# TABLE OF CONTENTS

**BIDDING AND CONTRACT DOCUMENTS**

## STANDARD SPECIFICATIONS

1

## SPECIAL PROVISIONS

### Part One - General Provisions
- Section 1 - Terms, Definitions, Abbreviations and Symbols 2
- Section 2 - Scope and Control of Work 13
- Section 3 - Changes in Work 44
- Section 4 - Control of Materials 55
- Section 5 - Utilities 60
- Section 6 - Prosecution, Progress and Acceptance of Work 67
- Section 7 - Responsibilities of the Contractor 92
- Section 8 - Facilities for Agency Personnel 144
- Section 9 - Measurement and Payment 147
- Section 10 - Miscellaneous 154

### Part Two - Construction Materials

155

### Part Three - Construction Methods

178

### Part Four – Existing Improvements

225

### Part Six – Temporary Traffic Control

228

### Part Seven – Street Lighting and Traffic Signal Systems

231

### Part Eight – Landscaping and Irrigation

232

### Part Nine – Recycled Asphalt Concrete

235

### Part Ten – CSI Standards

259
STANDARD SPECIFICATIONS

The 2018 version of the “Standard Specifications for Public Works Construction” published by BNI Publications (the "Greenbook" or “SSPWC”) and all amendments thereto will serve as the standard specifications for the project, except as modified herein by these Special Provisions.
SPECIAL PROVISIONS
PART ONE
GENERAL PROVISIONS

PART ONE, GENERAL PROVISIONS, OF THE GREENBOOK IS REPLACED IN ITS ENTIRETY WITH THE FOLLOWING SECTIONS 1 THROUGH 10 WHICH IS INCORPORATED INTO THE CONTRACT DOCUMENTS AND SHALL APPLY TO THE PROJECT WORK.

SECTION 1 - TERMS, DEFINITIONS, ABBREVIATIONS AND SYMBOLS

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

1-2 TERMS AND DEFINITIONS

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

Agency - The legal entity for which the Work is being performed.

Agreed Price - The cost for new or unforeseen work, or for adjustments in the Contract Unit Price for changes in the character of the work as specified herein, established by mutual agreement between the Contractor and the Agency.

Agreement - See Contract.

Assessment Act Contract - A Contract financed by special assessments authorized under a State Act or procedural ordinance of a City or County.

AASHTO Designations - The latest revised Specifications of the American Association of State Highway and Transportation Officials.

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

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

Bidder - Any individual, firm, partnership, corporation, or combination thereof, submitting a Bid for the Work, acting directly or through a duly authorized representative.
Board - The officer or body constituting the awarding authority of the Agency.

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

Caltrans - The State of California Department of Transportation.

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

Certificate of Compliance - A written document signed and submitted by a supplier or manufacturer that certifies that the material or assembled material supplied to the Work site conforms to the requirements of the Contract Documents.

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

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

Contract - The written agreement between the Agency and the Contractor covering the Work.

Contract Documents - The Contract, Addenda, notice inviting bids, instructions to bidders; Bid (including documentation accompanying the Bid and any post-bid documentation submitted prior to the Notice of Award), Appendices, Exhibits, the Bonds, permits from jurisdictional regulatory agencies, Special Provisions, Plans, Standard Plans, Standard Specifications, Reference Specifications, Change Orders, Bulletins and Supplemental Agreements.

Contractor - The individual, partnership, corporation, joint venture, or other legal entity having a Contract with the Agency to perform the Work. In the case of work being done under a permit issued by the Agency, the permittee shall be construed to be the Contractor. The term "prime contractor" shall mean the Contractor.

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

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

County – County of Riverside

County Sealer - The Sealer of Weights and Measures of the county in which the Contract is awarded.
Days - Days shall mean consecutive calendar days unless otherwise specified in the Special Provisions.

Department - Where the word Department appears in the Standard Specifications, it shall mean the Engineering Department of the City of Menifee.

Disputed Work - Work in which the Agency and the Contractor are in disagreement.

E.M.W.D. - Eastern Municipal Water District

Electrolier - Street light assembly complete, including foundation, standard, mast arm, luminaire, etc.

