balance of the Total Contract Price, the Contractor and the Contractor's surety are liable to the Agency for the amount of such excess. If the surety completes the Work as provided above, such surety shall be subrogated to money due under the Contract and to money which shall become due in the course of completion by the surety.

The Contractor shall submit to the Agency any termination claim in the form and with the certification that the Agency prescribes. Such claim shall be submitted no later than ninety (90) Calendar Days from the effective date of termination unless the Agency grants one or more extensions, in writing, upon Contractor's written request transmitted within such ninety (90) day period or authorized extension. If the Contractor fails to submit a termination claim within the time allowed, the Agency may determine the amount, if any, due the Contractor because of the termination. The Agency will then pay the Contractor that amount.

#### **5-22.04 AGENCY COMPLETION**

In the event of termination of the Contract, the Agency may take possession of and use all or any part of the Contractor's materials, tools, equipment, and appliances on the premises to complete the Work. The Agency assumes the responsibility for returning such equipment in as good condition as when it was taken over, reasonable wear and tear excepted. The items shall be returned when the Work is complete or sooner, at the Agency's discretion. The Agency agrees to pay a reasonable amount for the use of such materials and equipment.

The Agency may direct all or any part of the Work be completed by day labor and/or other contractors.

#### **5-22.04.A PAYMENT FOR AGENCY COMPLETION**

If the Agency completes the Work, no payment will be made to the Contractor until the Work is complete. All costs of completing the Work, including, but not limited to, legal expenses, Agency forces, administration and management, direct and indirect, shall be deducted from any sum due the Contractor. If the cost of completing the Work exceeds sums due the Contractor, the Contractor and the Contractor's surety shall, upon demand, pay the Agency a sum equal to the difference. If the Agency completes the Work and there is a sum due the Contractor after the Agency deducts the costs of completing the Work, the Agency will pay such sum to the Contractor and/or the Contractor's surety, as appropriate.

#### **5-22.04.B AGENCY COMPLETION NOT A WAIVER OF AGENCY RIGHTS**

No act by the Agency before the Work is finally accepted shall operate as a waiver or stop the Agency from acting upon any subsequent event, occurrence or failure by the Contractor to fulfill the terms and conditions of the Contract. The rights of the Agency pursuant to this Section are in addition to all other rights of the Agency pursuant to the Contract, and at law or in equity.

#### **5-23 TERMINATION OF UNSATISFACTORY SUBCONTRACTS**

When any portion of the Work subcontracted by the Contractor is not prosecuted in a satisfactory manner, the Contractor shall immediately terminate the subcontract upon written notice from the Agency. The Subcontractor shall not again be employed for any portion of the work on which the Subcontractor's performance was unsatisfactory.

**5-24 SURVIVAL OF OBLIGATIONS**

No termination of this Contract or of Contractor's Work shall excuse or otherwise relieve the Contractor of its responsibilities under the Contract Documents with respect to any Work performed prior to the date of termination, including, without limitation, its obligation to perform the Work in a good and workmanlike manner, free of defects, and in accordance with the Contract Documents, its warranty obligations with respect to the Work, and its obligation to make all payments due. All of Contractor's responsibilities under the Contract Documents with respect to the Work Performed prior to the date of termination shall survive any termination.

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## SECTION 6.

### LEGAL RELATIONS AND RESPONSIBILITIES

#### 6-1 COMPLIANCE WITH LAWS AND REGULATIONS

The Contractor shall be familiar and comply with all Federal, State, and local laws, ordinances, codes and regulations which in any manner affect the Work, those engaged or employed in the Work or the material or equipment used in or upon the Work, or in any way affect the conduct of the Work. No pleas of misunderstanding of such laws, ordinances, codes, or regulations or of ignorance of the same on the part of the Contractor shall modify the provisions of the Contract. The Contractor and the Contractor's surety shall indemnify and save harmless the Agency and the Agency's officers, officials, agents, employees, volunteers, members, affiliates and their duly authorized representatives against any claim for liability arising from, or based upon, the violation of any such law, ordinance, regulation, decree, or order, whether by the Contractor or by the Contractor's employees.

The attention of the Contractor is directed to certain laws that affect the Contract. The listing of these laws in this Section is not to be construed as a listing of all applicable laws. The Contractor is solely responsible for familiarity and compliance with all applicable laws. Particular attention is called to the following:

##### 6-1.01 HOURS OF LABOR

Eight (8) hours of labor shall constitute a legal day's work and the Contractor or any Subcontractor under the Contractor, in the execution of the Contract, shall not require more than eight (8) hours of labor in any Calendar Day, and forty (40) hours of labor in any calendar week, from any person employed by the Contractor in the performance of the Work under the Contract, except as permitted under the provisions of Labor Code Sections 1810 to 1815 of the Labor Code of the State of California. The Contractor shall forfeit, as penalty to the Agency, twenty-five dollars (\$25) for each worker employed by the Contractor or any Subcontractor under the Contractor in the execution of the Contract for each Calendar Day during which any worker is required or permitted to labor more than eight (8) hours and for each calendar week during which any worker is required or permitted to labor more than forty (40) hours, in violation of the provisions of such Labor Code.

Overtime and shift work may be established by the Contractor with reasonable notice and the written permission of the Agency. No work other than overtime and shift work shall be done between the hours of 6:00 p.m. and 7:00 a.m., except such work as is necessary for the proper care and protection of work already performed or except in case of an emergency. Failure of the Contractor to perform the Work in accordance with this policy shall be cause for termination under Section 5-22, "Termination of Contract", of these Specifications.

##### 6-1.02 PREVAILING WAGE

Pursuant to Labor Code Section 1770, the Contractor and the Contractor's Subcontractors shall pay not less than the prevailing rate of per diem wages, including, but not limited to, overtime, Saturday, Sunday, and holiday work, travel and subsistence, as determined by the Director of the California Department of Industrial Relations pursuant to Labor Code Section 1773. Copies of such prevailing rate of per diem wages are available upon request at the Public Works Department of the City of Winters, 318 First Street, Winters, California 95932694.

The wage rates determined by the Director of the California Department of industrial Relations refer to expiration dates. Prevailing wage determinations with a single asterisk (\*) after the expiration date that

## Construction Specifications

are in effect on the date of Notice to Contractors remain in effect for the duration of the project. Prevailing wage determinations with double asterisks (\*\*) after the expiration date indicate that the basic hourly wage rate, overtime and holiday wage rates, and employer payments to be paid for work performed after this date have been determined. If work extends past this date, the new rate shall be paid and should be incorporated in contracts entered. The Contractor should contact the Department of Industrial Relations as indicated in the prevailing wage determinations to obtain predetermined wage changes. AH determinations that do not have double asterisks (\*\*) after the expiration date remain in effect for the duration of the project.

The Contractor and the Contractor's Subcontractors shall forfeit, as penalty to the Agency, not more than fifty dollars (\$50) per Calendar Day or portion thereof, for each worker paid less than the prevailing wage rates for any work done under the Contract by the Contractor or by any Subcontractor. The Contractor shall comply with the provisions of Labor Code Section 1775. In addition to said penalty, the Contractor or Subcontractor shall pay each worker the difference between the prevailing wage and the amount paid for every hour the worker was paid less than the prevailing wage.

### 6-1.03 PAYROLL RECORDS

Contractor shall comply with Labor Code Section 1776. Regulations implementing Section 1776 are located in Section 16000 and Sections 16401 through 16403 of Title 8, California Code of Regulations. The Contractor shall be responsible for compliance by the Contractor's Subcontractors.

The Contractor and the Contractor's Subcontractors shall keep accurate payroll records, showing the name, address, Social Security number, straight time and overtime hours worked each day and week, and the actual wages paid to each journeyman, apprentice, worker, or other employee employed in connection with the Work. Such records shall be certified and available for inspection at all reasonable hours at the principal offices of the Contractor and the Contractor's Subcontractors in a manner set forth in Labor Code Section 1776. The Contractor and the Contractor's Subcontractors shall file a certified copy of the records enumerated above with the Agency within ten (10) Calendar Days after receipt of a written request. The Contractor shall be held responsible for all Subcontractors' compliance with this requirement.

The non-compliance penalties specified in subdivision (g) of Labor Code Section 1776 may be deducted from progress payments to the Contractor.

### 6-1.04 NONDISCRIMINATION

Contractor shall comply with Labor Code Section 1735, which prohibits discrimination in the employment of persons upon public works because of race, religious creed, color, national origin, ancestry, physical handicap, medical condition, marital status, or sex of such persons, and provides for penalties.

### 6-1.05 APPRENTICES

The Contractor shall comply with Labor Code Section 1777.5, concerning the employment of apprentices. The Contractor shall be responsible for compliance by all Subcontractors.

### 6-1.06 WORKERS' COMPENSATION

Pursuant to Labor Code Section 1860, in accordance with the provisions of Section 3700 of the Labor Code, the Contractor is required to secure the payment of compensation to his employees.

**6-1.07 FAIR LABOR STANDARDS**

The Contractor shall comply with the Fair Labor Standards Act of 1938 as amended (29 U.S.C. 3201 et seq.) as applicable.

**6-1.08 CONTRACTORS LICENSE**

The Contractor shall comply with Chapter 9 of Division 3 of the Business & Professions Code.

**6-1.09 USE OF PESTICIDES**

The Contractor shall comply with all rules and regulations that govern the use of pesticides required in the performance of the Work, including any certifications that may be required for purchase, use, storage or application.

Pesticides include, but are not limited to, herbicides, insecticides, fungicides, rodenticides, germicides, nematocides, bactericides, inhibitors, fumigants, defoliants, desiccants, soil sterilants, and repellants.

Any substance or mixture of substances intended for preventing, repelling, mitigating, or destroying weeds, insects, diseases, rodents, or nematodes and any substance or mixture of substances intended for use as a plant regulator, defoliant or desiccant shall be considered a pesticide.

**6-1.10 REPORTING REQUIREMENTS AND SANCTIONS**

Failure to provide specific information, records, reports, certifications, or any other documents required for compliance with the Contract will be considered noncompliance. At a minimum, documents required include:

1. List of Subcontractors

The List of Subcontractors Form is required from the Contractor and each Subcontractor with a lower tier Subcontractor. This form is due within ten (10) Calendar Days after the date of the preconstruction conference or within ten (10) Calendar Days after the date of award of the subcontract. The later of the two dates will apply.

2. Certified Payroll Reports

Certified Payroll Reports are required from the Contractor and each Subcontractor, regardless of the subcontract amount or the type of procurement, for every payroll period in which work is performed. These reports are due within ten (10) Working Days of the ending date of the payroll period.

3. Fringe Benefit Statement

A Fringe Benefit Statement is required from the Contractor and each Subcontractor if fringe benefits are paid to an approved plan, fund, or program. The statement is due with first certified payroll report and any time the fringe benefit amounts change. The statement is not required if the fringe benefits are paid in cash to the employees.

4. Other Documentation

When required by the Special Provisions, other reporting documentation may be required depending on the source of funding for the project. If the Contractor fails to comply with the provisions of this Section, the Contractor will be advised of the specific deficiencies and requested to make immediate corrections. The Contractor will also be advised that monetary deductions will be made for failure to effect corrections or delinquencies.

## Construction Specifications

If the Contractor fails to correct a deficiency in the reporting requirements within fifteen (15) Calendar Days after notification, a deduction may be made. In such cases, the deduction will be ten percent (10%) of the estimated value of the work done during the month, except that the deduction will not exceed ten thousand dollars (\$10,000), nor be less than one thousand dollars (\$1,000), and will be deducted from the next progress payment.

Deductions for non-compliance will be in addition to all other deductions provided for in the Contract and will apply irrespective of the number of instances of noncompliance. Deductions will be made separately and cumulate for each estimate period in which a new deficiency appears. When all deficiencies for a period have been corrected, the deduction covering that period will be released on the next progress payment. Otherwise, the deduction will be retained.

### 6-1.11 SUBCONTRACTING

The Contractor must comply with Section 4101 to Section 4113, inclusive, of the Public Contract Code,

### 6-1.12 OCCUPATIONAL SAFETY AND HEALTH

The Contractor must comply with all applicable provisions of the California Occupational Safety and Health Act (Labor Code Sections 6300 et seq.). The foregoing includes, but is not limited to, all applicable Title 8 Safety Orders issued by the State of California Occupational Safety and Health Administration (Cal/OSHA). Failure of the Agency to suspend the work or notify the Contractor of the inadequacy of the safety precautions or non-compliance with existing laws and regulations shall not relieve the Contractor of this responsibility.

## 6-2 INDEMNIFICATION

### 6-2.01 CONTRACTOR'S PERFORMANCE

The Contractor shall defend, indemnify and save harmless the City, the Owner's Representative, the Architect, the Consulting Engineer and any of their respective officers, officials, agents, and employees from any and all claims, demands, damages, costs, expenses, attorney's fees, or liability arising out of or in any way connected with the performance or attempted performance of the provisions hereof, or in any way arising out of or connected with this Contract, including but not limited to, inverse condemnation, equitable relief, or any acts or omissions, any wrongful act, or any negligent act or omission to act, whether active or passive, on the part of the Contractor or any of its agents, employees, independent contractors, Subcontractors or suppliers; provided, further, without limiting the foregoing, that the indemnity is intended to apply to any wrongful acts, or any actively or passively negligent acts or omissions to act, committed jointly or concurrently by the Contractor, the Contractor's agents, employees, independent contractors, Subcontractors or suppliers, and the City, its agents, employees, or independent contractors.

The indemnity obligation expressly extends to and includes any and all claims, demands, damages, costs, expenses, or liability occasioned as a result of damages to adjacent property caused by the conduct of the Work.

The indemnity obligation expressly extends to and includes any and all claims, demands, damages, costs, expenses, or liability occasioned as a result of the violation by the Contractor, the Contractor's agents, employees, or independent contractors, Subcontractors or suppliers of any provisions of federal, state, or local law, including applicable administrative regulations.

The indemnity obligation also expressly extends to and includes any claims, demands, damages, costs, expenses, or liability occasioned by injury to or death of any person, or any property damage to property owned by any person while on or about the Site or as a result of the Work, whether such persons are on or

## Construction Specifications

about the Site by right or not, whenever the Work is alleged to have been a contributing cause in any degree whatsoever.

Nothing contained in the foregoing indemnity provisions shall be construed to require the Contractor to indemnify the City in contravention of Section 2782 of the Civil Code for the sole negligence or willful misconduct of the City or its agents, employees or independent contractors.

In claims against any person or entity herein indemnified that are made by an employee of the Contractor or an employee of any of the Contractor's agents, independent contractors, Subcontractors or suppliers, a person indirectly employed by the Contractor or by any of the Contractor's agents, independent contractors, Subcontractors or suppliers, or anyone for whose acts the Contractor or any of the Contractor's agents, independent contractors, Subcontractors or suppliers may be liable, the indemnification obligation herein shall not be limited by any limitation on amount or type of damages, compensation, or benefits payable by or for the Contractor or the Contractor's agents, independent contractors, Subcontractors or suppliers under workers' compensation acts, disability acts, or other employee benefit acts.

The indemnification obligation herein shall not be limited by any assertion or finding that the person or entity indemnified is liable by reason of a non-delegable duty.

The indemnities set forth herein shall not be limited by the insurance requirements set forth in the Contract Documents.

The indemnification requirements herein set forth shall extend to claims occurring after this Contract is terminated as well as while it is in force.

### **6-2.02 NO LIMITATION OF LIABILITY FOR INDEMNIFICATION**

The indemnities set forth in this Section shall not be limited by the insurance requirements set forth in the Contract.

### **6-3 CONTRACTOR'S LEGAL ADDRESS**

Both the address given in the Bid and the Contractor's office in the vicinity of the Work are designated as places that samples, notices, letters, or other articles or communications to the Contractor may be mailed or delivered. The delivery to either of these places shall be deemed sufficient service to the Contractor and the date of such service shall be the date of delivery. The address named in the Bid may be changed at any time by written notice from the Contractor to the Agency. Nothing herein shall be deemed to preclude or render inoperative the service of any drawing, sample, notice, letter or other article or communication to the Contractor.

### **6-4 CONTRACTOR NOT AN AGENT OF AGENCY**

The Contractor shall be an independent contractor and not an employee, agent, or other representative of the Agency. Nothing in the Contract shall be construed to create any relationship of joint venture, partnership or any other association of any nature whatsoever between the Agency and the Contractor other than that of owner and independent contractor. The Agency shall have the right to direct the Contractor as provided in the Contract. The aforementioned right of supervision shall not reduce or abrogate the Contractor's liability of all damage or injury to persons, public property, or private property that may arise directly or indirectly from the Contractor's execution of the Work.

### **6-5 SUBSTITUTION OF SUBCONTRACTORS**

The Contractor shall not, without the written consent of the Agency: (a) substitute any party as Subcontractor in place of the Subcontractor designated in the original bid; (b) permit any such subcontract

## Construction Specifications

to be assigned or transferred; or (c) allow the subcontracted work to be performed by anyone other than the original Subcontractor listed on the bid. Consent for substitution or subletting shall only be given:

1. When the Subcontractor listed in the bid, after having reasonable opportunity to do so, fails or refuses to execute a written contract that is based upon the Plans and Specifications for the project or the terms of such Subcontractor's written bid and is presented to the Subcontractor by the Contractor; or
2. When the listed Subcontractor becomes bankrupt or insolvent; or
3. When the listed Subcontractor fails or refuses to perform the subcontract; or
4. When the listed Subcontractor fails or refuses to meet the bond requirements of the Contractor as set forth in California Public Contract Code Section 4108; or
5. When the Contractor demonstrates to the Agency, subject to the further provisions set forth in California Public Contract Code Section 4107.5, that the name of the Subcontractor was listed as a result of an inadvertent clerical error; or
6. When the listed Subcontractor is not licensed pursuant to the Contractor License Law as set forth in the Business and Professions Code; or
7. When the Agency determines that the work performed by the listed Subcontractor is substantially unsatisfactory and not in substantial accordance with the Contract, or that the Subcontractor is substantially delaying or disrupting the progress of the work; or
8. When the listed Subcontractor is ineligible to work on a public works project pursuant to Section 1777.1 and 1777.7 of the Labor Code.
9. When the awarding authority determines that a listed subcontractor is not a responsible contractor. Prior to approval of the prime contractor's request for the substitution, the awarding authority, or its duly authorized officer, shall give notice in writing to the listed subcontractor of the prime contractor's request to substitute and of the reasons for the request. The notice shall be served by certified or registered mail to the last known address of the subcontractor. The listed subcontractor who has been so notified has five working days within which to submit written objections to the substitution to the awarding authority. Failure to file these written objections constitutes the listed subcontractor's consent to the substitution. If written objections are filed, the awarding authority shall give notice in writing of at least five working days to the listed subcontractor of a hearing by the awarding authority on the prime contractor's request for substitution.

In the event of such substitution, the Agency will give at least five (5) Working Days notice in writing to the listed Subcontractor, unless they have advised the Agency in writing that they have knowledge of the Contractor's request for the substitution.

### **6-6 ASSIGNMENT OF CONTRACT**

The Contract or the performance of the Contract may be assigned by the Contractor, but only upon written consent of the Agency and the Contractor's surety, unless the surety has waived its right of notice of assignment. No such assignment or subcontracting shall be permitted that would relieve the Contractor or the Contractor's surety of their responsibilities under the Contract.

### **6-7 ASSIGNMENT OF MONIES**

The Contractor may assign monies due the Contractor under the Contract, and such assignment will be recognized by the Agency, if given proper notice, to the extent permitted by law. Any assignment of

monies shall be subject to all deductions provided for in the Contract. All money withheld may be used by the Agency for the completion of the Work if the Contractor defaults.

#### **6-8 PROTECTION OF AGENCY AGAINST PATENT CLAIMS**

The Contractor shall assume all costs arising from the use of patented materials, equipment, devices, and processes on or incorporated in the Work and shall indemnify and hold harmless the Agency and the Agency's officers, officials, agents, employees, volunteers, members, affiliates and their duly authorized representatives from all actions for, or on account of, the use of any patented materials, equipment, devices, or processes in the construction of, or subsequent operation of, the Work. Before final payment, if requested by the Agency, the Contractor shall furnish acceptable proof of a proper release from all costs or claims arising from the use of patented materials, equipment, devices, or processes used on or incorporated in the Work.

#### **6-9 RESPONSIBILITY OF THE CONTRACTOR**

The Contractor shall be solely responsible for, and have control over, construction means, methods, techniques, sequences, procedures, and coordination of all portions of the Work under the Contract, unless otherwise provided in the Contract.

The Work shall be under the Contractor's responsible care and charge until completion and final acceptance, and the Contractor shall bear the entire risk of injury, loss, or damage to any part by any cause. The Contractor shall rebuild, repair, restore, and make good all injuries; losses or damage to any portion of the Work or the materials occasioned by any cause, and shall bear the entire expense.

In no case shall the Contractor's use of Subcontractors in any way alter the position of the Contractor or the Contractor's sureties with relation to the Contract. When a Subcontractor is used, the responsibility for every portion of the Work shall remain with the Contractor. No Subcontractor will be recognized as having a direct contractual relationship with the Agency. All persons engaged in the Work under the Contract will be considered as employees of the Contractor and their work shall be subject to all the provisions of the Contract. The Agency will deal only with the Contractor who is responsible for the proper execution of the Work. The Contractor shall pay when due all valid claims of Subcontractors, suppliers, and workmen with respect to the Work.

The mention herein of any specific duty or responsibility imposed upon the Contractor shall not be construed as a limitation or restriction of any other responsibility or duty imposed upon the Contractor by the Contract, said reference being made herein merely for the purpose of explaining the specific duty or responsibility.

The Contractor shall do all of the work and furnish all labor, materials, tools, equipment, and appliances, except as otherwise herein expressly stipulated, necessary or proper for performing and completing the Work herein required, including any change order work or disputed work directed by the Agency in conformity with the true meaning and intent of the Contract drawings, Specifications, and all provisions of the Contract, within the time specified.

If the Contractor discovers any discrepancies during the course of the Work between the Contract drawings and conditions in the field, or any errors or omissions in the Contract drawings and conditions in the field, or any errors or omissions in the Contract drawings, the Specifications, or in the layout given by stakes, points, or instructions, it shall be the Contractor's duty to inform the Agency immediately, and the Agency shall promptly verify the same. Any work done after such discovery until authorized by the Agency, will be done at the Contractor's risk.

## **6-10 PERMITS AND LICENSES**

The Contractor shall, at the Contractor's sole expense, obtain all necessary permits and licenses for the construction of the Work, give all necessary notices, pay all fees required by law, and comply with all laws, ordinances, rules and regulations relating to the Work and to the preservation of the public health and safety. The Contractor shall also procure all permits and licenses necessary for the normal conduct of the Contractor's business and construction operations.

Unless otherwise noted in the Special Provisions, building, plumbing, heating, electrical, and similar permits that the Contractor is required to obtain from the Building Official for City-owned projects are fee exempt and will be obtained by the Agency.

The California Environmental Quality Act of 1970 (CEQA) may be applicable to permits, licenses, and other authorizations that the Contractor shall obtain from local agencies in connection with performing the Work. The Contractor shall comply with the provisions of CEQA in obtaining such permits, licenses, and other authorizations, which will be obtained in time to prevent delays to the Work.

The Contractor shall comply with permits, licenses, or other authorizations applicable to the Work obtained by the Agency in conformance with the requirements in CEQA.

## **6-11 GENERAL SAFETY REQUIREMENTS**

### **6-11.01 COMPLIANCE WITH SAFETY & HEALTH REGULATIONS**

Safety is a prime consideration in all Agency contracts. The Contractor shall conform to all applicable occupational safety and health standards, rules, regulations, and orders established by the State of California or Federal Government. The Contractor shall, upon request, submit to the Agency a copy of their Injury Illness Prevention Program (IIPP) (including Site Safety Plan and Code of Safe Work Practices) for review. The Contractor is required to fulfill the requirements of these programs during the prosecution of their work.

### **6-11.02 24-HOUR CONTACT INFORMATION**

The Contractor shall have on record with the Agency the following twenty-four (24) hour emergency contact numbers:

1. Traffic control device supplier: Supplier of barricades, steel plates, delineators, channelizers, construction signs, and other traffic control equipment to be used during construction.
2. Contractor representative: An employee of the Contractor having the authority to make decisions and the ability to respond to an emergency on the project at any time.
3. Safety representative: The Contractor's Safety Representative shall have the authority to make decisions regarding safety and health concerns on the project and to direct the Contractor's personnel to abate any hazard identified by the Agency.

### **6-11.03 WORK DURING HOURS OF DARKNESS**

Working areas utilized by the Contractor during the hours of darkness shall be illuminated to conform to the minimum illumination intensities established by California Occupational Safety and Health Administration, Construction Safety Orders and the Traffic Control Plans (TCP).

## **6-12 PUBLIC CONVENIENCE AND SAFETY**

### **6-12.01 PUBLIC CONVENIENCE**

All work within public streets and/or roadway rights-of-way shall be done in an expeditious manner and cause as little inconvenience to the traveling public as possible. Vehicles, bicycles, and pedestrians must be allowed to pass at all times except during an emergency closure. See Section 7-8, "Peak Hours, Hours of Darkness, Holidays and Weekends", of these Specifications for time limitations.

### **6-12.02 PEDESTRIAN AND BICYCLIST ACCESS**

The Contractor shall not block the movement of pedestrian or bicycle traffic. The Contractor shall provide for pedestrian and bicycle traffic by phasing construction operations or by providing alternative pedestrian and bicyclist access through or adjacent to construction areas. Proper advance notice signage with reasonable detours shall be installed and maintained through all phases of construction. Access to pedestrian and bicycle devices at traffic signals shall be maintained at all times. At no time shall pedestrians be diverted into a portion of the street used for vehicular traffic or on to private property unless adequate lane closure signage is in place. Pedestrian and bicycle access shall consist of four-foot (4') wide bridges across trenches and four-foot (4') wide passageways through construction areas. Hand railings for pedestrians shall be provided when required by Cal/OSHA Regulations or the Americans with Disabilities Act (ADA) on each side of each bridge or passageway to protect pedestrians from hazards caused by construction operations or adjacent vehicular traffic.

Railings or barricades, which border passageways located in roadway areas, shall be reflectorized on the side facing oncoming traffic.

### **6-12.03 WRITTEN NOTIFICATION TO RESIDENCES AND BUSINESSES**

The Contractor shall notify, in writing, residents and business establishments along the route of the Work at least ten (10) Working Days prior to road closures and at least three (3) Working Days prior to disruption of ingress and egress. The notice provided to the residences or businesses shall include, at a minimum, schedule of closures with estimated closure times, closure location, alternate route or detour, and name and twenty-four (24) hour phone number of a contact person employed by the Contractor.

The Contractor shall notify, in writing, residents and business establishments along the route of the Work at least three (3) Working Days prior to placing parking restrictions within the City right-of-way. The notice provided to the residences or businesses shall include, at a minimum, schedule of parking restrictions with estimated times, location, and a name and twenty-four (24) hour phone number of a contact person employed by the Contractor.

### **6-12.04 ACCESS TO DRIVEWAYS, HOUSES AND BUILDINGS**

Access and passable grades shall be maintained at all times for business establishments during construction. Safe and passable pedestrian, bicyclist, and vehicular access shall be provided and maintained to fire hydrants, homes, commercial and industrial establishments, churches, schools, parking lots, service stations, motels, fire and police stations, hospitals, and establishments of similar nature. Access to these facilities shall be continuous and unobstructed unless otherwise approved. Ramps and driveways shall not have "lips" or elevation differences greater than three-eighths of an inch (3/8") or one (1) cm.

When abutting property owner's access across the right-of-way line is to be eliminated, repaired, or replaced under the Contract, the existing access shall not be closed until the replacement access facilities are completed and functional.

#### **6-12.05 PROPERTY DAMAGE**

Any property damage caused by the Contractor shall be repaired at the Contractor's expense to the satisfaction of the Agency.

#### **6-12.06 ERECTION OF SIGNS TO EXPEDITE PASSAGE OF VEHICLES**

The Contractor shall erect such warning and directional signs as necessary or as directed by the Agency for expediting the passage of public traffic through or around the Work and the approaches. All warning and directional signs shall comply with Section 6-13, "Public Safety and Traffic Control", in this Section of these Specifications; Section 12, "Construction Area Traffic Control", of these Specifications; and the Caltrans Manual of Traffic Controls.

#### **6-12.07 TRAFFIC OBSTRUCTIONS, DELAYS AND INCONVENIENCES**

All public traffic shall be permitted to pass through the Work and the Contractor shall conduct operations that offer the least possible obstruction, delay, and inconvenience to the public.

#### **6-12.08 WORK ON PRIVATE PROPERTY**

The Contractor must obtain written permission from the owner of any privately owned property prior to beginning any work, storing materials or otherwise conducting any operations on said property. The written approval from the property owner must be on file with the Agency before any operations will be permitted on said property.

#### **6-12.09 HAZARDOUS CONDITIONS CREATED**

Whenever the Contractor's operations create a condition hazardous to pedestrians, bicyclists, or the traveling public, the Contractor shall, at the Contractor's own expense, furnish, erect and maintain any fences, temporary railing (Type K), barricades, lights, signs and other devices necessary or as directed by the Agency to prevent accidents or damage or injury to the public or property.

If needed for public use, roadway excavation shall be conducted to maintain a smooth and even surface satisfactory for use by public traffic at all times. The surface of the roadbed shall be kept in a smooth, even condition free of humps and depressions, satisfactory for the use of public traffic as determined by the Agency.

Temporary facilities that the Contractor uses to perform the Work or store or stage material or equipment shall not be installed or placed where they will interfere with the free and safe passage of public vehicular, bicycle, or pedestrian traffic.

### **6-13 PUBLIC SAFETY AND TRAFFIC CONTROL**

#### **6-13.01 GENERAL**

All traffic controls shall be installed in accordance with the latest edition of the Caltrans "Manual of Traffic Controls for Construction and Maintenance Work Zones".

#### **6-13.02 RESPONSIBILITY FOR SAFETY**

It is the Contractor's responsibility to provide for public safety and traffic control. The Agency may review the Contractor's operations and inform the Contractor if an unsafe or hazardous condition is observed. The Contractor may be directed verbally or via Field Instruction, letter, or other means to abate the hazard. The Contractor must comply with all directives for hazard abatement immediately and within the timeframe imposed by the Agency.

### 6-13.03 **PASSAGE OF EMERGENCY VEHICLES**

The Contractor shall provide for the uninterrupted passage of emergency vehicles through the Work Zone at all times regardless of the controlled traffic conditions in place at the time.

### 6-13.04 **FURNISHING, INSTALLING, AND MAINTAINING TRAFFIC CONTROLS**

Signs, lights, barriers, fences, temporary railing (Type K), barricades, and other facilities shall be furnished, erected and maintained by the Contractor to provide an adequate warning to the public of dangerous conditions to be encountered during construction at all hours of the day or night. Warning and directional signs shall be erected and maintained as required by the Agency and by law. All traffic controls shall be installed as required by this Section and Section 12, "Construction Area Traffic Controls", of these Specifications.

### 6-13.05 **INADEQUATE TRAFFIC CONTROLS AND AFTER-HOUR MAINTENANCE AND REPAIRS**

Should the Contractor appear negligent in furnishing and maintaining sufficient traffic control devices or protective measures or fail to provide flaggers as necessary to control traffic, the Agency may direct the Contractor, at the Contractor's expense, to abate the hazard.

Should the Agency point out the inadequacy of warning devices and protective measures, that action shall not relieve the Contractor from responsibility for public safety or abrogate the obligation to furnish and pay for these devices and measures.

Should the Contractor fail to properly furnish or maintain traffic controls, or correct a hazard caused by inadequate or inappropriate traffic control, the Agency will abate the hazard. All Agency costs to abate the hazard shall be reimbursed by the Contractor or deducted from the progress payment. If the Contractor is not available to perform after-hour maintenance and repair to traffic control devices, the Agency will correct the situation and deduct all costs from the progress payment.

### 6-13.06 **COMPETENT FLAGGERS**

The Contractor shall provide competent and courteous flaggers to control traffic when necessary or requested by the Agency. All flaggers shall be trained as required by Cal/OSHA regulations and shall be prepared to provide verification of such training to the Agency when requested. See Section 12-2, "Flagging", of these Specifications for additional information.

### 6-13.07 **CONSTRUCTION SIGNS**

The Contractor is responsible for supplying, installing and maintaining all construction signs and posts. The Contractor will receive direction from the Agency as to the specific locations and placement of each sign. Regulatory signs or guide signs will be supplied, erected and maintained by the Agency, but must be protected from damage from construction activities by the Contractor through the duration of the project. See Section 12-3.08, "Construction Area Signs", of these Specifications for additional information.

### 6-13.08 **TEMPORARY BRIDGING OF EXCAVATIONS AND TRENCHES**

Whenever necessary or requested by the Agency, excavations shall be bridged with steel plates to allow an unobstructed flow of traffic,

1. Asphalt concrete "cutback" shall be placed around the edges of the plate to provide a ramp and smooth transition from the pavement to the plate to minimize wheel impact. All ramping must be accomplished to provide a minimum angle of approach of twelve to one (12:1).

## Construction Specifications

2. Bridging shall be secured against displacement by using railroad spikes or other approved fastening device.
3. Bridging shall be placed and secured to work within the minimum noise levels indicated in the Winters Muni Code.
4. Steel plates used for bridging shall extend at least one (1) trench width on each side beyond the edges of the trench. Any deviations from these requirements must be designed by a registered engineer and reviewed by the Agency.
5. Depending upon the depth of the excavation, soil type, vibration and other variables, the trench may require shoring to support bridging. The Contractor should confer with a California Licensed Engineer or other appropriate professional if there is any question about the capability of the excavation and bridging to support the forces of traffic.

In sidewalk areas, one and one-eighths inch (1-1/8") plywood may be substituted for steel plating. Asphalt

<b>Width Of Excavation</b>	<b>Minimum Thickness Of Steel Plates</b>
2.0 ft. or less (0.6 m or less)	7/8 inch (22mm)
3.0 ft. (0.9m)	1 inch (25 mm)
4.0 ft. (1.2m)	1-1/4 inch (32mm)

concrete "cutback" or other non-displaceable material must be used to provide a ramp for pedestrian and handicap access. All ramping must be accomplished to provide a minimum angle of approach of twelve to one (12:1). Vehicular travel over backfilled but unpaved excavations will not be allowed, unless the Contractor provides a temporary surface suitable for driving consisting of at least two inches (2") of plant mix asphalt over six inches (6") of aggregate base, concrete slurry (completely cured), or traffic plates placed over the excavated area of sufficient width and thickness as indicated in this Section.

### **6-13.09 ENTERING AND LEAVING THE CONSTRUCTION ZONE**

Construction equipment shall enter and leave the roadway by moving in the direction of public traffic. All movements of workmen and construction equipment on or across lanes open to public traffic shall be performed in a safe manner that will not endanger the workmen or the public. When leaving a work area and entering a roadway carrying public traffic, the Contractor's equipment operator shall yield to public traffic.

### **6-13.10 EXISTING TRAFFIC SIGNAL AND LIGHTING SYSTEMS, SIGNS AND PAVEMENT MARKINGS**

Existing traffic signal and highway lighting systems shall be kept in operation during progress of the Work. When traffic signal shutdown is permitted by the Agency, the Contractor shall notify the Agency at least five (5) Working Days prior to shutdown. Traffic signal detectors accidentally cut or damaged during construction shall be repaired or replaced by the Contractor at the Contractor's expense and be operational within seventy-two (72) hours. When traffic signals are approved for shutdown, the Contractor shall control traffic by use of flaggers as directed by the Agency, "STOP" signs will not be permitted at these locations.

Existing signs and pavement markings shall be maintained by the Contractor and shall not be removed or altered without Agency approval.

**6-13.11 DUST**

Water or dust palliative shall be applied if ordered by the Agency for the alleviation or prevention of dust nuisance caused by the Contractor's operations as provided in Section 17, "Dust Control", of these Specifications.

**6-13.12 REMOVAL OF SPILLAGE FROM ROADWAY**

The Contractor shall immediately remove any spillage resulting from hauling operations along or across any public traveled way.

**6-14 TRAFFIC CONTROL PLANS (TCP)**

**6-14.01 TRAFFIC PATTERN CHANGES**

The Contractor shall notify the Agency in advance of the Contractor's desire to change any existing traffic patterns. Traffic lanes for public use shall be at least ten feet (10') in width. Whenever feasible an additional four feet (4') shall be provided for a bicycle lane. If it is not feasible to provide a separate bicycle lane, the Contractor shall post signage before the construction area stating, "SHARE the Road with Bicyclists". Additionally, when the lane is shared, the Contractor shall post signage for a maximum speed limit of 25 MPH in the shared lane. For traffic pattern changes that do not require a road closure, the Contractor shall provide the Agency with a minimum of three (3) Working Days advance notification, unless otherwise approved or deemed an emergency lane closure by the Agency. For all road closures, the Contractor shall provide the Agency with a minimum of twenty (20) Working Days notice prior to the desired closure date, unless otherwise approved or deemed an emergency road closure by the Agency.

**6-14.02 TRAFFIC CONTROL PLANS (TCP)**

Unless the requirement has been modified by 1) the Special Provisions, 2) specifications for development or frontage work, or 3) an encroachment permit, the Contractor shall submit a Traffic Control Plan (TCP) to the Agency for review. The TCP shall show traffic control measures to be used for vehicles, bicyclists, and pedestrians affected by the construction. Three (3) sets of the TCP shall be submitted on eleven-inch by seventeen-inch (11"x17") (minimum) paper. The Contractor will not be allowed to begin work associated with the road or lane closure until the TCP is reviewed by the Agency.

TCP's for the following types of closures will be reviewed and returned within five (5) Working Days:

1. Single lane closures that cannot be set up in accordance with the guidelines of the current edition of the Caltrans "Manual of Traffic Controls"
2. All multi lane (in the same direction of travel) closures
3. AN lane closures outside the working hours provided in the Contract or permit, including Saturdays, Sundays, and holidays
4. Requests for lane closures on streets designated as "no closures permitted during the holiday season"
5. Closures affecting pedestrian and bicycle facilities

TCP's for the following types of closures will be reviewed and returned within twenty (20) Working Days:

1. All "staged" construction traffic control changes
2. All road closures
3. All freeway/highway closures

## Construction Specifications

4. All freeway/highway ramp and lane closures
5. All shifts of traffic which will be implemented on a twenty-four (24) hour basis

The Agency reserves the right to extend the above time periods or to request for and review a TCP if special conditions warrant.

Detours used exclusively by the Contractor for hauling materials and equipment shall be constructed and maintained by the Contractor at the Contractor's expense. If the Contractor's operations are damaging the roadway, the Agency has the authority to regulate the Contractor's operations and direct the Contractor to repair the roadway at the Contractor's expense.

### **6-15 BARRICADING OPEN TRENCHES**

Any excavation permitted by the Agency to be left open shall be barricaded with Type II or Type III barricades with flashers. Signs stating "OPEN TRENCH" shall be posted when requested by the Agency. All open excavated areas shall be barricaded with at least two (2) Type III barricades at the end of the excavation that faces oncoming traffic. Any excavation within four feet (4') of the traveled way, not protected by K-rail or a similar traffic control barrier approved by the Agency, shall be backfilled at the end of the work shift or plated in accordance with Section 6-13.08, "Temporary Bridging of Excavations and Trenches", in this Section of these Specifications.

### **6-16 EXISTING UTILITIES**

#### **6-16.01 GENERAL**

The Contractor shall coordinate and fully cooperate with the Agency and utility owners for the location, relocation, and protection of utilities. The Contractor's attention is directed to the existence of utilities, underground and overhead, necessary for all buildings in the Work area. The Contractor shall arrange with utility owners for the location of service lines serving these buildings in advance of the actual construction and for the relocation of such facilities, if necessary, by the utility owner or the Contractor.

#### **6-16.02 MAINTENANCE AND PROTECTION**

Unless otherwise shown or specified in the Contract, the Contractor shall maintain in service all drainage, water, gas, sewer lines, power, lighting, telephone conduits, and any other surface or subsurface utility structure that may be affected by the Work. However, the Contractor, for convenience, may arrange with individual owners to temporarily disconnect service lines or other facilities along the line of the Work. The cost of disconnecting and restoring such utilities shall be borne by the Contractor.

Unless otherwise specified in the Special Provisions, the Contractor shall protect all existing utilities on all projects being constructed, whether inside or outside of highway rights-of-way. The utility owner in these cases may elect to provide the necessary protective measures and bill the Contractor for the cost. "Existing utilities" includes traffic control devices, conduits, streetlights, and related appurtenances.

Existing utility facilities that are to be relocated, including traffic signals and light poles, shall be relocated prior to paving. No paving shall be performed around existing utility facilities that are to be relocated.

#### **6-16.03 EXACT LOCATIONS UNKNOWN**

The locations of existing utility facilities shown on the Plans are approximate and represent the best information obtainable from utility maps and other information furnished by the various utility owners involved. The Agency warrants neither the accuracy nor the extent of actual installations as shown on the Plans. There may be additional utilities on the property unknown to either party to the Contract. If, during the course of the Work, additional subsurface utilities are discovered, the Agency may make adjustments

## Construction Specifications

to the Work. Compensation for such adjustments will be in accordance with Section 9, "Changes and Claims", of these Specifications.

In accordance with Government Code Section 4215, the Agency will compensate the Contractor for the costs of locating, repairing damage not due to the failure of the Contractor to exercise reasonable care, removing, relocating or protecting existing main or trunk line utility facilities not indicated in the Plans and Specifications with reasonable accuracy, and for equipment on the Work necessarily idled during such work. In no event shall the Agency be liable for any further or additional costs resulting directly or indirectly from any such occurrence. Compensation will be in accordance with Section 9, "Changes and Claims", of these Specifications. Nothing herein shall be deemed to require the Agency to indicate the presence of existing utility services, laterals, or appurtenances whenever their presence can be inferred from other visible facilities such as buildings, meters, junction boxes, valves, service facilities, identification markings, and other indicators on or adjacent to the Work.

If the Contractor discovers utilities not identified in the Plans or Specifications, the Contractor shall immediately notify the Agency and the utility owner by the most expeditious means available and later confirm in writing. If the completion of the Work is delayed by failure of the Agency or the utility owner to remove, repair, or relocate the utility, such delay may be an unavoidable delay as defined and provided for in Section 7-12.02, "Unavoidable Delays", of these Specifications. Nothing herein shall preclude the Agency from pursuing any appropriate remedy against the utility for delays that are the responsibility of the utility. The Contractor shall not be assessed liquidated damages for delay in completion of the Work for that portion of such delay as is caused by failure of the Agency or the owner of a utility to provide for the removal or relocation of existing utilities.

### **6-16.04 UNDERGROUND SERVICE ALERT (USA)**

The Agency is a member of the Underground Service Alert North (U.S.A.) one-call program. Except in an emergency, the Contractor and any Subcontractor planning to conduct any excavation shall notify the U.S.A. at least two (2) Working Days, but no earlier than fourteen (14) Calendar Days, in advance of performing excavation work. U.S.A. can be reached by calling the toll free number (800) 227-2600. U.S.A. does not accept emergency calls. The provisions of Government Code Section 4216 shall be followed.

Each phase of a project shall be called into U.S.A. and continuing excavation reported every fourteen (14) Calendar Days. The U.S.A. Regional Notification Center will provide an inquiry identification number to the person contacting the center. The U.S.A. inquiry identification number shall be available to the Inspector at the job site along with the date U.S.A. was called. If the U.S.A. notifications are not kept up-to-date, the excavation may be stopped and a new forty-eight (48) hour notice will be required before continuing the excavation. If, at any time during an excavation for which there is a valid inquiry identification number, the field markings are no longer reasonably visible, the Contractor shall contact the appropriate regional notification center to have the area re-marked.