Extra Work - New or unforeseen work not covered by a Contract Unit Price or Stipulated Unit Price.

Engineer - The Chief Engineer of the Agency, Director of Public Works, or other person designated by the Board, acting either directly or through authorized agents.

Federal – United States of America.

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

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

Mast Arm - The structural member, or bracket, which, when mounted on a Standard, supports the luminaire.

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

Notice of Award - The written notice by the Agency to the successful Bidder stating that upon its compliance with the required conditions, the Agency will execute the Contract.

Notice to Proceed - A written notice given by the Agency to the Contractor fixing the date on which the Contract time will start.

Owner - The City of Menifee.
**Person** - Any individual, firm, association, partnership, corporation, trust, joint venture, or other legal entity.

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

**Private Contract** - Work subject to Agency inspection, control, and approval, involving private funds, not administered by the Agency.

**Proposal** - See Bid.

**R.C.F.C.D.** - Riverside County Flood Control District

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

**Roadway** - The portion of a street reserved for vehicular use.

**Service Connection** - All or any portion of the conduit cable or duct including meter, between a utility distribution line and an individual consumer.

**Service Lateral Connection** - The interface of the House Connection Sewer with the host pipe.

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

**Shop Drawings** - Drawings showing details of manufactured or assembled products proposed to be incorporated into the Work.

**Special Provisions** - Additions and revisions to the Standard Specifications setting forth conditions and requirements peculiar to the Work.

**Specifications** - Standard Specifications, Reference Specifications, Special Provisions, and specifications in Change Orders or Supplemental Agreements between the Contractor and the Board.

**Standard** - The shaft or pole used to support street lighting luminaires, traffic signal heads, mast arms, etc.
Standard Plans - Details of standard structures, devices, or instructions referred to on the Plans or in the Specifications by title or number.

Standard Specifications - The Standard Specifications for Public Works Construction (SSPWC), the "Greenbook".

State - State of California.

Stipulated Unit Price - Unit prices established by the Agency in the Contract Documents.

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

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

Subbase - A layer of specified material of planned thickness between the base and the subgrade.

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

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

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

Supplemental Agreement - A written amendment of the Contract Documents signed by the Agency and the Contractor.

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

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

Work - That which is proposed to be constructed or done under the Contract or permit, including the furnishing of all labor, materials, equipment, and services.
**Working Day** - Any day within the period between the date of the start of the Contract time as specified in 6-1 and the date of field acceptance of the Work by the Engineer, other than:

a) Saturday,

b) Sunday,

c) any day designated as a holiday by the Agency,

d) any other day designated as a holiday in a Master Labor Agreement entered into by the Contractor or on behalf of the Contractor as an eligible member of a contractor association,

e) any day the Contractor is prevented from working at the beginning of the workday for cause as specified herein, or

f) any day the Contractor is prevented from working during the first 5 hours with at least 60 percent of the normal work force for cause as specified herein.

**Working Drawings** - Drawings showing details not shown on the Plans which are required to be designed by the Contractor.

1-3 **ABBREVIATIONS**

1-3.1 **General.** The abbreviations are applicable to these Standard Specifications and the Special Provisions. Additional abbreviations shall be as specified on the Plans or in the Special Provisions.