Prior to calling U.S.A., the Contractor shall clearly mark the excavation site with white, water-soluble paint in paved areas or flags, stakes, whiskers, or some other approved method, in unpaved areas. This paint shall be applied as white dots located inside the excavated area so that when construction is completed there will be no remnants of the paint. At those locations where the excavation is not known, the Contractor shall make an attempt to closely identify and outline the areas to be explored. The Contractor shall determine the exact location [twenty-four inches (24") from outside edge on either side of the facility] of utilities in conflict with the proposed excavation by exposing the subsurface installation with hand tools before using any power-operated or power-driven equipment. The Contractor shall not call in to U.S.A. the entire project boundaries or, on road construction projects, the entire length of the project. The Contractor shall only request the marking of facilities within the area to be excavated within fourteen (14) Calendar Days of the call.

**6-16.05 DAMAGE TO EXISTING UTILITIES**

The Contractor shall notify the affected utility of any contact, scrape, dent, nick, or damage to their facility. Any operator or excavator who negligently violates Government Code Section 4215 is subject to a civil penalty in an amount not to exceed ten thousand dollars (\$10,000).

Any operator or excavator who knowingly and willfully violates Government Code Section 4215 is subject to a civil penalty in an amount not to exceed fifty thousand dollars (\$50,000).

**6-16.06 MARKINGS**

The following table designates color codes and symbols that shall be used by the Contractor and the utility owners to identify utilities:

<b>Field Markings</b>		
<b>Color Codes And Symbols</b>		
<b>Color</b>	<b>Symbol</b>	<b>Name</b>
Safety Precaution Blue	W	Water
Safety Alert Orange	FA	Fire Alarm
	Tel	Telephone/Communication
	R	Railroad
	TV	Television/CATV
Safety Green	WU	Western Union
	S D	Sewer or Storm Drain
Safety Red	L	Street Lighting
	E	Electric
	T	Traffic Signals
High Visibility Safety Yellow	G	Gas
	Company Name	Oil or Chemical
		Steam
Purple	RW	Reclaimed Water
Pink/Fuchsia	TSM	Temporary Survey
White	USA	Proposed Excavation - Paint outline of proposed excavation area with white dotted line.

**6-17 APPROVAL OF CONTRACTOR'S PLANS NO RELEASE FROM LIABILITY**

The review or approval by the Agency of any working drawing or any method of work proposed by the Contractor shall not relieve the Contractor of any of the Contractor's responsibility for any errors and shall not be regarded as any assumption of risk or liability by the Agency or any officer, official, agent, employee, member, volunteer, affiliate, or their duly authorized representatives. The Contractor shall have no claim under the Contract because of the failure or partial failure or inefficiency of any reviewed

or approved plan or method. Agency review or approval means that the Agency has no objection to the Contractor using the proposed plan or method at the Contractor's responsibility and risk.

**6-18 CONTRACTOR SHALL NOT MORTGAGE EQUIPMENT**

The Contractor shall not mortgage or otherwise convey the title of the plant, machinery, tools, appliances, supplies, or materials that may at any time be in use, or further required or useful, in the prosecution of the Work, without prior written consent of the Agency.

**6-19 PROPERTY RIGHTS IN MATERIALS**

Nothing in the Contract shall be construed as vesting in the Contractor any right of property in the materials used after they have been installed, attached or affixed to the Work, and on which partial payments have been made by the Agency. All such materials shall be the property of the Contractor and the Agency jointly as their interests may appear, and shall not be removed from the Work by the Contractor without the Agency's consent.

**6-20 EXCAVATION AND TRENCH SAFETY**

**6-20.01 PERMIT**

The Contractor must obtain a permit from the Division of Industrial Relations per Labor Code Section 6500, as specified in California Code of Regulations, Title 8, Article 6, Section 1539 "Permits" of the Construction Safety Orders, for all excavations five feet (5') or deeper to which an employee is required to descend. The permit shall be kept at the construction site at all times.

**6-20.02 SHORING, BRACING, SHIELDING AND SHEETING**

In accordance with Labor Code Section 6705, at least five (5) Working Days in advance of excavation of any trench or trenches five feet (5') or more in depth, with a total value of twenty-five thousand dollars (\$25,000) or more, the Contractor shall submit to the Agency a detailed plan showing the design of shoring, bracing, sloping, or other provisions for worker protection from the hazard of caving ground during the excavation of such trench or trenches. If such plan varies from the shoring system standards, the plan shall be prepared by a California registered civil or structural engineer. A signed copy of the detailed plan shall be on the site at the time of the excavation. Nothing in this Section shall be deemed to allow the use of a shoring, sloping, or protective system less effective than that required by the Construction Safety Orders. Nothing in this Section shall be construed to impose tort liability on the Agency or any of its employees. These systems must support the sides of the excavation and prevent soil movement that could cause injury to any person or structure. Any damage resulting from a lack of adequate shoring, bracing, shielding or sheeting shall be repaired at the Contractor's expense.

The Contractor shall immediately replace or repair any unsafe ladder, scaffolding, shoring, or bracing, or correct any other dangerous or hazardous situation that exists.

A Competent Person, as defined in California Code of Regulations, Title 8, Construction Safety Orders, Section 1504, "Definitions", shall be on site at all times when the Contractor's employees are working within the trench. A "Competent Person" is one who is capable of identifying existing and predictable hazards in the surroundings, or working conditions which are unsanitary, hazardous, or dangerous to employees, and who has authorization to take prompt corrective measures to eliminate them.

The price bid for work that will require an excavation of five feet (5') or deeper (or less if conditions warrant) shall include the cost of adequate sheeting, shoring and bracing, or equivalent method conforming to applicable safety orders, unless a separate bid item for such work is included in the bid form.

**6-21 PRESERVATION OF PROPERTY**

Roadside trees and shrubbery that are to remain, pole lines, fences, signs, traffic control devices, striping, survey markers and monuments, buildings and structures, conduits, underground or aboveground pipelines, and any other improvements and facilities shall be protected from injury or damage. If ordered by the Agency, the Contractor shall provide and install suitable safeguards to protect such objects from injury or damage, if such objects are injured or damaged by reason of the Contractor's operations, said objects shall be replaced or restored at the Contractor's expense to a condition as good as when the Contractor entered upon the Work. The Contractor shall receive Agency approval before the removal of any road sign or permanent traffic control device that interferes with the Work.

**6-22 OVERLOADING**

The Contractor shall determine safe loading capacities and shall not overload any structure, equipment, pavement, or material beyond its safe capacity, or significantly deteriorate the preconstruction condition, during construction. In addition to assuming full responsibility for bodily injury resulting from any such overloading, the Contractor shall repair to the Agency's satisfaction or reimburse the Agency for the costs of repairing the damage. For pavement assessment prior to construction, contact the Public Works Department.

## **SECTION 7.**

### **PROSECUTION OF THE WORK**

#### **7-1 BEGINNING OF WORK**

No work may take place prior to receipt of the executed Contract and review of the prescribed bonds and insurance. Upon receipt of the executed Contract and approval of the bonds and insurance by the Agency, a Notice to Proceed will be issued which will constitute authorization to begin work.

#### **7-2 AMOUNT OF WORK UNDER CONSTRUCTION**

The Contractor shall not have more work under construction than can be prosecuted properly with regard to the rights of the public.

#### **7-3 PRECONSTRUCTION CONFERENCE AND PROGRESS MEETINGS**

Prior to beginning work a preconstruction conference shall be held for the purpose of reviewing the Work. The Contractor must attend this preconstruction conference, and shall invite Subcontractors and others necessary to ensure all topics are adequately covered. Topics discussed include, but are not limited to, mobilization, access, temporary facilities, utilities, subcontractors, schedules, procedures, correspondence, progress payments, payroll records, Storm Water Pollution Prevention Plans (SWPPP), coordination, safety, after-hour contacts for Contractor and Agency personnel, quality control/quality assurance, personnel assignments, and other topics as appropriate.

Progress meetings, as stipulated in the Special Provisions or as may be required by the Agency, will be conducted throughout the duration of the Contract. The purpose of these meetings is to inform, discuss, and resolve issues related to the Work; the Contractor or the Contractor's agent shall attend. Topics discussed include, but are not limited to, progress, schedules, safety, SWPPP, Requests for Information, Change Orders, Field Instructions, field coordination, submittals, quality control/quality assurance, testing, startup, safety, and other topics related to the Work.

#### **7-4 WORK TO BE PROSECUTED WITH ADEQUATE SUPERVISION, LABOR FORCE, EQUIPMENT AND METHODS**

The Contractor shall prosecute the Work under the Contract with all materials, tools, machinery, apparatus, and labor necessary to complete the Work as described, shown, or reasonably implied under the Contract, or as directed by the Agency, on or before the scheduled completion date.

##### **7-4.01 SUPERINTENDENCE**

The Contractor shall keep on the Work, throughout its progress, a competent superintendent who shall have complete authority to represent and act for the Contractor. Such superintendent shall be capable of reading and understanding the Contract, and shall receive and follow any instruction given by the Agency.

Whenever the Contractor or the Contractor's superintendent is not present on a particular part of the Work where it may be desired to give direction, orders will be given by the Agency and shall be received and obeyed by the foreman or other representative who may have charge of the particular work in reference to which the orders are given, or the Agency may stop the work until the Contractor or the Contractor's superintendent arrives.

**7-4.02 LABOR**

Workers, laborers, or mechanics skilled in each class of work shall accomplish every part of the Work.

**7-4.03 EQUIPMENT AND METHODS**

Only equipment and methods suitable to produce the quality required by the Contract will be permitted to operate on the Work. Except as specified in Section 5-7, "Contractor's Equipment", of these Specifications, equipment shall be that used in general practice for the work undertaken. If any part of the Contractor's plant, equipment, or methods of executing the Work is unsafe, inefficient, or inadequate to ensure the required quality or rate of progress of the Work, the Agency may order the Contractor to modify the Contractor's facilities or methods. The Contractor shall promptly comply with such orders at the Contractor's expense. However, neither compliance with such orders nor failure of the Agency to issue such orders shall relieve the Contractor from the obligation to secure the degree of safety, the quality of the Work, and the rate of progress required by the Contract. The Contractor is responsible for the safety, adequacy, and efficiency of his plant, equipment, and methods.

**7-5 SCHEDULES**

The Contractor shall submit a schedule, in accordance with this Section and Section 5-8, "Contractor's Submittals", of these Specifications, which illustrates the Contractor's plans for carrying out the Work. The Agency will review the schedule, and any updates or revisions, for conformance to the Contract. Agency review of a schedule, update, or revision does not relieve the Contractor of responsibility for the feasibility of the schedule or requirements for accomplishments of milestones and completion within Contract Time, nor does the Agency review warrant or acknowledge the reasonableness of the schedule's logic, durations, labor estimates, or equipment productivity.

If no separate item is provided in the Bid Form, payment for schedules shall be included in payments for mobilization. If no bid item for mobilization is included in the Bid Form, conformance with this provision is incidental to and included in the various bid items and no additional payment will be made. Updates and revisions of the schedules are included in the prices paid for other items of work.

The Agency may withhold up to twenty-five percent (25%) of the Progress Payment until a satisfactory baseline schedule, update, or revision has been submitted and reviewed.

**7-5.01 PROGRESS SCHEDULE**

A bar chart or similar form of progress schedule will be required for all contracts. Unless otherwise agreed to by the Agency, the latest version of MS Project or Primavera shall be used. The Contractor shall submit three (3) copies, plus an electronic copy, of a complete baseline progress schedule at the preconstruction conference (see Section 7-3, "Preconstruction Conference and Progress Meetings", in this Section of these Specifications). The baseline progress schedule shall show all major portions of the Work, the estimated dates on which the Contractor shall start each portion of the Work, and the contemplated dates for completing each portion of the Work or the approximate percentage of the Work or portions of the Work scheduled for completion at any time.

Unless agreed to by the Agency, the progress schedule shall be updated and submitted to the Agency with each Progress Payment request or when requested by the Agency. All schedule updates or revisions shall show the effects of any occurrence upon which the Contractor will base a notice of potential claim or has based any claim (see Section 9, "Changes and Claims", of these Specifications), and shall expressly call the Agency's attention to those effects. A revised or updated schedule shall be submitted within ten (10) Working Days of an Agency request.

## Construction Specifications

The Contractor shall carry out the various elements of the Work concurrently, as is practicable, and shall not defer construction of any portion of the Work in favor of any other portion, without the express written approval of the Agency.

Despite the submission of a progress schedule, the Contractor shall be governed by the direction of the Agency if, in the Judgment of the Agency, it becomes necessary to accelerate the Work or any part thereof, or cease work at any particular point and concentrate the Contractor's forces at such other point or points, with the intent of preventing delays.

### 7-5.02 CRITICAL PATH METHOD

When required by the Special Provisions, in lieu of the progress schedule required by the previous Section (Section 7-5.01), the Contractor shall submit a practicable Critical Path Method (CPM) network schedule within thirty (30) days of receipt of the Contract. Unless otherwise agreed to by the Agency, the latest version of MS Project or Primavera shall be used. The CPM network diagram shall be time-scaled and include printouts showing the mathematical analysis of the CPM network diagram. Activities shall include, but not be limited to, construction activities, procurement activities, submittal activities, and any other activities by the Contractor, the Agency, or any other entity that may impact the Work. Submittal and procurement activities shall include falsework drawings, post tensioning drawings, test procedures, mix designs, long time lead items, etc. The following information shall be shown for each activity:

1. Unique number(s) for each activity
2. Activity description
3. Activity relationships and dependencies (logic)
4. Activity duration in Working Days
5. Early start, early finish, late start, late finish dates (calendar date, i.e. day, month, year)
6. Total float, free float
7. For completed activities: actual start dates, actual finish dates, duration, and logic
8. Interim milestone dates and completion dates
9. Detailed list of work contained within each activity
10. Manpower loading for each item of work for unit price contracts
11. Cost loading for each item of work for lump sum contracts

The Contractor shall submit three (3) full-size paper copies and an electronic copy of each CPM schedule. Updates to the CPM schedule shall be submitted with each Progress Payment request, when Contract events are changed, or within ten (10) Working Days of an Agency request. A narrative describing the general status of the Work and addressing any problem areas or delays shall be submitted with each revision or update, with impacts on critical path items of work highlighted. A corrective course of action shall also be included when problem areas or delays are encountered.

All schedule updates or revisions shall show on the critical path the effects of any occurrence upon which the Contractor has based a notice of potential claim or will base any claim (see Section 9, "Changes and Claims", of these Specifications) and shall expressly call the Agency's attention to the effects.

### 7-5.03 FOUR-WEEK ROLLING SCHEDULE

A four-week rolling schedule shall be provided by the Contractor at each progress meeting. The schedule shall provide an accurate representation of the work performed the previous week and work planned for the current week and subsequent two (2) weeks.

## Construction Specifications

The schedule shall be provided in a bar chart form with information derived from and consistent with the current project schedule. The schedule shall include activity ID number, activity description, start and finish dates (both scheduled and actual), and any other information requested by the Agency. Each activity shall be coded to note activities on the critical path and activities that are behind schedule.

### **7-6 UNUSUAL SITE CONDITIONS**

The Contractor shall promptly, and before the following conditions are disturbed, notify the Agency, in writing, of any:

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

The Contractor shall follow up the prompt notification with written documentation of the unusual site condition within five (5) Working Days. The Agency will have the site remediated or issue a Contract Change Order per Section 9, "Changes and Claims", of these Specifications if it finds that the conditions do materially differ or involve hazardous waste.

### **7-7 PURSUANCE OF WORK DURING INCLEMENT WEATHER**

During inclement or unsuitable weather or other unfavorable conditions, the Contractor shall pursue only such portions of the Work that will not be damaged by the weather or unfavorable conditions. When the weather or unfavorable conditions creates hazardous travel or working conditions, as determined by the Agency, the Contractor may be directed to stop that portion of the Work, in accordance with Section 5-21, "Temporary Suspension or Delay of Work", of these Specifications, until the weather clears or the conditions are no longer unfavorable.

The Contractor must keep roads safe and inspect and maintain stormwater pollution prevention and erosion control devices during inclement weather or unfavorable conditions. Lane and road closures may not be allowed if the Agency determines that the traffic controls will create unnecessary risk to the traveling public, the Contractor, and/or Agency employees.

### **7-8 PEAK HOURS, HOURS OF DARKNESS, HOLIDAYS, AND WEEKENDS**

#### **7-8.01 ALLOWABLE TIMES AND HOURS OF WORK**

Unless otherwise noted in the Special Provisions or approved by the Agency, no work shall be done between the hours of 6 p.m. and 7 a.m., or on Saturdays, Sundays, or legal holidays. Unless otherwise noted in the Special Provisions or approved by the Agency, no lane of traffic shall be closed to the public during the peak hours of 7:00 a.m. to 8:00 a.m. and 3:30 p.m. to 6:00 p.m., except as necessary for the proper care and protection of work already performed or in case of an emergency repair as defined below. These exceptions are allowed only with the Agency's written permission.

#### **7-8.02 OFF-PERIOD WORK**

A written request to work between 6 p.m. and 7 a.m. or on Saturdays, Sundays, or legal holidays, or to close a lane of traffic during peak hours must be submitted at least two (2) Working Days in advance of the intended work. The Agency will evaluate the Contractor's request to determine if there is a benefit to the Agency, a nuisance or a hazard to the public, the project, or the area surrounding the site, and if the

Contractor should pay any Agency overtime costs related to the off-period work. The Agency may place conditions on any approval of off-period work based on this analysis.

#### **7-8.03 EMERGENCY REPAIRS**

An emergency repair is a repair to the Work (including traffic controls, barricades, or temporary signs) required as a result of an unforeseen event that poses a danger to the public or Jeopardizes the integrity of the Work, whether completed or not. The Contractor may be allowed to close a lane of traffic or work at night, on Saturdays, Sundays, or legal holidays for an emergency repair. The Contractor must notify the Agency within one (1) hour of dispatch of the Contractor's repair crews, and give their name, an emergency contact number, the location of the emergency repair, and a tentative completion date and time. The Contractor shall notify the Agency when the emergency repair is completed and the road is clear, or, if an extension of time is required, the Contractor must provide a revised tentative completion date and time.

#### **7-8.04 REVOCATION OF PERMISSION FOR OFF-PERIOD WORK**

The Agency may revoke permission for off-period work if the Contractor endangers the public, an employee, or themselves by violating a safety and health regulation, or fails to maintain an adequate work force and equipment for reasonable prosecution and inspection of such work.

#### **7-8.05 WORKING SHIFTS**

Two- or three-shift operations may be established as a regular procedure by the Contractor upon written permission from the Agency. Such permission may be revoked if the Contractor fails to comply with applicable safety and health regulations, fails to maintain adequate force and equipment for reasonable prosecution and inspection of the Work, or fails to provide sufficient artificial light to permit the Work to be carried out safely and appropriately and to permit proper inspection.

#### **7-9 TEMPORARY FACILITIES AND SERVICES**

Unless specified otherwise in the Special Provisions, the Contractor shall be responsible for providing and maintaining necessary material storage facilities, utilities, field offices, temporary roads, fences, security, etc. for prosecuting the Work. The Contractor shall not connect to or draw construction water from fire hydrants without written approval from the utility owner and the Agency.

#### **7-10 PROTECTION OF WORK, PERSONS AND PROPERTY**

The Contractor shall protect the Work and materials from damage until completion and acceptance of the Work. Neither the Agency nor any of its agents assume any responsibility for collecting funds from any person or persons that damages the Contractor's work.

The Contractor shall store materials and equipment in accordance with manufacturer's recommendations and erect such temporary structures as required to protect them from damage.

The Contractor shall furnish guards, fences, warning signs, walks, and lights, and shall take all other necessary precautions to prevent damage or injury to persons or property.

#### **7-11 PROOF OF COMPLIANCE WITH CONTRACT**

When requested by the Agency, the Contractor shall submit properly authenticated proof of the Contractor's compliance with the Contract.

**7-12 DELAYS**

The Contractor shall provide notification to the Agency for any delays, in accordance with Section 7-13, "Notice of Delays", in this Section of these Specifications.

**7-12.01 AVOIDABLE DELAYS**

The Contractor shall not receive any time extensions or compensation for avoidable delays. Avoidable delays include, but are not limited to, the following:

1. Delays that affect only a portion of the work but do not prevent or delay the prosecution of controlling items of work nor the completion of the whole Work within the Contract Time.
2. Delays associated with the reasonable interference of other contractors employed by the Agency that do not necessarily prevent or delay the prosecution of controlling items of work or the completion of the whole Work within the Contract Time.
3. Delays associated with loss of time resulting from the necessity of submitting plans for Agency approval or from Agency surveys, measurements, inspections, and testing.
4. Delays that could have been avoided by the exercise of care, prudence, foresight, and diligence on the part of the Contractor or Subcontractors.
5. Any curtailment of the Contractor's operations due to the action of the Air Pollution Control Board or the City of Winters.

**7-12.02 UNAVOIDABLE DELAYS**

The Contractor may be granted an extension of Contract time for delays that are determined to be beyond the control of the Contractor, impact a controlling item of work, and could not be prevented by the exercise of care, prudence, foresight, and diligence. Unavoidable delays may include Agency acts, acts of God or of the public enemy, fire, floods, epidemics, and strikes. Material shortages and delays in utility company relocations may be classified as unavoidable if the Contractor produces satisfactory evidence of acting in a timely manner.

1. The Contractor shall not receive any additional compensation due to inclement or unsuitable weather or conditions resulting therefrom, acts of God or of the public enemy, fire, floods, epidemics, strikes, material shortages, or utility relocations.
2. The Contractor may be entitled to additional compensation for unavoidable delays the Agency determined resulted from an Agency act or the discovery of cultural resources as specified in Section 10-12, "Archeological and Cultural Resources", of these Specifications, except as modified below:
  - a. Compensation for unavoidable delays shall not be granted when the Contractor could have reasonably anticipated the delay.
  - b. When there are two (2) or more concurrent delays and at least one (1) is non-compensable, no compensation other than time extension shall be provided.
  - c. Compensation for unavoidable delays shall be granted only if such unavoidable delay affects controlling operations that would prevent completion of the Work in accordance with the provisions of Section 9-10 "Compensable Unavoidable Delays."