1-3.2 **Common Usage**

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Word or Words</th>
</tr>
</thead>
<tbody>
<tr>
<td>ABS ..........</td>
<td>Acrylonitrile Butadiene Styrene</td>
</tr>
<tr>
<td>ADA ..........</td>
<td>Americans with Disabilities Act of 1990 (Public Law 101-336, 104 Sat. 1990, 42 USC 12101-12213 (as amended))</td>
</tr>
<tr>
<td>APC ...........</td>
<td>Air Placed Concrete</td>
</tr>
<tr>
<td>ARHM ...........</td>
<td>Asphalt Rubber Hot Mix</td>
</tr>
<tr>
<td>ARAM ...........</td>
<td>Asphalt Rubber and Aggregate Membrane</td>
</tr>
<tr>
<td>BMPs ............</td>
<td>Best Management Practices</td>
</tr>
<tr>
<td>CAB ............</td>
<td>Crushed Aggregate Base</td>
</tr>
<tr>
<td>CAP A ...........</td>
<td>Corrugated Aluminum Pipe Arch</td>
</tr>
<tr>
<td>CAP ............</td>
<td>Corrugated Aluminum Pipe</td>
</tr>
<tr>
<td>CBR ............</td>
<td>California Bearing Ratio</td>
</tr>
<tr>
<td>CCFRPM ..........</td>
<td>Centrifugally Cast Fiberglass Reinforced Plastic Mortar</td>
</tr>
<tr>
<td>CCR ............</td>
<td>California Code of Regulations</td>
</tr>
<tr>
<td>CCTV ..........</td>
<td>Closed Circuit TV</td>
</tr>
<tr>
<td>CHDPE ..........</td>
<td>Corrugated High Density Polyethylene</td>
</tr>
<tr>
<td>CIP ............</td>
<td>Cast Iron Pipe</td>
</tr>
<tr>
<td>CIPCP ..........</td>
<td>Cast-In-Place Concrete Pipe</td>
</tr>
<tr>
<td>Abbreviation</td>
<td>Description</td>
</tr>
<tr>
<td>--------------</td>
<td>-------------</td>
</tr>
<tr>
<td>CIPP</td>
<td>Cured-In-Place Pipe</td>
</tr>
<tr>
<td>CLSM</td>
<td>Controlled Low Strength Material</td>
</tr>
<tr>
<td>CMB</td>
<td>Crushed Miscellaneous Base</td>
</tr>
<tr>
<td>CRM</td>
<td>Crumb Rubber Modifier</td>
</tr>
<tr>
<td>CRUMAC</td>
<td>Crumb Rubber Modified Asphalt Concrete</td>
</tr>
<tr>
<td>CRUMAC-GG</td>
<td>Crumb Rubber Modified Asphalt Concrete Gap Graded</td>
</tr>
<tr>
<td>CQS</td>
<td>Cationic Quick-Setting</td>
</tr>
<tr>
<td>CRS</td>
<td>Cationic Rapid-Setting</td>
</tr>
<tr>
<td>CSP</td>
<td>Corrugated Steel Pipe</td>
</tr>
<tr>
<td>CSEP</td>
<td>Confined Space Entry Plan</td>
</tr>
<tr>
<td>CSP A</td>
<td>Corrugated Steel Pipe Arch</td>
</tr>
<tr>
<td>CSP</td>
<td>Corrugated Steel Pipe</td>
</tr>
<tr>
<td>CSS</td>
<td>Cationic Slow-Setting</td>
</tr>
<tr>
<td>CT</td>
<td>California Test</td>
</tr>
<tr>
<td>DIP</td>
<td>Ductile Iron Pipe</td>
</tr>
<tr>
<td>EMWD</td>
<td>Eastern Municipal Water District</td>
</tr>
<tr>
<td>GG</td>
<td>Gap-Graded</td>
</tr>
<tr>
<td>I HC</td>
<td>House Connection</td>
</tr>
<tr>
<td>HDPE</td>
<td>High Density Polyethylene</td>
</tr>
<tr>
<td>HRWRA</td>
<td>High Range Water Reducing Admixture</td>
</tr>
<tr>
<td>LS</td>
<td>Lump Sum</td>
</tr>
<tr>
<td>MC</td>
<td>Medium Curing</td>
</tr>
<tr>
<td>Min</td>
<td>Minimum</td>
</tr>
<tr>
<td>I MSDS</td>
<td>Material Safety Data Sheet</td>
</tr>
<tr>
<td>MUTCD</td>
<td>Manual on Uniform Traffic Control Devices</td>
</tr>
<tr>
<td>NI A</td>
<td>Not Applicable</td>
</tr>
<tr>
<td>OD</td>
<td>Outside Diameter</td>
</tr>
<tr>
<td>PAV</td>
<td>Pressure Aging Vessel</td>
</tr>
<tr>
<td>I PCC</td>
<td>Portland Cement Concrete</td>
</tr>
<tr>
<td>PE</td>
<td>Polyethylene</td>
</tr>
<tr>
<td>PG</td>
<td>Performance Graded</td>
</tr>
<tr>
<td>PLI</td>
<td>Pounds Per Linear Inch</td>
</tr>
<tr>
<td>PMB</td>
<td>Processed Miscellaneous Base</td>
</tr>
<tr>
<td>I PRCB</td>
<td>Precast Reinforced Concrete Box</td>
</tr>
<tr>
<td>PVC</td>
<td>Polyvinyl Chloride</td>
</tr>
<tr>
<td>RC</td>
<td>Rapid Curing</td>
</tr>
<tr>
<td>R</td>
<td>Resistance Value</td>
</tr>
<tr>
<td>RA</td>
<td>Reclaimed Aggregates</td>
</tr>
<tr>
<td>RAC</td>
<td>Recycled Asphalt Concrete</td>
</tr>
<tr>
<td>RAP</td>
<td>Reclaimed Asphalt Pavement</td>
</tr>
<tr>
<td>RCFCD</td>
<td>Riverside County Flood Control District</td>
</tr>
<tr>
<td>RCP</td>
<td>Reinforced Concrete Pipe</td>
</tr>
</tbody>
</table>
RPPCC ................. Reclaimed Plastic Portland Cement Concrete
RTFO ................. Rolling Thin Film Oven
RW .................. Reclaimed Water
S ..................... Hveem Stability
SAPPA ............... Structural Aluminum Plate Pipe Arch
SAPP ................ Structural Aluminum Plate Pipe
SC ................... Slow Curing
SCMs ................ Supplementary Cementitious Materials
SDR .................. Standard thermoplastic pipe dimension ratio (ratio of pipe O.D. to minimum wall thickness)
SE .................. Sand Equivalent
SG ................... Specific Gravity
SI ................ International System of Units (Metric)
SLC ................ Service Lateral Connection
SS ................... Slow-Setting
SSPPA ............... Structural Steel Plate Pipe Arch
SSPP ................ Structural Steel Plate Pipe
SWPPP .............. Storm Water Pollution Prevention Plan
TCP ................ Traffic Control Plan
TRMAC ............ Tire Rubber Modified Asphalt Concrete
TTC ................ Temporary Traffic Control
U.S.C ................ United States Code
U.S .................. United States
VCP ................ Vitrified clay pipe
VTCSH ............. Vehicle Traffic Controls Signal Heads
I WATCH .......... Work Area Traffic Control Handbook
WTAT ............. Wet Track Abrasion Test
X .................. By