**7-13 NOTICE OF DELAYS**

The Contractor shall immediately notify the Agency in writing if the Contractor foresees any delay in the prosecution of the Work or immediately upon the occurrence of any unavoidable delay, but in no case

## Construction Specifications

shall the written notice be provided to the Agency later than two (2) Working Days after the occurrence of the unavoidable delay. The Contractor shall state the probability of the delay occurring and its cause so the Agency may take steps to prevent the occurrence or continuance of the delay and determine whether the delay is avoidable or unavoidable, its duration, and the extent.

The Agency will assume that all delays were avoidable unless the Agency was notified as indicated above and through its investigation found them unavoidable. No consideration for additional time or compensation will be given for any delay not called to the Agency's attention at the time of its occurrence.

### **7-14 CARELESS DESTRUCTION OF STAKES AND MARKS NO CAUSE FOR DELAY**

If the Contractor or Subcontractors carelessly destroy Agency-placed stakes and marks causing a delay in the Work, the Contractor shall have no claim for damages or time extensions. See also Section 5-9, "Surveys", of these Specifications.

### **7-15 TIME OF COMPLETION**

Time is of the essence on all Agency contracts. The Contractor shall complete all of the Work called for under the Contract within the Contract Time set forth in the Special Provisions.

The Agency will furnish the Contractor a weekly statement showing the number of days charged to the Contract for the preceding week, the number of days of time extensions approved or under consideration, the number of days originally specified for the completion of the Contract, and the extended date for completion. The Contractor will be allowed fifteen (15) days from the issuance of the weekly statement to file a written protest stating how the Contractor's estimate of Contract days charged to the Contract differs from the Agency's. If no protest is received, it shall be deemed by the Agency that the Contractor has accepted the statement as being correct-

### **7-16 EXTENSION OF TIME NOT A WAIVER**

Time extensions granted for unavoidable delays or for the execution of extra or additional work shall not operate as a waiver of the Agency's rights under the Contract.

### **7-17 INCLEMENT WEATHER AND CONTRACT TIME**

A Contract day will not be charged if, in the opinion of the Agency, inclement or unsuitable weather or its effects prevents working on the current controlling operation at the beginning of the shift for at least five (5) consecutive hours, or for at least (5) hours during the shift. A current controlling operation is any feature of the Work (e.g., an operation or activity including settlement, curing periods, and submittal activities) that if delayed or prolonged will delay the time of completion of the Contract.

### **7-18 EXTENSION OF TIME**

The Contractor will be allowed a time extension to complete the Work equal to the sum of all unavoidable delays as determined in accordance with Section 7-12.02, "Unavoidable Delays", in this Section of these Specifications, plus any adjustments in Contract Time due to Contract Change Orders as outlined in Section 9-12, "Time Extensions for Changes", in these Specifications. During such time extension, the Contractor will not be charged for extra engineering and inspection or liquidated damages. Requests for a time extension must be submitted in writing to the Agency within ten (10) days of the event that is the reason for the request for time extension and before the expiration of the Contract time. The written request shall include a time impact analysis that demonstrates how the occurrence delayed the work underway at the time of the occurrence that caused the delay.

#### **7-19 SUBSTANTIAL COMPLETION**

When the Contractor considers the entire Work, or a specific portion of the Work, substantially complete, the Contractor shall certify in writing to the Agency that the Work is substantially complete and request that the Agency grant substantial completion. Within five (5) Working Days, the Agency and the Contractor shall inspect the Work to determine the status of completion. If the Agency does not consider the Work ready for its intended use, the Agency will notify the Contractor in writing, giving the Agency's reasons. If the Agency considers the Work ready for its intended use, the Agency will grant substantial completion. The Agency will provide a list of items to be completed or corrected (punch list) before Final Acceptance and Final Payment. Within ten (10) Calendar Days of being provided a list of items to be completed or corrected, the Contractor shall proceed to correct or complete such items. The counting of time for liquidated damages will cease for the entire Work, or a specific portion of the Work, on the date substantial completion is granted, but shall not bind the Agency to formal acceptance nor relieve the Contractor from the responsibility of completing or correcting any work.

#### **7-20 CLEANING UP**

Throughout the construction period, the Contractor shall keep the site of the Work in a presentable condition, dispose of any surplus materials, keep roadways reasonably clear of dirt and debris, keep all sidewalk and other pedestrian areas clear of dirt, loose gravel, debris and any tripping hazards, clean out all drainage ditches and structures, and repair any fences or other property damaged during the progress of the Work, to the satisfaction of the Agency. The Contractor shall also keep the work site cleaned of all rubbish, excess material, and equipment. All portions of the work shall be left in a neat and orderly condition prior to requesting final inspection. Surplus material shall be disposed of in accordance with Section 18-7, "Surplus Material Disposal", of these Specifications.

The final inspection will not be made until final clean up has been accomplished.

#### **7-21 FINAL INSPECTION AND FIELD ACCEPTANCE**

The Contractor shall notify the Agency in writing of the completion of the Work, and the Agency shall promptly inspect the Work. The Contractor or the Contractor's representative shall be present at the final inspection. The Contractor will be notified in writing of any defects or deficiencies. The Contractor shall proceed to correct such defects or deficiencies within ten (10) days of such notification. When notified that correction of the defective or deficient work is complete, the Agency will again inspect the Work to ascertain that the corrections are in accordance with the Contract. The Agency will issue a field acceptance letter and will recommend to the City Council final acceptance of the Work if it finds all the corrections acceptable. Field acceptance by the Agency shall cause the commencement of warranty periods, but shall not bind the Council to final acceptance nor relieve the Contractor from the responsibility of completing or correcting any work.

#### **7-22 FINAL ACCEPTANCE AND NOTICE OF COMPLETION**

The Contractor acknowledges and agrees that completion for purpose of final payment shall mean the Contractor's complete performance of all Work required by the Contract Documents, amendments, Change Orders, Construction Change Directives and punch lists, and the City's formal acceptance of the Work, without regard to prior occupancy, substantial completion doctrine, beneficial occupancy or otherwise.

Acceptance of the Work shall be made only by formal written acceptance by the City. Recordation of a Notice of Completion shall be in the manner prescribed by law, provided that the Work shall then be fully and satisfactorily completed and the provisions of the Contract Documents fully and satisfactorily performed in all respects.

## **SECTION 8.**

### **MEASUREMENT AND PAYMENT**

#### **8-1 BASIS AND MEASUREMENT OF PAYMENT QUANTITIES**

It is the Contractor's responsibility to measure and/or compute the quantities of work completed, subject to verification by the Agency, under the terms of the Contract, in computing quantities, the length, area, solid contents, number, weight, or time as specified in the Contract or the Schedule of Values shall be used.

##### **8-1.01 UNIT PRICE CONTRACTS**

Payment for all work bid at a price per unit of measurement will be based upon the actual quantities of work as measured upon completion. The Estimated Quantities provided in the Bid Documents are for comparative bidding only. The Agency does not express or imply that the actual amount of work or materials will correspond to the Estimated Quantities. The Contractor shall make no claim nor receive any compensation for anticipated profits, loss of profit, damages, or any extra payment due to any difference between the amounts of work actually completed, or materials or equipment furnished, and the Estimated Quantities. See also Section 9-14, "Contract Change Order (CCO)", of these Specifications.

##### **8-1.02 LUMP SUM OR JOB CONTRACTS**

Progress Payments will be based on the Schedule of Values prepared by the Contractor and approved by the Agency prior to acceptance of the first Progress Payment request (see Section 8-5, "Progress Payment Procedures", in this Section of these Specifications). If requested by the Agency, the Contractor shall furnish full copies of Subcontracts showing actual costs, including an agreed amount for the Contractor's overhead. The Schedule of Values shall be consistent with the baseline progress schedule prepared by the Contractor pursuant to Section 7-5.01, "Progress Schedule", of these Specifications.

##### **8-1.03 PAYMENT FOR MOBILIZATION**

Mobilization shall consist of preparatory work and operations, including, but not limited to, those necessary for the movement of personnel, equipment, supplies, and incidentals to the site; for the establishment of all offices, buildings, and other facilities necessary for the Work; and for all other work and operations which must be performed, or costs incurred, prior to beginning the Work.

Payment for mobilization will be as follows:

###### **8-1.03.A MOBILIZATION NOT A PAY ITEM**

When the Contract does not include a separate pay item for mobilization, full compensation for mobilization will be included in the Contract lump sum price or in the prices paid for the various items of work in a unit price contract, and no additional compensation will be paid.

###### **8-1.03.B MOBILIZATION A PAY ITEM**

When the Contract or proposed Schedule of Values includes a separate item for mobilization, payment for mobilization will include full compensation for the furnishing of all labor, materials, tools, equipment, administrative costs, and incidentals for mobilization.

1. The Agency will pay no greater than five percent (5%) of the Total Contract Price as a separate pay item for mobilization. In the event the Contractor submits a mobilization pay item greater

## Construction Specifications

than five percent (5%) of the Total Contract Price, the Agency will pay any excess mobilization amount with the final Progress Payment.

2. Payment for mobilization will be prorated as follows:
  - a. When the Progress Payment request is five percent (5%) or more of the original Total Contract Price (excluding mobilization), fifty percent (50%) of the contract item price for mobilization or two and one-half percent (2.5%) of the Total Contract Price, whichever is less, will be paid for mobilization.
  - b. When the Progress Payment request is ten percent (10%) or more of the original Total Contract Price (excluding mobilization), seventy percent (70%) of the contract item price for mobilization or three and one-half percent (3.5%) of the Total Contract Price, whichever is less, will be paid for mobilization.
  - c. When the Progress Payment request is twenty percent (20%) or more of the original Total Contract Price (excluding mobilization), ninety percent (90%) of the contract item price for mobilization or four and one-half percent (4.5%) of the Total Contract Price, whichever is less, will be paid for mobilization.
  - d. When the Progress Payment request is fifty percent (50%) or more of the original Total Contract Price (excluding mobilization), one hundred percent (100%) of the contract item price for mobilization or five percent (5%) of the Total Contract Price, whichever is less, will be paid for mobilization.
  - e. After final acceptance of the Contract, the amount, if any, of the Contract item price for mobilization in excess of five percent (5%) of the original Total Contract Price will be included for payment in the final estimate made in accordance with Section 8-11, "Final Estimate and Payment", in this Section of these Specifications.
3. The Agency will not pay additional mobilization compensation for work under a Contract Change Order. Payment for mobilization shall be subject to retention per Section 8-7, "Retention", in this Section of these Specifications.

### **8-2 SCOPE OF PAYMENT**

#### **8-2.01 GENERAL**

Compensation under the terms of the Contract shall be full payment for the Work, including loss or damage arising from the nature of the Work, action of the elements, or unforeseen difficulties encountered during the prosecution of the Work and until its final acceptance; and all risks connected with the prosecution of the Work.

#### **8-2.02 UNIT PRICE CONTRACT**

Progress Payments will be made based on the unit price bid and measured quantities, for work completed, plus work completed on approved Change Orders. For compensation for alterations in quantities of work, including deviations greater than twenty-five percent (25%), see Section 9-8.02, "Payment for Changes - Unit Prices", in these Specifications.

#### **8-2.03 LUMP SUM OR JOB CONTRACT**

Progress Payments will be based on the approved Schedule of Values for work completed, plus work completed on approved Change Orders.

**8-2.04 FINAL PAY ITEMS**

An item designated as a Final Pay Item in the Contract shall be paid for as specified in Section 9-1.015, "Final Pay Items", of the State Specifications.

**8-2.05 ALLOWANCES**

Allowances may be included in the Bid Form for materials and/or work that may be added during the course of the Contract. The Allowance may be used in whole, in part, or not at all as determined by the Agency. Whenever costs of the Work included in the Allowance item are more or less than the specified Allowance amount, the Total Contract Price will be adjusted accordingly by Contract Change Order. The Contractor shall make no claim nor receive any compensation for anticipated profits, loss of profit, damages, or any extra payment due to any difference between the amounts of work actually completed, or materials or equipment furnished, and the Estimated Quantities for the Allowance.

**8-2.06 PAYMENT FOR MATERIAL NOT INCORPORATED IN THE WORK**

No Progress Payments will be made for materials and equipment not incorporated in the Work, unless specifically set forth in the Special Provisions or authorized by the Agency.

**8-3 WORK TO BE DONE WITHOUT DIRECT PAYMENT**

Compensation for any portion of the Work not specifically identified in the Bid Form or Schedule of Values is understood to be included in the price for other items, unless specified in the Special Provisions as extra work. No additional compensation is allowed for additional shifts or premium pay necessary to ensure that the Work is completed within the time limits specified in the Contract.

**8-4 PAYMENT FOR USE OF COMPLETED PORTIONS OF WORK**

If the Agency accepts a completed or partially completed portion of the Work under Section 4-10, "Use of Completed Portions", of these Specifications, the Contractor will be compensated in accordance with Sections 8-11, "Final Estimate and Payment", and 8-12, "Final Payment to Terminate Liability of Agency", in this Section of these Specifications. When the Agency accepts a completed or partially completed portion of the Work, the warranty period for that portion commences and the Contractor will be relieved of any further maintenance and protection of that portion. The Contractor will not be relieved of the Contract requirements for repairing or replacing defective work and materials.

**8-5 PROGRESS PAYMENT PROCEDURES**

No Progress Payment will be made when, in the judgment of the Agency, the Work is not proceeding in accordance with the provisions of the Contract or when the total work done since the last Progress Payment amounts to less than one thousand dollars (\$1,000). Unless otherwise agreed to at the preconstruction meeting or identified in the Special Provisions, on the 20th of each month the Contractor shall submit in writing for Agency review an estimate of the total amount and value of work done, including that done under approved Change Orders, and the acceptable materials furnished and incorporated in the work through the 20th day of the month. The Bid Form or Schedule of Values shall be used to prepare a Progress Payment request for the items, or portions of items, of the Work completed during the monthly progress period. After deducting all previous payments, the retention as described in Section 8-7, "Retention", in this Section of these Specifications, and other withholdings as specified in the Contract from the estimated total value, the Agency will pay the Contractor the balance.

The payment of a Progress Payment or the acceptance thereof by the Contractor does not constitute acceptance of any portion of the Work, and does not reduce the Contractor's liability to replace unsatisfactory work, material, or equipment. An inadvertence or error in an approved Progress Payment request will not release the Contractor or the Contractor's surety from damages arising from the work

covered by the approved payment request or from enforcement of every provision of the Contract. The Agency has the right to correct any error made in any Progress Payment.

#### **8-6 INSPECTION AND PROGRESS PAYMENTS NOT A WAIVER OF CONTRACT PROVISIONS**

No inspection, order, measurement, approval modification, payment, acceptance of work or material (including, but not limited to, acceptance of the entire Work), time extension, or possession of the Work or any part thereof shall be a waiver of any of the terms and conditions of the Contract, the powers reserved by the Agency, or any right of the Agency to damages or to reject the Work in whole or part. No breach of this Contract shall be construed a waiver of any other or subsequent breach. All remedies provided in the Contract shall be cumulative and shall be in addition to all other rights and remedies that may exist at law or in equity.

#### **8-7 RETENTION**

##### **8-7.01 RETENTION TO ENSURE PERFORMANCE**

As described in Section 8-11, "Final Estimate and Payment", in this Section of these Specifications, the Agency will retain ten percent (10%) of each Progress Payment to ensure performance under the Contract until thirty-five (35) days after filing of the Notice of Completion.

##### **8-7.02 NON-COMPLIANCE**

The Agency may also retain portions of a Progress or Final Payment for Contract non-compliance in an amount deemed appropriate by the Agency.

##### **8-7.03 SUBSTITUTION OF SECURITIES**

At the request and expense of the Contractor, in accordance with California Public Contract Code Section 22300, in lieu of the Agency withholding the ten percent (10%) retention defined in Section 8-7.01, "Retention to Ensure Performance", in this Section of these Specifications, the Contractor may: 1) substitute a deposit of securities at least equivalent to the retention to be paid, or 2) request the Agency pay retention directly to an escrow agent.

The Contractor and Agency shall enter into an escrow agreement in the form set forth in Public Contract Code Section 22300 as modified by the Agency. All forms or correspondence pertaining to Security Deposit in Lieu of Withhold shall be addressed to:

City of Winters, City Engineer  
318 First Street  
Winters, CA 95932

#### **8-8 WITHHOLDINGS/DENIAL OF PROGRESS PAYMENT REQUEST**

The Agency may deny a Progress Payment request and/or withhold money from any Progress Payment to:

1. Cover any unpaid claims filed pursuant to Civil Code Sections 3179 et seq.;
2. Protect the Agency's interest; and/or
3. Pay any fines levied against the Work by the Agency or other entities. The Agency may also deny a Progress Payment request and/or withhold money, or modify any previous Progress Payment, as necessary to protect the Agency from loss due to or affecting enforcement of:
4. Defective work not remedied.

## Construction Specifications

5. Stop notices filed.
6. Failure of the Contractor to make payments properly to Subcontractors for labor, materials, or equipment.
7. Evidence that the Work cannot be completed for the unpaid balance of the Contract sum.
8. Evidence that the Work will not be completed within the Contract time.
9. Damage to the Agency or another contractor.
10. Failure to carry out the Work in accordance with the Contract.
11. Any violation or non-compliance with Contractor's legal responsibilities (see Section 6, "Legal Relations and Responsibilities", of these Specifications), including withholds for wages adjustments in accordance with California Labor Code Section 1727 and any fines incurred by the Agency as a result of the Contractor's actions.

When, under the provisions of the Contract, the Agency charges any sum of money against the Contractor, the Agency will deduct and retain the amount of such charge from a Progress or Final Payment. If, on completion or termination of the Contract, sums due the Contractor are insufficient to pay the Agency charges against the Contractor, the Agency has the right to recover the balance from the Contractor or the Contractor's surety.

### **8-9 DEDUCTIONS FOR IMPERFECT WORK**

For any portion of the Work retained in accordance with Section 5-19, "Right to Retain Imperfect Work", of these Specifications, the Agency will deduct from a Progress Payment a just and reasonable amount.

### **8-10 LIQUIDATED DAMAGES FOR DELAY**

All parties to the Contract agree that time is of the essence, and that the Work shall be completed within the time stated in the Special Provisions, plus any time extensions as provided in Section 7-18, "Extension of Time", of these Specifications. The Contractor's failure to complete the Work within the time allowed will result in damages to the Agency. Because it is impracticable to determine the actual amount of damage by reason of such delay, the Contractor agrees that the sum(s) set forth in the Special Provisions is (are) a reasonable amount to be charged for liquidated damages. It is agreed that the Contractor shall pay to the Agency the sum set forth in the Special Provisions for each and every day's delay beyond the time prescribed in the Contract, and the Contractor further agrees that the Agency may deduct and retain the amount thereof from any monies due or to become due the Contractor under the Contract.

### **8-11 FINAL ESTIMATE AND PAYMENT**

Subsequent to Field Acceptance as detailed in Section 7-21, "Final Inspection and Field Acceptance", of these Specifications, the Contractor shall provide a proposed Final Payment request, segregated as to Contract item and Contract Change Order work.

When all provisions of the Contract have been performed to the satisfaction of the Engineer, the Agency shall proceed with all reasonable diligence to determine the final quantities and final payments for all work included in the Contract. Final payments and quantities shall include all work performed at contract unit bid prices, contract lump sum bid prices, approved Contract Change Orders, any work performed under Force Account, and a reasonable estimate of value for any disputed extra work items. All Progress Payments shall be subject to correction in the Final Payment.

Within fifteen (15) Calendar Days after the proposed Final Payment request is returned to the Contractor, the Contractor shall submit to the Agency a written approval of said request or a written statement of exceptions. The Contractor's statement of exceptions shall be in sufficient detail for the Agency to

## Construction Specifications

ascertain the basis and amount of the exceptions; failure to provide the detail shall be sufficient cause for denial of the exceptions. Any claim of the Contractor or the Contractor's Subcontractors or suppliers with respect to the performance or breach of the Contract or any alterations thereof (except for payment of the balance of the Contract price as set forth in the Final Payment request) not specifically set forth in the statement of exceptions, is waived by the Contractor. If the Contractor fails to file a statement of exceptions within the time allowed, the Agency will infer acceptance of the final Progress Payment request as submitted to the Contractor.

If no liens or claims have been filed against the Contractor after thirty-five (35) days from the filing of Notice of Completion, the Agency will approve for payment the entire sum due, including the release of any retention.

### **8-12 FINAL PAYMENT TO TERMINATE LIABILITY OF AGENCY**

Payment of the final amount due under the Contract shall release the Agency, and the Agency's officers, officials, agents, employees, members, volunteers, affiliates, and their duly authorized representatives from all claims or liability on account of work performed under the Contract. Tender of this payment shall constitute denial by the Agency of any unresolved claim of the Contractor not specifically excepted in writing by the Contractor. The Contractor's acceptance of the Final Payment shall release the Agency and the Agency's officers, officials, agents, employees, members, volunteers, affiliates, and their duly authorized representatives from all claims or liability on account of work performed under the Contract or any alterations thereof, except unresolved items set forth in the statement of exceptions.

### **8-13 DISPUTED PAYMENTS**

The Agency will decide disputes regarding payments under the Contract according to the procedures set forth in Section 9, "Changes and Claims", of these Specifications. The decision of the Agency will be final.

## **SECTION 9.**

### **CHANGES AND CLAIMS**

#### **9-1 AUTHORITY FOR CHANGES**

The Agency reserves the right to order corrections, alterations, additions, modifications, deletions or other changes as required for the proper completion of the Work. The order may be made prior to the final acceptance of the Contract without voiding the Contract, without notice to the Contractor's sureties, and in accordance with the provisions of Section 9-2, "Ordering of Changes", in this Section of these Specifications.