1-3.3 Institutions

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Word or Words</th>
</tr>
</thead>
<tbody>
<tr>
<td>AASHTO .............</td>
<td>American Association of State Highway and Transportation Officials</td>
</tr>
<tr>
<td>AISC .................</td>
<td>American Institute of Steel Construction</td>
</tr>
<tr>
<td>ANSI ..................</td>
<td>American National Standards Institute</td>
</tr>
<tr>
<td>AREA ..................</td>
<td>American Railway Engineering Association</td>
</tr>
<tr>
<td>ASTM ..................</td>
<td>American Society for Testing and Materials</td>
</tr>
<tr>
<td>AWPA .................</td>
<td>American Wood Preservers Association</td>
</tr>
<tr>
<td>AWS ..................</td>
<td>American Welding Society</td>
</tr>
<tr>
<td>AWWA .................</td>
<td>American Water Works Association</td>
</tr>
<tr>
<td>EIA ..................</td>
<td>Electronic Industries Alliance</td>
</tr>
</tbody>
</table>
1-4 UNITS OF MEASURE

1-4.1 General. The U.S. Standard Measures, also referred to as the U.S. Customary System, is the principal measurement system in these Specifications and shall be used for construction, unless otherwise specified in the Special Provisions. The International System of Units, also referred to as SI or the metric system, is included in parenthesis. U.S. Standard Measures units may not be exactly equivalent to the SI units in parenthesis. If SI is specified for use in the Contract Documents, then all values used for construction shall be the SI units shown in parenthesis. Certain material specifications and test requirements contained herein use SI units specifically and U.S. Standard Measures have not been included in those circumstances.

Reference is also made to ASTM E380 for definitions of various units of the SI system and a more extensive set of conversion factors.

1-4.2 Units of Measure and Their Abbreviations

<table>
<thead>
<tr>
<th>U.S. Customary Unit Equal</th>
<th>To SI Unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>(Abbreviations)</td>
<td>(Abbreviations)</td>
</tr>
<tr>
<td>----------------------------</td>
<td>-----------------</td>
</tr>
<tr>
<td>1 mil (= 0.001 inch)</td>
<td>25.4 micrometer (/lm)</td>
</tr>
<tr>
<td>1 inch</td>
<td>25.4 millimeter (mm)</td>
</tr>
<tr>
<td>1 inch</td>
<td>2.54 centimeter (cm)</td>
</tr>
<tr>
<td>1 foot (ft)</td>
<td>0.3048 meter (m)</td>
</tr>
<tr>
<td>1 yard (yd)</td>
<td>0.9144 meter (m)</td>
</tr>
<tr>
<td>1 mile (mi)</td>
<td>1.6093 kilometer (km)</td>
</tr>
<tr>
<td>1 square foot (ft²)</td>
<td>0.0929 square meter (m²)</td>
</tr>
<tr>
<td>1 square yard (yd²)</td>
<td>0.8361 square meter (m²)</td>
</tr>
<tr>
<td>1 cubic foot (ft³)</td>
<td>0.0283 cubic meter (m³)</td>
</tr>
<tr>
<td>1 cubic yard (yd³)</td>
<td>0.7646 cubic meter (m³)</td>
</tr>
<tr>
<td>1 acre</td>
<td>0.4047 hectare (ha)</td>
</tr>
</tbody>
</table>
1 U.S. gallon (gal) ........................................... 3.7854 Liter (L)
1 fluid ounce (fl. oz) ........................................ 29.5735 milliliter (mL)
1 pound mass (lb) (avoirdupois) .................... 0.4536 kilogram (kg)
1 ounce mass (oz) ........................................... 0.02835 kilogram (kg)
1 Ton (= 2000 lb avoirdupois) ...................... 0.9072 Tonne (= 907 kg)
1 Poise .......................................................... 0.1 pascal. second (Pa.s)
1 centistoke (cs) .............................................. 1 square millimeters per second (mm²/s)
1 pound force (lbf) .......................................... 4.4482 Newton (N)
1 pounds per square inch (psi) ...................... 6.8948 Kilopascal (kPa)
1 pound force per foot (lbf/ft) ....................... 1.4594 Newton per meter (N/m)
1 foot-pound force (ft-lbf) ......................... 1.3558 Joules (J)
1 foot-pound force per second (ft-lbf) ........... 1.3558 Watt (W)
1 part per million (ppm) ................................ 1 milligram/liter (mg/L)

Temperature Units and Abbreviations

Degree Fahrenheit (°F): Degree Celsius (°C):
°f = (1.8 x °C) + 32  °C = (°F - 32)/1.8

SI Units (abbreviation) Commonly Used in Both Systems

1 Ampere (A)
1 Volt (V)
1 Candela (cd)
1 Lumen (lm)
1 second (s)

Common Metric Prefixes

kilo (k) .......................................................... 10³
centi (c) .......................................................... 10⁻²
milli (m) .......................................................... 10⁻³
micro (μ) .......................................................... 10⁻⁶
nano (n) .......................................................... 10⁻⁹
pico (p) .......................................................... 10⁻¹²

1-5 SYMBOLS

% .................. Percent
, .................. Feet or minutes
" .................. Inches or seconds
1 .................. Number
/ ........................per or (between words)
° ........................Degree
x ........................Times
SECTION 2 - SCOPE AND CONTROL OF WORK

2-1 AWARD AND EXECUTION OF THE CONTRACT. Award and execution of the Contract shall be as provided for in the Special Provisions, Instructions to Bidders, and Notice Inviting Bids.