The Contractor shall not perform corrections, alterations, additions, modifications, deletions, or other changes to the Work without a written order from the Agency, in accordance with Section 9-2, "Ordering of Changes", in this Section of these Specifications.

Payment for changed or extra work will not be made without the Agency's written authorization,

#### **9-2 ORDERING OF CHANGES**

The Engineer may order a change, in writing, during the course of the Work, and the Contractor shall comply with the order. Changes to the Work shall in no way affect, invalidate, or make void the Contract or any part thereof, except that which is necessarily affected by such changes and is clearly the evident intention of the parties to the Contract.

Changes to the Work may be initiated as described in Section 4-5, "Field Instructions or Other Written Directives", of these Specifications, Changes that require an adjustment to the total Contract Price or the Contract Time will be formalized in a Contract Change Order, in accordance with Section 9-14, "Contract Change Order (CCO)", in this Section of these Specifications. Failure of the Agency and Contractor to agree to terms of any order for change shall not relieve the Contractor of his obligation to complete all work specified in the order.

#### **9-3 CONSTRUCTION INCENTIVE CHANGE PROPOSAL (CICP)**

The provisions of this section (CICP) shall only apply when allowed in the Special Provisions.

##### **9-3.01 GENERAL**

The Construction Incentive Change Proposal (CICP) Program provides a program for the Contractor to use his expertise to improve Contract performance to create an overall reduction in the Total Contract Price. Proposing to delete work is not a CICP. Deleted work is addressed in Section 4-8, "Deleted Items", in these Specifications. The CICP Program shall not apply to Agency contracts of less than two hundred thousand dollars (\$200,000). The Contractor and Subcontractors may participate in the CICP Program. Participation of Subcontractors shall be through the Contractor. The Contractor and Subcontractor must agree upon the sharing arrangement; written evidence of such agreement must be submitted with the CICP.

While a CICP is being considered or processed, the Contractor shall proceed with the Work as scheduled.

##### **9-3.02 DESCRIPTION**

A CICP is a formally written proposal for a Contract Change Order. A CICP must be initiated, developed, and identified as such by the Contractor or his Subcontractor. A CICP must result in a net capital cost

## Construction Specifications

reduction while causing no increase in the total life cycle cost of the project and shall comply with the following conditions:

1. Required function, reliability, and safety of the project will be maintained without detracting from the life expectancy or increasing maintenance requirements.
2. The proposed change shall not cause undue interruption of the Work, nor shall it extend the Contract Time.
3. The proposed change shall comply with all applicable permits, regulations, and code requirements, and any other requirements as set forth in the Contract. The proposed change shall not involve payment of royalties by the Agency to the Contractor.

### 9-3.03 SUBMITTAL

The Contractor shall submit a brief description of the proposed CICIP prior to preparing the detailed submittal as outlined below.

A CICIP submittal must contain pertinent information in supporting documents for Agency evaluation. As a minimum, the following information shall be submitted:

1. Name of Individuals associated with the development and preparation of the CICIP.
2. A detailed description and duly signed plans and specifications showing work as presently designed and the proposed changes.
3. A clear identification of all advantages and disadvantages for each proposed change.
4. A detailed procedure and schedule for implementing the proposed change. This detailed procedure and schedule shall include all necessary Contract amendments. Also indicated must be the latest date that the CICIP can be approved for implementation without exceeding the Contract time.
5. A summary of estimated costs, including the following:
  - a. Project construction costs before and after the CICIP. This shall be a detailed estimate identifying the following items for each trade involved in the CICIP:
    - i. Quantities of material and equipment
    - ii. Unit prices of materials and equipment
    - iii. Labor hours and rates for installation
    - iv. Subcontractor and prime Contractor mark ups
    - v. Operation and maintenance costs before and after the CICIP
    - vi. Cost for implementing the CICIP not included elsewhere
  - b. Contractor's share of the savings based on the sharing provision in Section 9-3.05, "Sharing Provisions and Formula", in this Section of these Specifications.
  - c. Other data as required by local permits and regulations and code requirements as set forth in the Contract.
6. Time required for execution of the proposed change.

To the extent indicated herein, the Contractor may restrict the Agency's use of any CICIP or the supporting data submitted pursuant to this program. Suggested wording for inclusion in CICIPs is as follows:

## Construction Specifications

"This data furnished pursuant to the construction incentive clause of the Contract shall not be disclosed or duplicated in whole or in part beyond what is necessary to accomplish the review. This restriction does not limit the Agency's right to use the information if it is available from any source without limitations. The Agency has the right to duplicate, use and disclose any information if the CICIP is accepted."

The Agency may modify, accept, or reject the CICIP. However, if the CICIP is modified or not acted upon within the time allotted in the proposal, the Agency will not be liable for the Contractor's cost of developing the CICIP if it is withdrawn or rejected.

### 9-3.04 ACCEPTANCE

The Agency will use the processing procedure specified for Change Orders in Section 9-14, "Contract Change Order (CCO)", in this Section of these Specifications, if a CICIP is accepted.

The Agency's written approval of the CICIP is required. If the CICIP is rejected, the Contractor shall not appeal the decision.

### 9-3.05 SHARING PROVISIONS AND FORMULA

Upon acceptance of the CICIP, the Contractor will receive fifty percent (50%) of the Net Capital Savings based on the following formula:

Net Capital Savings = Contract Cost Prior to CICIP - (Revised Contract Cost after CICIP + CICIP Development Cost + CICIP Implementation Cost)

The Contractor's development cost is limited to that directly associated with the preparation of the CICIP package. Development costs will be reimbursed after approval. However, the Agency will reject costs that cannot be satisfactorily substantiated.

The CICIP implementation costs include, when appropriate, engineering costs for reviewing and redesigning the changes. However, Agency costs for processing the CICIP are excluded.

## 9-4 CHANGES TO THE CONTRACT

If directed by the Engineer, within fourteen (14) Calendar Days of issuance of an order for a change, the Contractor shall provide a cost and time proposal prepared in accordance with the requirements of Sections 9-8, "Payment for Changes", and 9-12, "Time Extensions for Changes", in this Section of these Specifications. The Contractor's proposal shall indicate the amount to be added or deducted from the Total Contract Price, supported by complete details of all Contractor, Subcontractor, vendor or supplier costs per Section 9-6, "Cost and Pricing Data", in this Section of these Specifications.

If the Contractor does not submit a proposal within fourteen (14) Calendar Days, and unless the Engineer is otherwise notified within fourteen (14) Calendar Days of a potential cost impact, the Contractor agrees to perform the work described in the order for change with no additional compensation. If the order for change is issued on a force account basis, the Contractor must immediately begin keeping records in accordance with Section 9-8.03, "Force Account", in this Section of these Specifications.

## 9-5 PROSECUTION OF CHANGES TO THE CONTRACT

The Contractor shall comply with and prosecute all portions of the order for change with the same diligence and manner as if the changes were originally included in the Contract, except as otherwise provided in the order.

If agreement is reached regarding payment, but not a time adjustment, the Agency shall have the right to direct the Contractor to proceed with the change at the agreed price. The impact of the changed work on the project schedule will be considered by the Agency in accordance with Section 9-12, "Time Extensions for Changes", in this Section of these Specifications.

## Construction Specifications

When the Agency and Contractor cannot agree on the credit for deleted work, the Agency's estimate will be deducted from the Total Contract Price, unless the Contractor presents proof prior to the Final Payment that the Agency's estimate is in error.

### **9-6 COST AND PRICING DATA**

Cost and pricing data submitted by the Contractor shall be true, complete, accurate, and current. The Agency may require a formal certification to verify Contractor-submitted cost and pricing data. The Agency shall have access to the records supporting such cost and pricing data in accordance with the following Section (Section 9-7, "Access to Records"),

### **9-7 ACCESS TO RECORDS**

Upon reasonable notice and during normal business hours, the Agency shall have access to the Contractor's and Subcontractors' records for the purpose of verifying and evaluating the accuracy of cost and pricing data submitted by the Contractor. "Records" as used in this Section shall include, but not be limited to: original estimates, subcontract agreements, purchase orders, books, documents, accounting records, papers, project correspondence, project files, and scheduling information necessary to determine the direct and indirect costs, Job site, area and home office overhead, delay and impact costs. Records shall include the original Bid and all documents related to the Bid and its preparation, the as-planned construction schedule and all related documents. Such access shall include the right to examine and audit such records and make excerpts, transcriptions, and photocopies at the Agency's cost.

### **9-8 PAYMENT FOR CHANGES**

The method of payment agreed upon by the Contractor and the Agency, or selected by the Agency in the absence of agreement, shall be set forth in the order for change. The three methods of payment are as follows:

#### **9-8.01 LUMP SUM PRICE**

The Contractor shall submit a lump sum price proposal. The proposal shall include an estimate of labor, material, equipment, Subcontractor, and material supplier costs. The proposal shall include labor surcharges according to State Specifications Section 9-1.03.

#### **9-8.02 UNIT PRICES**

If payment for Contract work is based on unit prices, payment for changed work will be made based on actual quantities of work done at the unit prices contained in the Contract or unit prices otherwise agreed upon by the Agency and Contractor if none are contained in the Contract. Payment for changed work based on Contract or agreed upon unit prices includes the full cost of the item of work including profit and overhead; and no additional payment or adjustment will be allowed. If the final quantity of any item of work required under the Contract varies from the Engineer's Estimate by twenty-five percent (25%) or more, compensation will be adjusted in accordance with State Specification Section 4-1.03B, "Increased or Decreased Quantities".

#### **9-8.03 FORCE ACCOUNT**

When extra work is to be paid for on a force account basis, the labor, materials and equipment used in the performance of that work shall be subject to the approval of the Engineer and compensation will be determined according to State Specifications Section 9-1.04.

### **9-9 MARKUPS FOR CHANGED WORK**

This section deleted and shall reference State Specifications Section 9-1.04.

## **9-10 COMPENSABLE UNAVOIDABLE DELAYS**

Payments will be made as follows for compensable unavoidable delays, as defined in Section 7-12.02, "Unavoidable Delays", in these Specifications.

### **9-10.01 CONSTRUCTION EQUIPMENT**

Compensation will be paid for construction equipment idle as a result of a compensable unavoidable delay to the extent costs are incurred. The prices paid for equipment will be those in the current edition of the Caltrans publication, "Labor Surcharge and Equipment Rental Rates", with the following modifications:

1. The right-of-way delay factor for each classification of equipment will be applied to the rental rate.
2. Compensation will be provided for the actual time of the delay, but not more than eight (8) hours per day.

Compensation will be provided for each day or portion of a day, excluding Saturdays, Sundays and holidays, for the duration of the delay.

### **9-10.02 JOBSITE INDIRECT COSTS**

Indirect costs shall be limited to the following:

1. Actual payroll costs for field office staff incurred as a result of the delay, including management, supervision, safety, estimating, engineering, drafting, clerical, secretarial and accounting. A twenty-six percent (26%) surcharge for taxes, insurance, and all other payments made to or on the behalf of the employee may be added to the payroll costs.
2. Actual cost for third-party services provided for the field office, such as management, supervision, safety, estimating, engineering, drafting, clerical, secretarial, and accounting utilized in lieu of employees.
3. Applicable field office expenses for rent and utilities that are substantiated by invoices. Compensation for on-site plant, incidentals, and facilities for non-field office personnel including branch office and home office personnel will not be provided. Compensation for these items and other incidentals is included in the following Section (Section 9-10.03, "Markup for Compensable Unavoidable Delays").

### **9-10.03 MARKUP FOR COMPENSABLE UNAVOIDABLE DELAYS**

Except for compensable unavoidable delays associated with archeological and cultural resources as described in Section 10-12, "Archeological and Cultural Resources", of these Specifications and right-of-way delays, fifteen percent (15%) shall be added to job-site indirect costs for onsite plant, incidentals, overhead, home and branch office costs, bonds and profit. The Contractor shall determine the distribution of the markup among the Contractor, Subcontractors, and suppliers.

### **9-10.04 DUPLICATED OVERHEAD COSTS**

If the Contractor is compensated for delays in accordance with this Section, and the delay is attributable to direct cost changes to which markups were added, equitable adjustments shall be made to eliminate the duplication of compensation for indirect and overhead costs and profit.

**9-11 LIMITATIONS ON PAYMENTS FOR CHANGED WORK**

The Agency will not pay the Contractor for costs in excess of prevailing market values, unless the Contractor can establish, to the satisfaction of the Agency, that the Contractor has investigated all possible means of providing the work and that the excess costs could not be avoided. The Agency will be the sole judge of the necessity of incurring costs in excess of market value and whether the excess costs are directly required for performance of changed work. The Agency's determination will be final.

**9-12 TIME EXTENSIONS FOR CHANGES**

The Contractor is entitled only to adjustment in Contract Time if completion of the entire Work is extended due to the change impacting the controlling item of work. Each proposal submitted by the Contractor in accordance with Section 9-4, "Changes to the Contract", in this Section of these Specifications shall state the amount of extra time the Contractor believes the change added to the overall project schedule. Failure to request a time extension, including the required time impact analysis, within the time allowed constitutes a waiver of the Contractor's right to subsequently claim an adjustment in Contract Time.

**9-13 EFFECT ON SURETIES OF CHANGES TO THE WORK**

No alterations, time extensions, extra or additional work or other changes authorized by these conditions or any part of the Contract shall affect the sureties' obligations under the Contract.

**9-14 CONTRACT CHANGE ORDER (CCO)**

The Agency will issue a Contract Change Order (CCO) for approval if a change to the Total Contract Price or Contract Time is necessary. The Contractor shall not be entitled to any adjustments in either Total Contract Price or Contract Time for changes performed before receipt of a Contract Change Order approved by the City. A Contract Change Order is generally comprised of one or more Field Instructions or other written directives, and contains a summary of each change and changes to the Total Contract Price and Contract Time.

**9-15 ACCEPTANCE OF ORDERS FOR CHANGES**

The Contractor's written agreement of a Contract Change Order, Field Instruction, or other written directive will constitute his final and binding agreement to the provisions of the Contract Change Order, Field Instruction, or other written directive, and a waiver of all claims in connection therewith, whether direct or consequential in nature, including those of any Subcontractors or suppliers. If the Contractor disagrees with any Contract Change Order, Field Instruction, or other written directive, the Contractor may submit a notice of potential claim to the Agency in accordance with Section 9-17, "Notice of Potential Claim", in this Section of these Specifications. Disagreement with the provisions of a Change Order, Field Instruction, or other written directive will not relieve the Contractor of the Contractor's obligations under the Contract.

**9-16 DISPUTE REGARDING CONTRACT REQUIREMENTS**

If the Contractor and Agency fail to agree whether or not any work or other matter is within the scope of the Contract, the Contractor shall nevertheless immediately perform such work upon receipt of a written Field Instruction or other written directive. Within fourteen (14) Calendar Days after receipt of the Field Instruction or other written directive, the Contractor may submit a written protest detailing the Contract requirements exceeded and the approximate cost and/or time change. Failure to submit a protest within the specified period constitutes a waiver of the Contractor's rights to adjustments in the Total Contract Price or Contract Time for the disputed Contract requirement.

## Construction Specifications

The Contractor shall not stop performing the Work pending resolution of a dispute, unless ordered in writing by the Agency.

If the Agency agrees with the Contractor's written protest, the Total Contract Price and/or Contract Time will be adjusted through a Contract Change Order. Protests and claims denied by the Agency will be so stated in writing.

### **9-17 NOTICE OF POTENTIAL CLAIM**

The Contractor shall not be entitled to payment of any additional compensation for any cause, including any disagreement, protest, or change, any act or failure to act by the Agency, or the happening of any event, thing or occurrence, unless the Contractor has given the Agency due advance written notice of potential claim as hereinafter specified. The written notice of potential claim shall set forth the reasons for which the Contractor believes additional compensation and/or time will or may be due, the nature of the costs and/or time involved, and, insofar as possible, the amount of the potential claim.

Except as required below, the Contractor shall promptly provide written notification to the Agency upon discovery of concealed or unknown conditions or any disagreement, protest, situation, event, or occurrence that may result in a claim. This notice shall be submitted no more than two (2) Working Days after the discovery or occurrence of any event that may be the basis for a claim for additional compensation; failure to do so will waive the claim.

### **9-18 SUBMISSION OF CLAIMS**

#### **9-18.01 CLAIMS LESS THAN \$375,000**

Claims for three hundred seventy-five thousand dollars (\$375,000) or less shall be in accordance with Section 20104 of the Public Contract Code.

#### **9-18.02 CLAIMS GREATER THAN \$375,000**

For claims greater than three hundred seventy-five thousand dollars (\$375,000), the Contractor shall furnish claim documentation as herein specified.

Contractor shall submit three (3) certified copies of all claim documentation. All claim documentation shall be complete when submitted. The evaluation of the Contractor's claim will be based on Agency's records and the claim documentation submitted by Contractor.

Claim documentation shall conform to generally accepted auditing standards and shall be in the following format:

1. Introduction and background
2. Issues
  - a. Index of issues
  - b. For each issue:
    - i. Background
    - ii. Chronology
    - iii. Contractor's position (reason for Agency's potential liability)
    - iv. Supporting documentation of merit
    - v. Supporting documentation of damages

## Construction Specifications

3. Critical path method schedules, as-planned versus as-built, and delay analysis
4. Productivity and damages exhibits
5. Summary of issues and damages

Supporting documentation of merit for each issue shall be cited by reference, photocopies, or explained. Supporting documentation may include, but not be limited to, general conditions, technical specifications, drawings, correspondence, conference notes, shop drawing logs, survey books, inspection reports, delivery schedules, test reports, daily reports, subcontracts, fragmentary critical path method schedules, photographs, technical reports, requests for information, field instructions, and other related records.

Supporting documentation of damages for each issue shall be cited, photocopied, or explained. Supporting documentation may include, but not be limited to, certified detailed labor, materials, equipment, and construction equipment and services costs; purchase orders; invoices; project as-planned and as-built costs; subcontractor payment releases; quantity reports; other related records; general ledger and any other accounting materials.

Each copy of claim documentation shall include the following certification, signed in the same manner as the Contract was signed:

"I, \_\_\_\_\_, being the *(must be an officer)* of *(general contractor)*, declare under penalty of perjury under the laws of the State of California, and do personally certify and attest that; I have thoroughly reviewed the attached claim for additional compensation and/or extension of time, and know its contents, and said claim is made in good faith; the supporting data is truthful and accurate; that the amount requested accurately reflects the Contract adjustment for which the Contractor believes the Agency is liable; and, further, that I am familiar with California Penal Code Section 72 and California Government Code Section 12650, et seq., pertaining to false claims, and further know and understand that submission or certification of a false claim may lead to fines, imprisonment and/or other severe legal consequences.

(Signature of officer}

(Date} "

If the Contractor is unable to support any part of a claim and it is determined that such Inability is attributable to falsity of such certification or misrepresentation of fact or fraud by the Contractor, the Contractor shall be liable to the Agency for three (3) times the amount of damages which the Agency sustains, plus the cost of civil action, and may be liable to the Agency for a civil penalty of up to ten thousand dollars (\$10,000) for each false claim.

### **9-19 ENGINEER'S DECISION**

The Engineer may be requested to consider a dispute or claim if the Agency and Contractor representatives reach an impasse. A request for an Engineer's Decision shall be made by the Contractor, in writing, within fourteen (14) days of the date of impasse. In requesting an Engineer's Decision, each party shall provide a detailed description of their position and state the objections to the position of the other party. Evidence, records, and supporting information shall be included. Copies of all correspondence and information shall be provided to both parties.

The Engineer will review the facts of the dispute and may request additional information, evidence, or testimony. The Engineer will render a fair, impartial decision based on the Contract, and the evidence submitted by the Agency and Contractor representatives.

If provided for in the Special Provisions, the Engineer may decline to consider a dispute and refer the matter to a Dispute Review Board.

**9-20 ALTERNATIVE DISPUTE RESOLUTION**

After all remedies and provisions of the Contract are exhausted, any dispute related to the Work or Contract may be resolved by Mediation if the Contractor and the Agency agree in writing. The Contractor shall submit a written request for Mediation no later than thirty (30) days after the Agency issues the final written decision.

Said Mediation is voluntary, non-binding, and intended to provide an opportunity for the parties to evaluate each other's cases and arrive at a mutually agreeable solution. These provisions relating to voluntary Mediation shall not be construed or interpreted as mandatory arbitration.

**9-20.01 INITIATION OF MEDIATION**

Any party to a dispute or claim may initiate Mediation by notifying the other party or parties in writing.

**9-20.02 REQUEST FOR MEDIATION**

A Request for Mediation shall contain a brief statement of the nature of the dispute or claim, and the names, addresses, and phone numbers of all parties to the dispute or claim, and those who will represent them, if any, in the Mediation.

**9-20.03 SELECTION OF MEDIATOR**

Upon receipt of a Request for Mediation, within thirty (30) days, the parties will meet and confer to select an appropriate Mediator agreeable to all parties. If the parties cannot agree on a Mediator, they hereby agree to accept a Mediator appointed by a recognized association such as the American Arbitration Association.

**9-20.04 QUALIFICATIONS OF A MEDIATOR**

Any Mediator selected shall have expertise in the area of the dispute and be knowledgeable in the Mediation process. No person shall serve as a Mediator in any dispute in which that person has any financial or personal interest in the result of the Mediation. Before accepting an appointment, the prospective Mediator shall disclose any circumstances likely to create a presumption of bias or prevent a prompt meeting with the parties. Upon receipt of such information, the parties shall meet and confer and decide whether to select another Mediator.

**9-20.05 VACANCIES**

If any Mediator shall become unwilling or unable to serve, another Mediator shall be selected unless the parties agree otherwise.

**9-20.06 REPRESENTATION**

Any party may be represented by persons of their choice, who shall have full authority to negotiate. The names and addresses of such persons shall be communicated in writing to all parties and to the Mediator.

**9-20.07 TIME AND PLACE OF MEDIATION**

The Mediator shall set the time of each Mediation session. The Mediation shall be held at any convenient location agreeable to the Mediator and the parties, as the Mediator shall determine. All reasonable efforts will be made by the parties and the Mediator to schedule the first session within thirty (30) days after selection of the Mediator.