The Agreement shall be signed in triplicate by the Agency and the Contractor.

Execution of the Agreement by the Contractor is a representation that the Contractor has visited the Project Site(s), become familiar with the local conditions under which the Work is to be performed, and has correlated personal observations with the requirements of the Contract Documents.

The intent of the Contract Documents is to include all items necessary for the proper execution and completion of the Work. The Bid and Contract Documents are complementary, and what is required by any one shall be as binding as if required by all. Work not covered in the Bid and Contract Documents will not be required unless it is consistent therewith and is reasonably inferable therefrom as being necessary to produce the intended results. Words used in the Bid and Contract Documents, which have a well-known technical or trade meaning are used in accordance with such meanings. Abbreviations and symbols listed in Sections 1-3 and 1-5, together with others in general use, are applicable to the Bid and Contract Documents.

The organization of the Specifications into sections and the arrangement of Plans shall not control the Contractor in dividing the Work among Subcontractors or in establishing the extent of Work to be performed by any trade.

The intent of the Bid and Contract Documents is to prescribe the details for construction and completion of the Work in accordance with the terms of the Contract. Where Bid and Contract Documents describe portions of the Work in general terms, but not in complete detail, it is understood that only the best general practice is to prevail and that only materials and workmanship of the first quality are to be used. Contractor is responsible for means and methods of construction using best practices in order to accomplish the construction and completion of the Work.

Any discrepancies between Bid and Contract Documents and conditions of the Site, or in the layout given by stakes, points or instructions, discovered by the Contractor shall be promptly brought to the attention of the Agency by written notice. Work done after such discovery, until authorized by the Agency, will be done at the Contractor’s risk.

In general, Specifications indicate qualities of materials and workmanship and Plans indicate dimensions, locations, quantities and details of construction. Figured dimensions take precedence over scaled measurements. Detailed Drawings and Specifications take precedence over general Drawings and Specifications. Supplementary details and instructions, approved
revisions of later date and addenda take precedence over original documents, information and earlier addenda. In the event of ambiguity or conflict in indicated quantity or in quality, the greater quantity and the better quality shall govern.

The Contractor and each subcontractor shall have or obtain a valid City business license prior to the start of work.

2-1.1 Review of Bid and Contract Documents. The Contractor certifies that (i) the Contractor has carefully examined the Project Site, has taken steps to obtain all information concerning Site conditions and is familiar with all conditions that are observable, could be known by reasonable inference or through diligent research (including information that the Agency made available to all bidders during the bid process, costs and physical conditions) affecting the performance of the Work; (ii) the Contractor has carefully examined the Bid and Contract Documents and the Bid and Contract Documents either (a) contain no significant error, ambiguity, conflict, inconsistency or omission or (b) the Contractor has requested additional information and clarification from the Agency in writing with respect to any such error, ambiguity, conflict, inconsistency or omission and has received such information and clarification from the Agency; (iii) the Bid and Contract Documents are sufficient to have enabled the Contractor to determine the cost and duration of the Work and to enter into the Contract and the Bid and Contract Documents are sufficient to construct the Work in accordance with all applicable laws, statutes, building codes and regulations and otherwise to fulfill the Contractor’s obligations under the Contract; and (iv) the Contractor has requested each Subcontractor to carefully examine the Project Site, information concerning Site conditions, and Bid and Contract Documents with respect to the portion of the Work to be performed by such Subcontractor and that each Subcontractor has certified to the Contractor that such Subcontractor requires no additional information or clarification to perform the portion of the Work to be performed by such Subcontractor except as may have been requested in writing by the Contractor and to which the Agency has responded.

The Contractor shall not be liable to the Agency for any damage relating to any errors, inconsistencies, or omissions in the Bid and Contract Documents, except where the Contractor recognized or should have recognized such errors, ambiguities, conflicts, inconsistencies, or omissions and failed to report such errors, ambiguities, conflicts, inconsistencies or omissions to the Agency. The Contractor shall perform no portion of the Work at any time without Bid and Contract Documents, or where required, approved shop drawings, product data or samples for such portion of the Work.