**9-20.08 IDENTIFICATION OF MATTERS IN DISPUTE**

At least ten (10) days before the first scheduled Mediation session, each party shall provide the Mediator with a brief memorandum setting forth its position with regard to the issues that need to be resolved. Such memoranda shall be mutually exchanged by the parties. At the first session, the parties will be expected to produce all information reasonably required for the Mediator to understand the issue presented. The Mediator may require each party to supplement such information.

**9-20.09 AUTHORITY OF MEDIATOR**

The Mediator does not have authority to impose a settlement upon the parties but will attempt to help the parties reach a satisfactory resolution of their dispute. The Mediator is authorized to conduct joint and separate meetings with the parties and to make oral and written recommendations for settlement. Whenever necessary, the Mediator may also obtain expert advice concerning technical aspects of the dispute, provided the parties agree and assume the expenses of obtaining such advice. Arrangements for obtaining such advice shall be made by the Mediator or the parties, as the Mediator shall determine. The Mediator is authorized to end the Mediation whenever, in the Mediator's judgment, further efforts at Mediation would not contribute to a resolution of the dispute between the parties.

**9-20.10 PRIVACY**

Mediation sessions are private. The parties and their representatives may attend Mediation sessions. Other persons may attend only with the permission of the parties and with the consent of the Mediator.

**9-20.11 CONFIDENTIALITY**

Confidential information disclosed to a Mediator by the parties or by witnesses in the course of the Mediation shall not be divulged by the Mediator. All records, reports, or other documents received by a Mediator while serving as Mediator shall be confidential. The Mediator shall not be compelled to divulge such records or to testify in regard to the Mediation in any adversary proceeding or judicial forum. The parties shall maintain the confidentiality of the Mediation and shall not rely on, or introduce as evidence in any arbitration, judicial or other proceedings or any of the following: (a) Views expressed or suggestions made by the other party with respect to a possible settlement of the dispute; (b) Statements made by the other party in the course of the Mediation proceedings; (c) Proposals made or views expressed by the Mediator; or (d) Whether the other party had or had not indicated willingness to accept a proposal for settlement made by the Mediator.

**9-20.12 NO STENOGRAPHIC RECORD**

There shall be no stenographic record of the Mediation.

**9-20.13 TERMINATION OF MEDIATION**

The Mediation shall be terminated (a) by the execution of a settlement agreement by the parties; (b) by a written declaration of the Mediator to the effect that further efforts at Mediation are no longer worthwhile; or (c) by a written declaration of a party or parties to the effect that the Mediation proceedings are terminated.

**9-20.14 EXCLUSION OF LIABILITY**

No Mediator shall be a necessary party in judicial proceedings related to the Mediation; No Mediator shall be liable to any party for any act or omission in connection with any Mediation conducted hereunder.

**9-20.15 INTERPRETATION AND APPLICATION OF THESE MEDIATION PROVISIONS**

The Mediator shall interpret and apply these Mediation provisions insofar as they relate to the Mediator's duties and responsibility.

**9-20.16 EXPENSES**

The expenses of witnesses for either side shall be paid by the party producing the witnesses. All other expenses of the Mediation, including required traveling and other expenses of the Mediator, the expenses of any witness called by the Mediator, and the cost of any proofs or expert advice produced at the request of the Mediator, shall be split equally between the parties.

**9-21 NO ALTERNATIVE CLAIMS PROCEDURE**

Nothing in the Contract constitutes an agreement for an alternative claim procedure under the provisions of Government Code Section 930.2, nor relieves the Contractor of the requirements of Government Code, Part 3, Chapters 1 and 2 and Title 1, Division 3.6, Chapters 1, 2, 3, and 4.

**9-22 ASSIGNMENT OF CLAIMS**

The Contractor shall not assign any portion of the moneys due the Contractor without written Agency approval. No person other than the party signing the Contract has any claim under the Contract, except as provided in the Contract.

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## **SECTION 10.**

### **ENVIRONMENTAL CONTROLS AT WORK SITE**

#### **10-1 DUST CONTROL**

Dust control shall conform to Section 17, "Dust Control", of these Specifications.

#### **10-2 AIR POLLUTION CONTROL**

The Contractor shall comply with all Federal, State, Agency, and local air pollution control rules, regulations, ordinances, and statutes that apply to the Work. The Contractor shall also comply with the requirements of any permits issued to the Agency as noted in the Special Provisions.

#### **10-3 BURNING**

Unless otherwise provided in the Special Provisions or approved by the Agency in writing, material shall not be burned on site.

#### **10-4 EROSION, SEDIMENT, AND WATER POLLUTION CONTROL**

##### **10-4.01 GENERAL**

The Federal Clean Water Act requires construction sites to prevent pollutants entering storm drain systems. Storm drain systems include both constructed and natural facilities, including streams, waterways, and other bodies of water. The Contractor shall protect the local storm drain system from pollution, and shall conduct and schedule operations to avoid erosion and sediments. Where erosion may cause water pollution due to the nature of the material or the season, the Contractor's operations shall be scheduled so temporary or permanent erosion control features are installed concurrently with, or immediately following, grading operations.

The Contractor is responsible for organizing and scheduling the Work to prevent, control, and/or abate water pollution. In order to provide effective and continuous control of water pollution, it may be necessary for the Contractor to perform the Work in small or multiple units, on an out-of-phase schedule, and/or with modified construction procedures. The Contractor shall coordinate water pollution control work with all other Contract work.

##### **10-4.02 AGENCY REQUIREMENTS**

Unless specified otherwise in the Contract, all construction projects in the City of Winters must have a water pollution control program as follows:

1. Construction projects disturbing more than the threshold number of acres as defined in the State General Construction Permit [currently five (5) acres] must have a Stormwater Pollution Prevention Plan (SWPPP) (See Section 10-4.04 of these Specifications.)
2. Construction involving the grading, filling, excavating, storage, or disposal of three hundred fifty (350) cubic yards or more of soil, or the clearing or grubbing of one (1) acre or more must have an Erosion and Sediment Control Plan (ESCP) (See Section 10-4.05 of these Specifications.)
3. All other construction must comply with the Minimum Agency Requirements (See Section 10-4.06 of these Specifications.).

## Construction Specifications

The minimum program required will be specified in the Special Provisions or by the Agency. Contractor may opt to comply with a more restrictive program than that which is required by the Special Provisions or the Agency. The Contractor must then conform to all requirements of both the minimum applicable program and the more restrictive program. (For example, if an ESCP is required but the Contractor chooses to prepare a SWPPP, the SWPPP must be prepared by a civil engineer as required by the erosion control ordinance).

Before starting the Work, the Contractor shall develop a program for the control of water pollution during the Work. The program shall indicate how the Contractor proposes to effectively control water pollution during the Work. The program shall also describe how the Contractor plans to monitor the effectiveness of the program. The program shall show erosion control work and all water pollution control measures the Contractor plans to implement in connection with the Work. The Contractor shall not perform any clearing, grubbing or earthwork on the project, other than that specifically authorized in writing by the Agency, without a water pollution control program. When requested by the Agency, the Contractor shall submit the program for review.

The Agency is not liable to the Contractor neither for any portion of the water pollution control program or subsequent revisions nor for any delays to the Work due to the Contractor's failure to prepare and implement a program nor for any delays as a result of Agency review.

### 10-4.03 REGULATIONS, ORDINANCES, PERMITS, AND SPECIFICATIONS

The Contractor is responsible for compliance with all Federal, State, Agency and local permits, rules, regulations, ordinances, statutes, and Agency directions that apply to erosion, sediment, and water pollution control. The Contractor, at a minimum, shall comply with the most stringent regulation, ordinance, permit, or specification of the following applicable to the Work:

1. This Section or the Special Provisions
2. Design Standards, Section 11 – Erosion and Sediment Control.
3. State of California Construction Activities Storm Water General Permit
4. Specific or general National Pollution Discharge Elimination System (NPDES) or other permits that cover the Work or are specific to the area of the Work

### 10-4.04 STORMWATER POLLUTION PREVENTION PLAN

Construction projects which disturb more than the threshold number of acres, must obtain coverage under the State Water Resources Control Board (SWRCB) General Storm Water Permit to Discharge Storm Water Associated with Construction Activity (General Permit). The General Permit is issued by the SWRCB and is enforced by the Agency and the Central Valley Regional Water Quality Control Board (Regional Board). Failure to obtain General Permit coverage or to comply with the requirements of the General Permit could result in significant daily fines. General Permit coverage is obtained by certifying and filing a Notice of Intent (N01) with the Regional Board. The owner of the project will be responsible for filing the N01 unless specified otherwise in the Special Provisions. The General Permit also requires inspection of erosion and sediment control measures before, during, and after storm events.

The SWPPP shall be prepared in accordance with the General Permit or other permit specified in the Special Provisions, regardless of whether or not the Work is subject to said permit. The SWPPP shall be prepared by an individual knowledgeable about storm water pollution prevention methods and requirements, and shall be signed by the preparer of the SWPPP. The SWPPP shall be implemented by the Contractor before Work commences. The

Contractor may not be allowed to mobilize until the plan is accepted. The SWPPP shall be kept onsite at all times, updated for the various phases of the project, and made immediately available for Agency and

## Construction Specifications

Regional Board Inspectors upon request. Updates shall be submitted to the Agency immediately for review. At a minimum, the SWPPP shall include:

1. Site Drawing (to scale)
  - a. Indicate Best Management Practices (BMP's) locations and types.
  - b. Indicate location of soil stockpiles and solid waste containers.
  - c. Delineate vehicle and equipment fueling, servicing, cleaning and storage areas.
  - d. Designate material storage areas.
  - e. Show grading limits.
  - f. Indicate site drainage during execution of the Work.
  - g. Identify provisions for stabilization of vehicle access to site.
  - h. Details
  - i. Provide drawings and information for BMP's and other pollution prevention measures.
  - j. Provide drawings for secondary containment.
2. Narrative
  - a. Indicate chemicals, potential pollutants and hazardous materials to be used and methods for safekeeping.
  - b. Describe de-watering operations.
  - c. Describe methods for spill prevention and control.
  - d. Describe secondary containment.
  - e. Describe handling and disposal of solid waste.
  - f. Describe method and equipment for treatment and disposal of de-watering discharge.
  - g. Describe storage and dispensing of fuel and lubricants.
  - h. Describe cleanout and disposal of ready mix concrete.
  - i. Describe sanitation provisions.
  - j. Describe method to ensure effectiveness of BMP's.
3. Monitoring procedures (including forms and schedules)

### 10-4.05 EROSION AND SEDIMENT CONTROL PLAN

Construction projects involving the grading, filling, excavating, storage, or disposal of three hundred fifty (350) cubic yards or more of soil, or the clearing or grubbing of one (1) acre or more are required to comply with the provisions of the Agency Grading and Erosion Control Ordinance.

An Erosion and Sediment Control Plan (ESCP) shall be prepared by a civil engineer. When requested by the Agency, the ESCP shall be reviewed by the Agency before work commences. Unless otherwise approved by the Agency, the Contractor will not be allowed to mobilize until the plan is prepared. If the Contractor's methods fail to prevent erosion or siltation, the Contractor shall revise and adjust the control measures to provide effective control, and shall be responsible for any damage resulting from erosion or siltation originating on the Work site and any other site the Contractor controls or passes through.

## Construction Specifications

### 10-4.06 **MINIMUM AGENCY REQUIREMENTS**

If the Work does not fall under Sections 10-4.04 or 10-4.05 of these Specifications, the Contractor, prior to commencing work, shall prepare a water pollution control program detailing the following:

1. Location of soil stockpiles and solid waste containers
2. Vehicle and equipment fueling, servicing, cleaning and storage areas
3. Material storage areas
4. Chemicals, potential pollutants and hazardous materials to be used and methods for safekeeping
5. Site drainage during execution of the Work
6. Stabilization of vehicle access to site
7. De-watering operations
8. Methods for spill prevention and control
9. Secondary containment
10. Handling and disposal of solid waste
11. Storage and dispensing of fuel and lubricants
12. Clean out and disposal of ready mix concrete
13. Sanitation provisions
14. Monitoring procedures

When requested by the Agency, the water pollution control program shall be submitted to the Agency for review.

### 10-4.07 **COMPLIANCE**

Compliance with the provisions in this Section does not relieve the Contractor of the responsibility for compliance with other Contract provisions.

The Contractor shall perform routine inspection and maintenance of BMP's. Inspections shall be done prior to, during, and after each rain event. The Contractor is solely responsible for preparing and maintaining inspection and monitoring records; and for including those records in the SWPPP or, in the case of Erosion and Sediment Control Plans, the site or project Maintenance Log, copies of which shall be available to the Agency for review upon request.

The Contractor shall immediately correct or replace any ineffective BMP. If the measures taken by the Contractor are inadequate to effectively control water pollution, the Agency may direct the Contractor to revise the operations and water pollution control program. The Agency may restrict work from being performed until the water pollution control measures are adequate and, if required, a revised water pollution control program is in place. Continued non-compliance may result in the Agency suspending the Work in accordance with Section 5-21, "Temporary Suspension or Delay of Work", of these Specifications. The Agency reserves the right to take corrective action and withhold Agency costs for corrective action from progress payments or final payment in accordance with Section 8-8, "Withholdings/Denial of Progress Payment Request", of these Specifications.

Any fines, including third-party claims, levied against the Agency as a result of Contractor's non-compliance are the Contractor's sole responsibility and will be withheld from progress payments or final payment in accordance with Section 8-8, "Withholdings/Denial of Progress Payment Request", of these Specifications.

## Construction Specifications

### 10-4.08 PAYMENT

Except as otherwise provided in the Special Provisions, full compensation for compliance with all applicable erosion and sediment control and storm water pollution and prevention requirements will be included in the prices paid for the various Contract items of work and no additional compensation will be allowed.

### 10-5 CONTROL OF WATER IN THE WORK

When groundwater or surface run-off water is encountered, the Contractor shall furnish, install, maintain, and operate all necessary machinery, appliances, and equipment to keep excavations and wet areas reasonably free from water. De-watering operations shall remain in effect until the Work has been completed, inspected, and approved, and all danger of flotation and other damage is eliminated. Water pumped from waterways, trenches, excavations, or low spots shall be disposed as specified in the Special Provisions or as directed by the Agency. The Contractor is not allowed to dispose of any water that contains sediment or other contaminants. The Contractor is responsible for providing filtration, settlement, or disposal facilities as required to comply with the requirements of Section 10-4, "Erosion, Sediment, and Water Pollution Control", of these Specifications.

### 10-6 NOISE CONTROL

The Contractor shall comply with all local noise control and noise level rules, regulations, and ordinances that apply to the Work. The Special Provisions may contain specific or additional requirements. Internal combustion engines used for any purpose on the Work must be equipped with a muffler recommended by the manufacturer.

### 10-7 CONTAMINATED AND HAZARDOUS MATERIALS OR ENVIRONMENTS

#### 10-7.01 CONTAMINATED OR HAZARDOUS MATERIALS

The Contractor shall comply with all Federal, State and local rules, regulations, ordinances, and statutes that apply to the handling, storage, and disposal of contaminated and hazardous materials. All work involving material containing asbestos must be performed in accordance with California Labor Code, Sections 6501.5 through 6510 and California Code of Regulations, Title 8, Section 5208 and any other pertinent regulations.

#### 10-7.02 HAZARDOUS ENVIRONMENTS

Existing sewers and appurtenances exposed to sewage and industrial wastes are considered contaminated with disease-causing organisms. The Contractor shall advise all personnel (including Subcontractor personnel) in contact with contaminated facilities, debris, wastewater, or similar items of the necessary precautions to avoid disease. It is the Contractor's responsibility to urge all personnel to observe a strict regimen of proper hygienic precautions, including any inoculations recommended by the local public health officer.

### 10-8 USE OF EXPLOSIVES

The Contractor shall not use explosives on the Work unless the Agency grants permission in writing or the use of explosives is specified in the Contract Documents, and then only under such conditions as the Agency prescribes.

### **10-9 SANITARY REGULATIONS**

The Contractor shall comply with all Federal, State and local rules, regulations, ordinances, and statutes with respect to sanitation. The Contractor shall obey and enforce such sanitary requirements, and shall take precautions against contagious or infectious diseases.

Sanitary conveniences for the use of the workers shall be obscured from the public and constructed or installed and maintained by the Contractor. The Contractor shall strictly enforce use of such facilities.

### **10-10 CONFINED SPACES**

#### **10-10.01 CONTRACTOR RESPONSIBILITIES AND QUALIFICATIONS**

When working in a confined space, the Contractor shall comply with all confined space requirements of Title 8, General Industry Safety Orders (Cal-OSHA), Article 108, Sections 5156 through 5159.

Prior to any confined space entry, the Contractor shall submit for Agency review:

1. The Contractor's procedures for confined space operations.
2. Copies of all documents and certificates that qualify the Contractor to safely perform work in permit-required confined spaces. The Contractor shall also submit all applicable Material Safety Data Sheets (MSDS) and hazard information on chemicals, products, materials, or procedures.
3. Sufficient documentation and evidence that a permit-required confined space entry can be made in accordance with Article 108. Documentation shall include, but not be limited to the following:
  - a. Equipment availability, suitability, and integrity
  - b. Personnel training
  - c. Experience
  - d. Supervision
  - e. Safety
  - f. Accident experience
  - g. Permit-required confined space policy
  - h. Hot work procedures (if applicable)
  - i. Lock-out/tag-out procedures (if applicable)

The Contractor's submittal shall be made thirty (30) days prior to any confined space entry in accordance with Section 5-8, "Contractor's Submittals", of these Specifications.

The Contractor will not be allowed to make a permit-required confined space entry until the Agency has reviewed the Contractor's qualifications and proposed methods.

The Contractor shall conform to the procedures established by the Contractor's submittal during all confined space operations. Contractor shall provide all monitoring and safety equipment necessary to perform pre-entry checks of confined spaces. The Contractor shall also provide all monitoring, safety, and communications equipment required for confined space operations.

#### **10-10.02 AGENCY RESPONSIBILITIES FOR PERMIT CONFINED SPACES**

The Contractor shall be provided with information regarding known hazards and known or potential permit spaces.

## Construction Specifications

After the Agency has reviewed the Contractor's submittal to perform permit-required confined space entry work, the Contractor will be provided with the following:

1. Notification of the location, physical characteristics, known hazards, etc. regarding the permit-required confined space the Contractor anticipates entering.
2. Information regarding safety items (e.g. nearby emergency equipment), precautions, procedures, safeguards, etc. installed or implemented and that may be available to the Contractor's employees in or near the permit-required confined space.

A debriefing session will be held with the Contractor at the conclusion of the entry operation to ascertain if any hazards were encountered or created and remain.

The Agency's failure to identify a confined space does not relieve the Contractor of the responsibility for compliance with the requirements of Article 108 (Cal-OSHA) and this Section (Section 10).

### **10-10.03 EXISTING SEWERS AND STORM DRAINS**

Because of the potential danger of solvents, gasoline, and other hazardous material in existing sewers and storm drainpipes, these areas shall be treated as permit-required confined spaces unless it has been proven, through appropriate testing, that no hazards exist or are expected to develop.

### **10-10.04 JOINT AGENCY - CONTRACTOR ENTRIES**

Unless otherwise directed in writing by the Agency, when Agency employees work along side the Contractor in a permit-required confined space, the permit procedures for both the Agency and the Contractor shall be used. The Entry Supervisor shall coordinate the requirements of both permit procedures prior to entry.

### **10-11 CLEANING UP**

The Contractor shall keep the site in a neat and presentable condition. The Contractor shall dispose of surplus materials, clean out all drainage ditches and structures, and repair any fences or other property damaged during the progress of the Work. When material is disposed of outside of an easement, street, or highway right-of-way, or other Agency-owned properties, the Contractor shall do so in accordance with the Contract Documents.

### **10-12 ARCHEOLOGICAL AND CULTURAL RESOURCES**

If archeological or cultural resources are discovered during the Work, the Contractor shall cease all construction operations in the vicinity of the discovery until a qualified archeologist can assess the value of these resources and make recommendations to the State Historic Preservation Officer. Archeological and cultural resources include artifacts, large amounts of bone, shell, or flaked stone, and other evidence of human activity. If the State Historic Preservation Officer or the Agency directs that work be temporarily ceased at the location of an archeological or cultural find, the Contractor shall temporarily suspend work at the location.

If the Agency or the State Historic Preservation Officer temporarily suspends a portion of the Work for cultural purposes, any associated delays are considered unavoidable in accordance with Section 7-12.02, "Unavoidable Delays", of these Specifications.

### **10-13 PROTECTION OF EXISTING TREES**

Special attention shall be given to protection of certain native and ornamental trees or shrubs, landmark trees, and all native oak trees in the City of Winters. Additional requirements for specific trees may be shown on the Plans, or designated in the Special Provisions or by the Agency. No native oak trees shall be

## Construction Specifications

removed or disturbed unless specifically designated for removal on the Plans or by the Agency. Every reasonable effort shall be made to avoid creating conditions adverse to the tree's health. The natural ground within the dripline of protected trees shall remain as undisturbed as possible. The dripline area shall be identified on the ground by a circle with a radius measurement from the trunk of the tree to the tip of its longest limb. The limb cannot be cut back in order to change the dripline. The area within the dripline is a critical portion of the root zone and defines the minimum protected area of each tree.