The quantities given in the Bid and Contract Documents are approximate only, being given as a basis for the comparison of bids and the Agency does not, expressly or by implication, warrant or agree that the actual quantities will correspond therewith. The Agency reserves the right to increase or decrease the amount of any class or portion of the Work, or to omit or delete portions of the Work, as may be deemed necessary or advisable by the Agency.
Information and test results which the Agency made available for review were for the convenience of bidders only and making such information and test results available is not to be construed in any way as a waiver of this section. The Agency does not guarantee that such information and test results are accurate and assumes no responsibility whatsoever as to their accuracy or their interpretation.

2-1.2 Penalty for Collusion. If, at any time, it is found that the Contractor has, in presenting any bid or bids, colluded with any other party or parties, then the Contract shall be null and void, and the Contractor and the Contractor’s sureties shall be liable for loss or damage which the Agency may suffer thereby, and the Agency may advertise for new bids for the Work.

2-1.3 Award of Contract. The proposals will be compared on the basis of the unit cost for each item listed in the proposal, and on the total of all base bid items. If the contract is awarded it will be to the lowest responsible bidder whose proposal complies with all the requirements prescribed and described herein for comparison purposes.

A Responsive bid is one that meets all the requirements of the advertisement and proposal. A Responsible bidder is one who is physically organized and equipped with the financial ability to undertake and complete the contract.

Reasons to reject a bid as “nonresponsive” include, but are not limited to:

- Failure to sign the bid
- Failure to furnish the required bid bond
- Failure to include a unit bid price for each item
- Failure to include a total amount for the bid
- Failure to prepare the bid in ink
- Failure to submit a completed addenda certification statement
- Failure to submit a Non-Collusion Affidavit
- Failure to commit to the achievement of the DBE contract goals or demonstrate good faith efforts to do so
- Inclusion of conditions or qualifications not provided for in the specifications
- Submission of a materially unbalanced bid

Reasons to deem a bidder “not responsible” include but are not limited to:

- Failure to meet the local agency’s qualification requirements, or
- Past unsatisfactory performance that may involve quality of workmanship, safety, supervision, timeliness, false claims, compliance with contract requirements, compliance with local, state of federal regulations, or
- Debarment by any governmental agency, or
Failure to provide adequate proof of sufficient financial resources to execute and complete the project considering the Contractor’s entire work load when requested, or

Failure to provide evidence of qualified personnel that will supervise the project when requested, or

Such award, if made, will be within sixty days after the opening of the proposals. All proposals will be compared on the basis of the Engineer’s Estimate of the quantities of work to be done. The contractor shall submit to the Agency, when requested and prior to the award of the contract, a financial statement that indicates the contractor’s ability to perform the project.

2-1.4 Execution of Contract. The Agency will mail the contract to the successful bidder. The Contract shall be signed by the successful bidder in triplicate counterpart and returned, together with the contract bonds and insurance certificates, within ten (10) working days from mailing the Contract to the contractor. No contract shall be binding upon the Agency until it has been completely executed by the contractor and the Agency.

Failure to execute a Contract and file acceptable bonds and insurance certificates as provided herein within the time limit above is just cause for the annulment of the award and the forfeiture of the bid security. The Agency reserves the right to require complete, certified copies of all required insurance policies, including endorsements, at any time.

2-1.5 Document Ownership. Once the Contractor has received any compensation for the Work performed, all electronic or hard copy documents, e.g., original plans, studies, sketches, drawings, computer printouts and files, and specifications prepared in connection with or related to the Work shall be the property of Agency. The Agency’s ownership of these documents includes use of, reproduction or reuse of, and all incidental rights, whether or not the item of the Work for which they were prepared has been performed. Additionally, Contractor shall provide Agency with all bid preparation materials, including but not limited to spreadsheets, takeoffs, cost estimating programs and data, schedules and look aheads, and subcontractor proposals, agreements and change order requests.

2-1.6 Successor's Obligations. All grants, covenants, provisions and claims, rights, powers, privileges and abilities contained in the Contract Documents shall be read and held as made by and with, and granted to and imposed upon, the Contractor and the Agency and their respective heirs, executors, administrators, successors, and assigns.