Removing limbs within the dripline does not change the originally protected root zone. Measures required for protection of existing trees shall include, but are not limited to, the following:

1. Temporary protective barrier fencing, with a minimum height of four feet (4'-0") shall be installed continuously around the dripline perimeter of the protected trees prior to beginning the Work.
2. No signs, ropes, cables, or any other items shall be attached to a protected tree, except those cables recommended by a Certified Arborist for limb support.
3. No vehicles, construction equipment, temporary or mobile buildings, supplies, materials, or facilities shall be driven, parked, stockpiled, or located within the dripline of protected trees.
4. Unauthorized grade cuts or fills are not permitted within the dripline of protected trees. Cuts or fills necessary beyond the dripline but near the protected trees shall be contoured to drain away from the protected tree's dripline.
5. No utility line trenching will be permitted within the driplines of protected trees. If it is necessary to install underground utilities within the dripline of a protected tree, the utility line shall be either bored or drilled to avoid damaging roots. If the Agency determines boring or drilling is inappropriate, the utility line trench may be hand dug under the direct supervision of a Certified Arborist to avoid damaging roots.
6. Roots approved by a Certified Arborist to be severed or that fall within the structural section of the facility to be constructed, including building foundations or wall footings, shall be pruned cleanly and covered with moist earth as soon as possible. If, due to the construction, the roots must be unearthed for more than two (2) hours, they must be kept moist and covered with wet burlap or an approved equal until they are covered by moist earth. Supporting structural buttress roots that provide stability to the tree or keep it from toppling shall be protected in place. The Contractor shall hand-dig in the dripline of protected trees to prevent root cutting and mangling. Roots one inch (1") or greater in diameter encountered within the tree's dripline shall not be cut without the Agency's approval, and shall be kept moist, as approved by the Agency, and covered with earth within forty-eight (48) hours.
7. Where required by the Agency, a piped aeration system and/or a post and grade beam foundation shall be installed beneath that portion of the paving, foundation, or concrete slab that encroaches into the dripline of a protected tree. The piped aeration system shall be installed under the direct supervision of a Certified Arborist.
8. Only drought resistant plant species, tolerant of the natural and semi-arid environment of the native oak understory, shall be planted within the driplines of native oak trees.
9. No sprinkler systems that will irrigate or require trenching within the dripline of a native oak tree will be permitted. An above ground drip irrigation system, which allows for controlled application rates, may be installed to irrigate native or semi-arid plants within the dripline of a native oak tree.

All protected trees within the Work area that require pruning for construction clearance shall be pruned prior to commencement of construction. Native oak trees that require pruning of branches larger than two inches (2") in diameter shall be pruned by a Certified Arborist.

## SECTION 11.

# PRECONSTRUCTION PHOTOGRAPHS AND RECORD DRAWINGS

### 11-1 GENERAL

Preconstruction photographs will only be required when specified in the Special Provisions. Record Drawings are required on all Agency Work, unless directed otherwise in writing by the Agency.

### 11-2 PRECONSTRUCTION PHOTOGRAPHS

Preconstruction photographs shall be taken by the Contractor at one-hundred foot (100') intervals along the route of the Work before any construction begins. The view in each photograph shall include a sign showing the date, name of the Project, lateral or street, and applicable station designation. The sign shall not block the important areas of the view and shall be legible in a three and one-half inch by five inch (3-1/2" x 5") print. Each photograph shall be taken from a point between four feet (4') and eight feet (8') above the ground. All prints shall show good details in both shadow and sunlit areas. Negatives may be of any size provided minimum negative resolution throughout the major area of the negative is one hundred (100) lines per inch multiplied by the enlargement factor necessary to produce an eight inch by ten inch (8" x 10") print.

The views in preconstruction photographs shall include the entire construction zone and, in particular, show the interface between the right-of-way and construction zone, and abutting property features such as, but not limited to, condition of existing streets, sidewalks, driveways, fences, landscaping, buildings abutting work site, and existing surface utility facilities on and close to the Work.

All essential features of the project area shall be shown accurately. The Agency may order additional photographs showing additional features or orientations, if the Agency determines that all essential features are not accurately or adequately shown.

A sample of twenty-four (24) photographs shall be submitted to the Agency for approval before proceeding with the remaining photographs. All photographs which do not conform to these Specifications, as determined by the Agency, shall be retaken.

The Contractor shall submit to the Agency one (1) three and one-half inch by five inch (3-1/2" x 5") color glossy print, and the negative, of each photograph taken. Prints shall be submitted in a three-ring photo album binder with clear plastic covered fillers, four (4) photos each side, grouped according to street, lateral or line, and in sequence. The name and number of the Contract and Contractor's name shall appear on the binder cover. Each group of prints shall be identified by a label which projects beyond the edge of filler and is easily recognized. Negatives may be placed within the filler sleeves or submitted separately.

At the Contractor's option, a video tape in a VHS format may be submitted in lieu of photographs. The content and quality requirements for the photographs shall apply to the video tape.

### 11-3 RECORD DRAWINGS

The Contractor shall maintain a neat and accurately marked set of Record Drawings, which shall be provided to the Agency for review and approval prior to final acceptance of the Work. The Record Drawings shall represent the Work as constructed and document changes to the Work shown on the Project Plans, and shall show the actual as-constructed conditions of installed or modified systems, equipment, and material.

## Construction Specifications

Record Drawings shall be produced by marking a full size copy of the Project Plans as follows:

Red	Additions including notes and dimensions.
Green	Deletions (by hash marks or appropriate lines through the deletion.)
Graphite (gray)	General comments and notes used by Contractor or Agency and not required on the as-built,
Yellow	Work completed as shown and used by Agency in field review of the as-built, during the submittal phase.
Blue	Agency verification and notes required to be added and noted by Agency in review of the as-built, during submittal phase.

The Record Drawings shall show, by field measured dimensions, the exact locations of all underground work, including all sprinkler system piping and components, and the final elevations and locations of all improvements constructed, modified or adjusted. Record Drawings shall be available for inspection by the Agency at all times and shall be updated at least weekly with all Field Instructions and other written directives, Contract Change Orders, and Contract adjustments shown thereon and initialed by the Agency. Progress payments or portions thereof may be withheld if Record Drawings are not kept up to date.

Unless otherwise specified in the Special Provisions, the Contractor shall submit two (2) sets of Record Drawings to the Agency at the final inspection. These Record Drawings shall include certification by the Contractor that the Record Drawings are a true representation of the Work as actually constructed. The Work will not be formally accepted until the Record Drawings are provided to and approved by the Agency. Final payment or a portion thereof may be withheld if final Record Drawings are not provided.

### **11-4 MEASUREMENT AND PAYMENT**

When the Contract includes an item for preconstruction photographs, preconstruction photographs will be paid for at a lump sum price.

The lump sum price paid for preconstruction photographs includes full compensation for furnishing all labor, materials, tools, equipment, and incidentals and for doing all the work involved in taking and submitting preconstruction photographs, or optional video tape, as specified in these Specifications and the Special Provisions, and as directed by the Agency,

When the Contract does not include an item for preconstruction photographs, full compensation for preconstruction photographs is included in the prices paid for the various items of work and no separate payment will be made.

Full compensation for Record Drawings is included in the prices paid for the various items of work and no separate payment will be made.

## SECTION 12.

### TECHNICAL PROVISIONS

#### 12-1 USE OF SACRAMENTO COUNTY CONSTRUCTION SPECIFICATIONS SECTIONS 11 – 50 AND MODIFICATION TO THESE SPECIFICATIONS

The City of Winters has used the Improvement Standards published by the County of Sacramento as the foundation of its own Improvement Standards and has hereby adopted the Technical Provisions (Sections 11 through 50) of the 2008 County of Sacramento Construction Specifications, **with the exception of the changes noted in this document, which shall supersede any and all conflicting provisions.** Any variance from the Technical Provisions as modified by these changes requires prior written approval by the City Engineer.

The County of Sacramento Construction Specifications, Sections 11 – 50, can be purchased from the County of Sacramento Technical Resources Division, 827 Seventh Street, Room 105, Sacramento, California or obtained via a no-fee download from the county's website at

<http://www.saccountyspecs.saccounty.net/Pages/default.aspx>

The City of Winters hereby supersedes any conflicting portions of the adopted Technical Provisions with the following:

#### **CHANGES TO THE TECHNICAL PROVISIONS**

##### General Changes

All references to the County or County of Sacramento shall be replaced by City of Winters.

All references to the County Improvement Standards shall be replaced by City of Winters Improvement Standards unless otherwise noted in this Addendum.

All references to the Water Maintenance District shall be replaced by City of Winters Water & Sewer Department.

All references to the County Corporation Yard location shall be replaced by the City of Winters Corporation Yard location at 19 East Baler Street.

Any other Sacramento or Sacramento County address or department reference not identified in this document shall be corrected as needed by contacting the City of Winters Public Works.

##### Section 11 – 13

No Modifications

##### Section 14

Standard Drawing 4-31 shall be replaced by Standard Drawing 4-20

##### Section 15 – 17

No Modifications

##### Section 18

18-4.07: Standard Drawing 9-26A shall be replaced by Standard Drawing 9-19

## Construction Specifications

18.4.07: paragraph 2 shall be deleted.

### Section 19

Standard Drawing 4-31 shall be replaced by Standard Drawing 4-20

Standard Drawing 7-15 shall be replaced by Standard Drawings 7-4 Sheet 2

### Section 20

All Standard Drawings referenced as L shall be obtained from the County of Sacramento by way of their offices or their website <http://www.saccountyspecs.saccounty.net/Pages/default.aspx>

20-5.03: Drawing 5-8 is not available in the Improvement Standards. The City Engineer shall be consulted for further direction.

20-5.05D: Standard Drawings 8-8A or 8-8B shall be replaced by Standard Drawings 8-8 Sheet 1 and Sheet 2.

20-5.05D: See Section 50-43.25 for changes to backflow prevention devices.

### Section 21 – 22

No Modifications

### Section 23

All Standard Drawings 4-23A,B, & C shall be replaced by Caltrans Standard Drawings A88A.

23-4: This subsection shall be deleted.

### Sections 24 – 26

No Modifications

### Section 27

All references to Standard Drawings 4-43 shall be deleted.

27-3.04: This subsection shall be deleted.

27-6: This subsection shall be deleted.

27-7: Standard Drawing 4-25 shall be replaced by Standard Drawing 4-2.

27-12: This subsection shall be deleted.

### Sections 28 – 36

No Modifications

### Sections 37

37-3: Paragraph 2 shall be deleted.

37-4: Standard Drawing 7-8 shall be replaced by Standard Drawing 7-9

### Section 38

38-4.05: Standard Drawing 7-13 shall be replaced by Standard Drawing 7-5.

38-4.06: Standard Drawings 7-6, 7-6A & 7-6B shall be replaced by Standard Drawings 7-8 Sheets 1 & 2..

38-5: Standard Drawing 7-5 shall be replaced by Standard Drawing 7-7 Sheet 1.

## Construction Specifications

38-5: Standard Drawings 7-9 & 7-10 shall be replaced by Standard Drawings 7-7 Sheet 2 and Sheet 3.

38-5.01: Standard Drawing 7-13 shall be replaced by Standard Drawing 7-5.

### Section 39

39-2.01 Paragraph 2 shall be deleted.

39-2.01: County Sanitation District 1 shall be replaced with City Sewer.

39-2.01: Standard Drawings 7-1A & 7-1B shall be replaced by Standard Drawings 7-1 Sheet 2 and Sheet 3.

39.2.01: Standard Drawings 7-11 and 7-11A shall be replaced by Standards Drawing 7-2.

39-2.01: All references to Standard Drawings 7-11B through 7-12C shall be deleted.

39.2.02: Standard Drawings 9-9, 9-10 and 9-11 shall be replaced by Standards Drawing 7-2.

39-3.02: Standard Drawings 9-8A shall be replaced by Standard Drawing 9-3.

39-4 3<sup>rd</sup> paragraph, bullet 3, shall be deleted.

### Section 40

40-1.01: Standard Drawings 4-38 shall be replaced by Standard Drawing 4-23.

### Section 41

All Standard Drawing reference with an "A", "B", "C", etc shall reference Sheet 1, 2, 3, etc. unless otherwise stated.

41-5: All references to Standard Drawings 8-4B shall be deleted.

41-7: All references to Standard Drawings 8-2B shall be deleted.

41-9: All references to Standard Drawings 8-8C shall be deleted.

41-11: All references to Standard Drawings 8-13B and 8-13C shall be deleted.

41-14: Copper services shall not be allowed in residential water services without prior approval of City Engineer.

41-21: All references to Standard Drawings 8-14B shall be deleted.

41-22: This subsection shall be deleted.

### Sections 42 – 43

No Modifications

### Section 44

44-2: This entire subsection shall be deleted.

### Section 45-47

No Modifications

### Section 45-48

48-1: Last sentence of last paragraph shall be deleted.

### Section 49

County Department of Transportation (and all sub-departments) shall be replaced by City Engineer.

## Construction Specifications

- 49-2.02: All references to Standard Drawings 4-31 shall be replaced by Standard Drawing 4-20.
- 49-2.05: Standard Drawing 5-16 and 5-17 shall be deleted.
- 49-2.07: Standard Drawing 5-20A and 5-20B shall be deleted
- 49-2.11: Standard Drawings 5-8 through 5-29 shall be deleted.
- 49-6.03: This subsection shall be deleted. Internally Illuminated Street Name Sign will not be utilized with the City of Winters unless required by the City Engineer.
- 49-8: County Traffic Signal Shop shall be replaced with City of Winters Public Works Department.

### Section 50

- 50-34: Standard Drawings 9-9 and 9-11 shall be replaced by Standard Drawings 7-2.
- 50-34: Standard Drawings 7-11 shall be replaced by Standard Drawings 7-2.
- 50-34 Standard Drawings 7-11B shall be deleted.
- 50-34 paragraph 5 (36" manholes) shall be deleted.
- 50-34 paragraph 8 (locking covers) shall be deleted.
- 50-34 last paragraph shall be deleted.
- 50-37: Standard Drawings 7-2B shall be deleted.
- 50-40: Polyethylene piping shall not be utilized for residential water services without prior approval by City Engineer.
- 50-43.04: This subsection shall be deleted.
- 50-43.20 Replace with the following: All irrigation controllers installed in the City of Winters will be Calsense Controllers, unless authorized differently by the City of Winters Public Works Department. The model and size of controller, and enclosure type and location will also be authorized by the City of Winters Public Works Department depending on each individual job site.
- 50-43.25: The latest list of approved Backflow Prevention devices can be obtained from the Foundation for Cross-Connection Control and Hydraulic Research at the following website <http://www.usc.edu/dept/fccchr/list.html>

## **12-2 LED STREET LIGHTS**

### **12-2.01 DEFINITIONS**

Terminology, definitions and abbreviations to clarify the meanings of the specifications are as follows.

Terminology	Description
CALiPER	Commercially Available LED Product Evaluation and Reporting A US DOE program established for the testing and monitoring of commercially available LED luminaires and lights.
CCT	Correlated color temperature. A visible light characteristic of comparing a light source to a theoretical, heated black body radiator. Measured in degrees (°) Kelvin.
Chromaticity	The property of color of light.

## Construction Specifications

CITY	City of Winters, CA
Color Rendition	CRI is a 1–100 scale that measures a light source’s ability to render colors where the Color temperature CCT is the color of the light source. Yellow-red colors are considered warm (2700° – 3000° K) and blue-green colors are considered cool (3600° – 5500° K). A color temperature of 3600° – 5500° K is generally recommended for most outdoor lighting applications. A 100-Watt incandescent light bulb has a CRI value of 100.
Fc	Foot-candle. Unit of illuminance.
Illumination	The distribution of light on a horizontal surface. The purpose of all lighting is to produce illumination. The units of measure are Footcandle and Lux.
IP	International Protection rating, sometimes referred to as ingress protection, that delineates the level at which foreign objects and water can intrude inside a device.
L70	The extrapolated life in hours of luminaire when the luminous output depreciates 30% from initial values.
LED	Light Emitting Diode. LEDs are based on non-carbon-based, semi-conducting device that produces light when an electrical current passes through it.
Lumen	A measure of light emitted by a lamp. As a reference, a 100-watt incandescent lamp emits about 1,750 lumens.
Luminaire Efficacy	A measure of efficacy of the complete luminaire, or fixture, taking into account the optics, thermal design, and other design factors that impact efficacy. It is calculated by measuring the total light output of a luminaire, divided by the amount of power drawn by that luminaire. It is expressed in lumens per watt (lm/W).
Luminous intensity (candlepower)	Total number of lumens from a surface emitted in a given direction. The unit of measure is candela. Luminous flux The time rate of flow of light. The unit of measure is Lumen.
NEMA	National Electrical Manufacturers Association
NVLAP	National Voluntary Laboratory Accreditation Program. A program under the US DOE to accredit independent testing laboratories to qualify.
Power Factor	The ratio of the real power component to the total (complex) power component
Rated power	The power consumption that the luminaire was designed and tested for at ambient temperature (70°F or 21°C).
SPD	Surge Protection Device. A subsystem or component(s) that can protect the unit against short duration voltage and current surges.
THD	Total Harmonic Distortion. The amount of higher frequency power on the power line.
Source efficacy	A measure of the efficacy of the light source, separate from the fixture. It is calculated by measuring the total light output of a lamp/power supply system, divided by the power drawn by that system. It does not account for losses caused when that system is installed in a fixture. It is expressed in lumens per watt (lm/W).
Spectral Power Distribution	A graph which allows the reader to evaluate the relative amount of radiant power(expressed in milliwatts per nanometer, mW/nm) across the range of wave-

## Construction Specifications

lengths in the visible spectrum (expressed in nanometers, nm), or approximately 380 – 780 nm.

UL/CUL Underwriters Laboratories Inc. (in USA/Canada).

### 12-2.02 REQUIREMENTS

All equipment shall comply with Design Standards Section 5 and Section 86 of Caltrans Standard Specifications.

Only luminaires, with approved product codes or designations, from PG&E prequalified list are acceptable. A list of PG&E prequalified list can be obtained from the following link:

<http://www.lightingfacts.com/ca>

The use of PG&E prequalified list of luminaires does not relieve the contractor of the responsibility to provide materials that meet the following specifications. All material may be inspected or tested at any time.

Any material that does not meet these technical specifications will be rejected.

Notify the Engineer in writing as to which fixtures from the prequalified list of fixtures will be supplied on each project.

### 12-2.03 SUBMITTALS

Each LED luminaire shall be accompanied by:

1. Product specification sheets or other documentation that includes the designed parameters as detailed in the specification. The parameters include:
  - a. Maximum power in watts
  - b. Maximum designed junction temperature
  - c. Heat sink area in square inches
  - d. Designed junction to ambient thermal resistance calculation with thermal resistance components clearly defined
  - e. L70 in hours when extrapolated for the average nighttime operating temperature
  - f. Certified test results for California Test No. 678 performed by a qualified laboratory
2. IES LM-79 and IES LM-80 compliant test reports from a CALiPER-qualified or NVLAP approved testing laboratory for the specific model submitted.
3. Initial and depreciated isofootcandle charts showing the specified minimum illuminance curve for that particular application. The charts shall be calibrated to feet and show a 40 by 40 foot grid. The depreciated isofootcandle curve shall be calculated at the minimum operational life.
4. Test report showing surge protection device (SPD) performance as tested under ANSI / IEEE C62.41.2 and ANSI / IEEE C62.45.

### 12-2.04 QUALITY CONTROL AND ASSURANCE

The luminaires shall be manufactured under the manufacturer's quality assurance program. The program shall include (1) production quality assurance and (2) design quality assurance.

## Construction Specifications

Production quality assurance shall include statistically-controlled routine tests to ensure minimum performance levels of the modules built to meet this specification and a documented process for resolving problems. The process and test results documentation shall be kept on file for a minimum of 7 years.

Design quality assurance shall be performed by the manufacturer or an independent testing lab hired by the manufacturer on new luminaire designs and when a major design change is implemented on an existing design. A major design change is defined as a design change, electrical or physical, that (1) changes the performance characteristics of the luminaire, (2) results in a different circuit configuration for the power supply, or (3) changes the layout of the individual LEDs in the module. Submit 2 units for each design for design qualification testing.

The sample luminaires shall be energized for a minimum of 24 hours, at 100 percent on-time duty cycle, at a temperature of +70°F before performing design qualification testing. Failure of the luminaire that renders the unit non-compliant with the specification after burn in for a minimum of 24 hours shall be rejected.

The luminaire shall be tested under California Test No. 678 and as specified. Luminaire performance shall be judged against the specified minimum illuminance in the specified pattern for a particular application. The luminaire lighting performance shall be adjusted, depreciated, for the minimum operating life by using the LED manufacturer's data or the data from the LM-80 test report, whichever results in a higher level of lumen depreciation.

The luminaire is compliant photometrically, if the initial minimum illuminance level is achieved in 100 percent of the area of the specified lighting pattern, the depreciated minimum illuminance is maintained in at least 95 percent of the area of the specified lighting pattern, and the minimum length of the depreciated isofootcandle curve is equal or greater than the length of the specified isofootcandle curve.

LED lights shall provide the following minimum initial lumens:

<b>LED Fixture Rating</b>	<b>Initial lumens</b>
37 watt, 20 LED	2,300
54 watt, 30 LED	3,500
90 watt, 50 LED	5,550
139 watt, 80 LED	9,150

The City may perform random sample testing on shipments. Testing will be completed within 30 days after delivery to the City. Luminaires will be tested under California Test No. 678 and as specified. All parameters of the specification may be tested on the shipment sample.

### 12-2.05 LUMINAIRE IDENTIFICATION

Each luminaire shall have the following identification permanently marked inside the unit and outside of its packaging box:

1. Manufacturer's name
2. Trademark
3. Model number
4. Serial number
5. Date of manufacture (month-year)
6. Lot number

## Construction Specifications

The rated voltage, watts and rated power in volt-ampere shall be permanently marked inside each unit.

### 12-2.06 COMPATIBILITY

The luminaire shall be operationally compatible with currently used lighting control systems and photoelectric controls

### 12-2.07 WARRANTY

The manufacturer shall provide a written warranty for the performance of the luminaire and against defects in materials and workmanship for the luminaires for 84 months after acceptance of the luminaires. Replacement luminaires shall be provided promptly after receipt of failed luminaires at the contractor's expense. The City pays for shipping cost of the failed luminaires. All warranty documentation shall be submitted to the Transportation Laboratory before random sample testing. Deliver replacement luminaires to City Corporation Yard.

### 12-2.08 PHOTOMETRIC REQUIREMENTS

The illuminance shall not decrease by more than 30 percent over the minimum operating life or L70 shall be at least the minimum operating life. The measurements shall be calibrated to standard photopic calibrations.

The luminaire shall not allow more than:

1. 10 percent of the rated lumens to project above 80 degrees from vertical
2. 2.5 percent of the rated lumens to project above 90 degrees from vertical

### 12-2.09 MATERIALS

The mast-arm-mounted luminaire consists of an assembly that uses LEDs as the light source. The LED luminaire assembly shall consist of a housing, an LED array, and an electronic driver, and shall comply with the following requirements:

1. UL listed under UL 1598 for luminaires or an equivalent standard from a recognized testing laboratory
2. Have a minimum operational life of 70,000 hours
3. Expected to operate at an average operating time of 11.5 hours per night
4. Designed to operate at an average nighttime operating temperature of 70°F
5. Have an operating temperature range from -40°F to +130°F
6. Expected to operate above 100°F, but not expected to comply with photometric requirements

The individual LEDs shall be connected such that a catastrophic loss or a failure of one LED will not result in the loss of the entire luminaire. The housing shall be fabricated from materials that are designed to withstand a 3000-hour salt spray test under ASTM B 117. Each refractor or lens shall be made from UV-inhibited high impact plastic such as acrylic or polycarbonate and be resistant to scratching. Polymeric materials of enclosures containing either the power supply or electronic components of the luminaire shall be made of UL94VO flame retardant materials. The lenses of the luminaire are excluded from this requirement. Paint or powder coating of the housing shall comply with Caltrans Section 86, "Electrical Systems," of the Standard Specifications.

### 12-2.10 LED DRIVER

The LED drivers shall have the following specifications:

## Construction Specifications

1. A high power factor of 0.9 or greater
2. Total Harmonic Distortion (THD) shall not exceed 20%
3. Maximum operating temperature shall be from 40°F to 130°F degrees
4. Certified in compliance to UL/CUL requirements
5. Weather tightness rating IP66
6. The current supplying the LEDs shall be reduced by the driver if the internal temperature exceeds 203°F, as a protection to the LEDs and the electrical components.
7. Electronic drivers shall be suitable for use of 60Hz  $\pm$ 3Hz with auto adjusting to voltages between 120V to 277V, and 347 to 480V single-phase and three-phase services.
8. Driver module shall be readily accessible and field replaceable for maintenance and have provisions to adequately radiate excess heat.

### 12-2.11 LAMP

1. LEDs shall be high-flux/high-power type with rotor life of 70,000 hours minimum producing minimum of 70% of initial intensity at 50,000 hours of life. LEDs shall be tested in accordance with IESNA LM-80 testing procedures. LEDs shall have a nominal correlated color temperature of 6,000° ( $\pm$ 500°) Kelvin nominal with minimum CRI of 65 or better. LEDs for post-top fixtures may have a correlated color temperature of 4,000° (+500°) Kelvin nominal.
2. Lamps shall be grouped as modular units for ease of field maintenance and replacement. Each modular unit shall be capable of being quickly replaced without taking the head down from the light pole.
3. Lamps shall operate at 350 (low) mA or 525 (med) mA at a standard operating temperature of 77° F. Lamps for post-top applications shall operate at manufacturer's recommended amperages.

### 12-2.12 SURGE PROTECTION

The luminaire on-board circuitry shall include an SPD to withstand high repetition noise transients as a result of utility line switching, nearby lightning strikes, and other interference. The SPD shall protect the luminaire from damage and failure for transient voltages and currents as defined in ANSI / IEEE C64.41.2 (Tables 1 and 4) for Location Category C-High. SPD shall conform to UL 1449 or UL 1283, depending of the components used in the design. SPD performance shall be tested under ANSI / IEEE C62.41.45 based on ANSI / IEEE C62.41.2 definitions for standard and optional waveforms for Location Category C-High. The luminaire and associated on-board circuitry shall meet Class A emission limits under FCC Title 47, Subpart B, Section 15 regulations concerning the emission of electronic noise.

### 12-2.13 ELECTRICAL

The luminaire shall operate from a 60Hz  $\pm$ 3Hz AC line over a voltage ranging from 95 to 250 V (ac). The fluctuations of line voltage shall have no visible effect on the luminous output. The standard operating voltages are 120 and 240 V (ac). The power factor of the luminaire shall be 0.90 or greater. Total harmonic distortion (current and voltage) induced into an AC power line by a luminaire shall not exceed 20 percent.

**12-2.14 APPROVED LED STREET LIGHTS**

The following LED Street Lights or approved equivalent are required for use on Standard Pole & Mast Arm applications.

<b>Manufacturer</b>	<b>Model Spec</b>	<b>Wattage</b>	<b># LEDs</b>
Beta, by Ruud Lighting	STR-LWY-2M-HT-02-C-UL-SV-350-UTL	37 watts	30
Beta, by Ruud Lighting	STR-LWY-2M-HT-03-C-UL-SV-525-UTL	54 watts	30
Beta, by Ruud Lighting	STR-LWY-2M-HT-05-C-UL-SV-350-UTL	91 watts	50
Beta, by Ruud Lighting	STR-LWY-2M-HT-08-C-UL-SV-350-UTL	139 watts	80

**12-3 BROADBAND INFRASTRUCTURE**

**12-3.01 SCOPE OF STANDARD**

These guidelines identify and define the Agency requirements and policies for designing and installing telecommunications infrastructure and substructure at all Agency facilities and within the Agency limits and rights-of-ways. Use of, and compliance with these guidelines is mandatory for architects, engineers, and installation contractors working on Agency projects.

**12-3.02 DESIGN GUIDELINES**

- A. The Agency Infrastructure Standard is based upon the code requirements and telecommunications industry standards contained in the following guidelines. These guidelines will not duplicate the information contained in those references, except where necessary to provide guidance, clarification or direction.
- B. In instances where several technical alternatives may be available to provide a design solution, these guidelines will identify the preferred solution to meet Agency needs. However, each facility and project is unique. Design for new construction will differ from design for retrofit of existing facilities. These guidelines will differentiate certain design approaches and solutions to be applied to new construction versus existing facilities, and different types of Agency facilities. However, designers and installers shall always use sound engineering judgment in order to comply with the requirements of the codes and standards identified in this section.
- C. Designs will include, but not be limited to, all man-hole, hand-holds, conduits, roads, bridges, railway crossings, railways, buildings, utility poles, traffic light structures, traffic control boxes, other utilities structures, both existing and planned (new) that are pertinent to the construction of the fiber path.
- D. As-builts will be provided in paper 8.5” x 14” format with all construction notes and geo-spatially correct measurements (verified by GPS), as well as digitally in AutoCAD 2008 or earlier and projected in the coordinate system <State of California FIPS>. Scale should be 1ft. x 1 ft. As-builts will include cadastral boundaries to include right of ways and planimetric boundaries that includes edge of pavement. Agency base map can be provided upon request. As-builts shall be provided to designated City representative, incorporating any changes made during or after construction. Final As-builts shall be completed only once all Fiber-Optic cables in said project have been fully installed and tested and tests have been accepted by designated City representative prior to project closeout.

### 12-3.03 REFERENCE STANDARDS

- A. Adherence to, and compliance with, the codes and standards referenced, and the Agency's unique requirements and design solutions identified in the manual, is mandatory. Requests to deviate from the industry standards and design solutions prescribed in these guidelines may be submitted, on a case-by-case basis, to the Agency Engineer for review and approval. No deviation from the requirements of the National Electrical Code will be allowed.
- B. Architects, Consultants, and Contractors shall always reference the most recent standards available. Most references listed below can be purchased directly from the individual standards organization, or from:

Global Engineering Documents  
15 Inverness Way East  
Englewood, CO 80112-5776  
Telephone: (800) 854-7179 (303) 397-7956  
Fax: (303) 397-2740  
<http://www.global.ihc.com>

### 12-3.04 CODES, STANDARDS, REFERENCES, AND APPLICABILITY

Design, Build Firm to follow all standards, references and technical special provisions referenced below.

- A. NATIONAL ELECTRICAL CODE, NFPA 70  
The National Fire Protection Association has acted as the sponsor of the National Electrical Code (NEC) since 1911. The original Code was developed in 1897 as a result of the united efforts of various insurance, electrical, architectural, and allied interests. The purpose of the NEC is the practical safeguarding of persons and property from hazards arising from the use of electricity. The NEC provides the minimum code requirements for electrical safety. In telecommunications distribution design, the NEC must be used in concert with the ANSI/EIA/TIA standards identified below, which are intended to insure the performance of the telecommunications infrastructure.
- B. ANSI/TIA/EIA STANDARDS  
The Telecommunications Industry Association/Electronics Industry Association (TIA/EIA) engineering standards and publications are designed to serve the public interest through eliminating misunderstandings between manufacturers and purchasers. The standards facilitate interchangeability and improvement of products and assist the purchaser in selecting and obtaining the proper product for his or her particular need.  
  
The TIA/EIA Standards are updated every five years. Due to the rapid changes in the telecommunications and electronics industries, TIA/EIA publishes periodic Telecommunications Systems Bulletins (TSB), which provides additional guidance on certain technical issues that must be addressed prior to the next scheduled revision of the standards. The information contained in TSBs is usually incorporated into the applicable standard during the next standards revision. Standards and publications are adopted by TIA/EIA in accordance with American National Standards Institute (ANSI) patent policy. The TIA web site is: <http://www.tiaonline.org/>
- C. FIBER OPTIC TEST STANDARDS, TIA/EIA-526  
The TIA/EIA-455 series, together with its addenda, provides uniform test procedures for testing the fiber optic components intended for, or forming a part of, optical communications and data transmission systems. This series contains standard test procedures for optical fibers, cables, transducers, and connecting and terminating devices.

D. CABLING STANDARD, ANSI/TIA/EIA-568

The ANSI/TIA/EIA-568-A series, together with its addenda is the Commercial Building Telecommunications Cabling Standard. This standard defines a generic telecommunications wiring system for commercial buildings that will support a multiproduct, multivendor environment. It also provides direction for the design of telecommunications products for commercial enterprise.

The purpose of the standard is to enable planning and installation of building wiring with little knowledge of the telecommunications products that subsequently will be installed. Installation of wiring systems during building construction or renovation is significantly less expensive and less disruptive than after the building is occupied. TIA/EIA-568-A series establishes performance and technical criteria for various wiring system configurations for interfacing and connecting their respective elements.

E. GROUNDING AND BONDING, ANSI/TIA/EIA-607

The ANSI/TIA/EIA-606 (series) is the Commercial Building, Grounding and Bonding Requirements for Telecommunications. The National Electrical Code (NEC) provides grounding, bonding, and electrical protection requirements to ensure life safety. Modern telecommunications systems require an effective grounding infrastructure to insure optimum performance of the wide variety of electronic information transport systems that may be used throughout the life of a building. The grounding and bonding requirements of this standard are additional technical requirements for telecommunications that are beyond the scope of the NEC. These standards are intended to work in concert with the cabling topology specified in ANSI/TIA/EIA-568-A series, and installed in the pathways and spaces designed in accordance with ANSI/TIA/EIA-569-A.

F. CUSTOMER OWNED OUTSIDE PLANT (OSP), ANSI/TIA/EIA-758

The ANSI/TIA/EIA-758 provides industry standards for the design and construction of customer owned OSP infrastructure. Unless specified otherwise in the Agency, standard OSP designed and constructed at all Agency facilities will be in compliance with ANSI/TIA/EIA-758.

G. TRANSMISSION PERFORMANCE SPECIFICATIONS, TIA/EIA BULLETIN TSB67

TSB67 is the Transmission Performance Specification for Field Testing of Unshielded Twisted-Pair (UTP) Cabling Systems. This bulletin specifies the electrical characteristics and performance requirements of field test instruments, test methods, and the minimum transmission requirements for UTP cabling. All testing of horizontal distribution cabling at Agency facilities will be performed with a TSB67 Level II test instrument.

H. ADDITIONAL HORIZONTAL CABLING PRACTICES FOR OPEN OFFICES, TIA/EIA BULLETIN TSB75

This document specifies optional practices for open office environments, for any horizontal telecommunications cabling recognized in TIA/EIA-568. It specifies optional cabling schemes and topologies for horizontal cabling routed through modular office furniture or movable partitions, which are frequently reconfigured

I. LOCAL AREA NETWORK ETHERNET STANDARD, IEEE 802.3 (SERIES)

Agency utilizes the Ethernet LAN protocol at all facilities. All Agency infrastructures must be designed to support the Institute of Electrical and Electronic Engineers (IEEE) Ethernet 802.3 standards, which define protocols and signaling technologies. All newly installed cabling must support 1000BaseX Gigabit Ethernet protocol based on the IEEE 802.3z standard.

J. THE BICSI TELECOMMUNICATIONS DISTRIBUTION METHODS MANUAL

The Building Industry Consulting Service International, Inc. (BICSI) is a Telecommunications Association whose mission is to provide state-of-the-art telecommunications knowledge to the industry, resulting in good service to the end user. BICSI develops and publishes the

Telecommunications Distribution Methods Manual (TDMM). The TDMM is not a code or standard. The TDMM is an extensive volume of information on the various aspects of telecommunications systems and telecommunications distribution. The TDMM provides discussions and examples of various engineering methods and design solutions that can be selected and employed in order to meet the requirements of the NEC and ANSI/TIA/EIA standards. Designers and installers are encouraged to use the TDMM as an engineering tool, within the constraints of the unique requirements of the Agency Infrastructure Standards.

- K. THE CALIFORNIA DEPARTMENT OF TRANSPORTATION (CALTRANS)  
Refer to the current standard for CALTRANS Intelligent Transportation Systems, Technical Special Provisions for Fiber Optic Cable and Interconnect;
- L. INTERNATIONAL TELECOMMUNICATIONS UNION – (ITU-T 652 Categories A, B, C, D)  
Refer to the international standard on Fiber Optic Cable covering “reduced-water-peak”, “low-water-peak” and “full spectrum fiber”. Material deployed in the project shall be ITU-T 652.D full spectrum compliant such as Corning SMF-28e for full compatibility and interoperability with legacy fiber, while providing low Polarization Mode Dispersion (PMD).

### 12-3.05 DEFINITIONS

**Fiber Optic Cable** A cable that contains individual glass fibers, designed for the transmission of digital information, using light pulses.

**All Dielectric Self Support (ADSS) Cable**

A cable designed and constructed with non-metallic components, that is designed for aerial applications and does not require a separate cable messenger.

**Loose Tube Cable:** A cable designed and constructed with non-metallic components, which is designed for underground applications. These are "dry" cables using water swellable powders to protect against water penetration.

**OTDR** Optical Time Domain Reflectometer. A device used for characterizing a fiber, wherein an optical pulse is transmitted through the fiber and the resulting backscatter and reflections are measured as a function of time.

**Single-mode Fiber** An optical fiber with a small core diameter, in which only a single mode of light is capable of propagation. All Single-mode glass employed on project shall meet or exceed .35/.25dB/km optical attenuation and Polarization Mode Dispersion: <0.5 ps / km

**Multi-mode Fiber** An optical fiber whose core diameter is large compared with the optical wavelength and which, consequently, a large number of light modes are capable of propagation.

**Splicing** A permanent junction between optical fiber splices. May be thermally fused or mechanically applied.

**Minimum Bend Radius**

The minimum radius a fiber may be bent before optical losses are induced.

### 12-3.06 GUIDELINES FOR DESIGNING UNDERGROUND FIBER OPTIC CABLE ROUTES

Governing Caltrans Indexes and regulations should be used as well as all applicable codes in force.

**Conduit Placement**

## Construction Specifications

The conduit shall be placed at an offset from the roadway that meets the governing MDT regulations and indexes while still staying within the ROW. If this cannot be accomplished please raise issue to the Agency Project Engineer or liaison.

### **Depth (Minimum / Maximum)**

The conduit used as the primary carrier of the fiber optic cable should be buried no greater than 42.” and no less than 36.” beneath grade except where code requires otherwise or directed in writing by the Project Engineer on behalf of the Agency.

### **Grade away from Buildings/Structures**

The conduit shall be placed in such a way to as to maintain a gradual grade down away from buildings and other major structures.

### **Conduit type/ Inner Duct type**

Standard placement shall be of quantity (2), 2” ID HDPE conduit direct buried/trenched/bored as appropriate to the construction needs (Color Orange and Blue). If specified an outer conduit shall be of the HDPE type, of suitable strength per the governing MDT indexes for the location of work. Conduit shall be 6” I.D. in size with quantity (2), 2” ID HDPE conduits (Color Orange and Blue)

All conduits and inner ducts should be cleared and cleaned prior to capping.

### **Conduit Turns & Transitions**

All conduit turns shall be made with 45-degree bends or sweeps. At no time shall 90-degree bends be utilized in the outside plant arena, unless it is an already existing conduit, and approved by the Agency.

Exceptions may be made to this rule for work inside of buildings.

### **Trace Wire**

A minimum #12 AWG trace wire should be placed along with all conduits put in place. This trace wire should maintain continuity from end station to end station. Where possible it is okay to use vaults/hand holes for joining the trace wire, while keeping these joints visible and out of the way of the fiber cable. Where not possible please use the small hand hole for joining the trace wire.

### **Marker Poles**

Easily visible, marked, 6’ fiber optic marker poles should be placed above the conduit at all major transitions to said conduit (turns greater than 25 degrees, etc.), where applicable. Please get marking poles approved by the Agency prior to installation/purchase.

### **Conduit Entering Hand Holes/Man Holes**

All conduits should be stubbed up underneath the bottom of each manhole/hand hole leaving at least 8” but no more than 12” of visible conduit exposed. Conduit and inner ducts should be capped until use, after use they should be plugged appropriately to maintain the integrity of the conduit/inner duct from dirt and water.

### **Locate Information**

As an as-built information gathering job, all splice points, vaults/hand hole/manhole/conduit turns of 45 degrees or greater should receive a GPS coordinate that is marked and labeled back onto the as-built drawings.

### **Building Entrances**

All building entrances should be checked and approved with the Agency Project Engineer or liaison. Preference is given in the following order (but dictated by the facility itself) utilizing existing conduit to

## Construction Specifications

enter the building, core drilling and bringing conduit up through the floor, bringing conduit up the outside of a facility, attaching a pull box to the exterior of said building and entering through the wall of the building.

### **Box Sizing**

Please confirm with the Agency your selection of boxes and box sizes PRIOR to utilization of said boxes in quote or design. All boxes utilized MUST meet the MDT applicable indexes and be on the MDT approved equipment list. The following sizes are to be used wherever possible:

- 16x22x18." (straight wall)
- 16x22x30." (flared wall)
- 17x30x18." (flared wall)
- 24x36x30." (flared wall)
- 30x60x36." (flared wall)

Please get all boxes approved during the design phase and prior to purchasing/installation of said boxes. All box lids shall have a Logo embedded on them. This logo is to be provided by the Agency.

### **12-3.07 GUIDELINES FOR INSTALLING CONDUIT**

#### **Depth (Minimum / Maximum)**

The conduit used as the primary carrier of the fiber optic cable should be buried no greater than 42" and no less than 36" beneath grade except where code requires otherwise or directed in writing by the Project Engineer on behalf of the Agency.

#### **Reel Placement**

Have the reel set adjacent to the manhole and use a fiber optic manhole pulling block assembly.

#### **Conduit type/ Inner Duct type**

Standard placement shall be of quantity (2), 2" ID HDPE conduits (Color Orange and Blue), direct buried/trenched/bored as appropriate to the construction needs.

If specified an outer conduit shall be of the HDPE type, of suitable strength per the governing MDT indexes for the location of work. Conduit shall be 6" I.D. in size with quantity (2), 2" ID HDPE conduits (Color Orange and Blue).

All conduits and inner ducts should be cleared and cleaned prior to capping.

### **12-3.08 GUIDELINES FOR INSTALLING/PULLING UNDERGROUND FIBER OPTIC CABLE**

#### **Bend Radius**

The main risk of damage to the fiber optic cable is by overlooking the minimum-bending radius. It is important to know that the damage occurs more easily when the cable is bent under tension, so when the installation is in process be sure to allow for at least the minimum bending radius. The number of 90-degree turns on a pull shall not exceed four (4).

#### **Reel Placement**

Have the reel set adjacent to the manhole and use a fiber optic manhole pulling block assembly from Sherman & Reilly (or similar).

## Construction Specifications

### **Cable Slack**

Please coil 150 feet of cable at transition points, termination points, and every 1500 feet.

### **Splices**

All splice locations will be designated by the Agency.

### **Strength**

The fibers in the cable will shatter under considerable impact, pressure or if pulling tensions exceed 600 LB, although from the outside of the cable this will not be apparent. With fiber optic cable the jacket of the cable and the Kevlar layer directly beneath give the cable its strength so please be sure to note and repair all nicks and cuts.

### **Installation**

When installing use a swivel eye for pulling the fiber optic cable and conduit system.

### **Precautions**

Please review the manufacturer's installation instructions prior to commencing with the installation. If any questions arise during installation please refer to the manufacturer's installation instructions, or notify the Project Engineer.

### **Testing**

Perform OTDR test on each fiber in the installed cable, to verify the parameters of each fiber meet the system design criteria. Power meter tests should also be performed. All test results should be provided to the Agency Project Engineer in PDF format.

### **Safety**

Contractor to provide proper work zone safety through an approved site-specific MOT (Maintenance of Traffic) plan.

Contractor to ensure that all personnel working in the field adhere to all PPE (Personnel Protection Equipment) requirements needed for the particular job location at all times.

Contractor to conduct pre-work safety briefings with workers prior to starting work each day/shift in the field. This briefing should be conducted by supervisor/manager in the field. All safety briefings should be logged in paper and this log easily accessible by Agency personnel in the field.

### **Locating Fiber Optic Cables**

Aiding the locators, please install a #12 gauge wire. Pull #12 gauge wire in with the fiber cable for the underground conduit systems.

Terminate the ends of the #12 gauge wire in a handhold box. This box can be used by the locating contractor.