2-1.7 Waiver of Legal Rights. The failure of the Agency to insist, in any one or more instances, upon the performance of any provision of the Contract, or to exercise any right therein, shall not be construed as a waiver or relinquishment of such provisions or rights. Any waiver of any breach of this contract shall not be held to be a waiver of any other or subsequent breach.
Any waiver issued by the Agency of any provision of the Contract shall only be effective if issued in writing by the Agency and shall be specific, shall apply only to the particular matter concerned and not to other similar or dissimilar matters.

2-1.8 Requests for Information (RFI). If the work to be done is not sufficiently detailed or explained in the Contract Documents, the Contractor shall submit in writing a request to the Engineer for further explanations. Questions related to the Work shall be addressed to the Engineer for the Engineer’s decision pursuant to 2-10, “AUTHORITY OF THE BOARD AND THE ENGINEER.”

2-1.9 Headings. All section headings are for convenience only and shall not affect the interpretation of this contract.

2-1.10 Cumulative Remedies. The duties and obligations imposed by this contract and the rights and remedies available hereunder to the Parties hereto, and, in particular but without limitation, the warranties, guarantees and obligations imposed upon the Contractor by this contract and all of the rights and remedies available to Agency thereunder; are in addition to, and are not to be construed in any way as a limitation of, any rights and remedies imposed or available by Laws or Regulations, by special warranty or guarantee or by other provisions of the Contract Documents.

2-1.11 Written Notice. Notices to the Contractor shall be in writing and shall be deemed to have been fully served if delivered in person at the Project Site or Contractor’s address shown in the agreement, sent by registered or certified mail to the Contractor’s address shown in the Agreement, or uploaded to Virtual Project Manager at www.virtual-pm.com.

Notices to the Agency shall be in writing and shall be deemed to have been fully served if posted to Virtual Project Manager at www.virtual-pm.com and delivered in person at or sent by registered or certified mail to:

<Name, Job title>
Menifee City Hall
29714 Haun Rd
Menifee, California 92586

Either party may change its address for notices by delivery of written notice of the change in conformance with this section

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

The Agency and the Contractor, respectively, bind themselves, their partners, successors, assigns and legal representatives to the other party hereto and to the partners, successors, assigns and legal representatives of such other party with respect to all covenants, agreements and obligations contained in the Bid and Contract Documents.

2-2.1 Assignment to Awarding Body. In accordance with §7103.5(b) of the California Public Contract Code (A.B. 3416), Contractor and Subcontractors must conform to the following requirements:

1. In entering into a public works contract or a Subcontract to supply goods, services, or materials pursuant to a public works contract, Contractor or Subcontractor offer and agree to assign to the awarding body all rights, title, and interest in and to all causes of action it may have under §4 of the Clayton Act (15 U.S.C. Sec. 15) or under the Cartwright Act (Chapter 2 (commencing with §16700) of Part 2 of Division 7 of the Business and Professions Code) arising from purchases of goods, services, or materials pursuant to the public works contract or the Subcontract.

2. This assignment must be made and become effective at the time the awarding body tenders to you, without further acknowledgment by the Parties.

2-2.2 Contractor Indebtedness. Indebtedness incurred for any cause in connection with this work must be paid by the Contractor, and the Agency is hereby relieved at all times from any indebtedness or claim other than payments under terms of the contract and the Contractor will indemnify and hold harmless the Agency and its officers and employees from any loss, demand, damages, claims or actions arising from or in connection with said indebtedness.

2-3 SUBCONTRACTS

2-3.1 General. The Contractor agrees to bind in writing all Subcontractors and materials suppliers to the terms of the Bid and Contract Documents.

Contractor shall submit a copy of all listed subcontractor bids with their bid package.

Each Bidder shall comply with Chapter 4 of the Public Contract Code including Sections 4100 through 4113.

The Bidder shall set forth in the Bid, pursuant to 4104:
"a) The name and location of the place of business of each subcontractor who will perform work or labor or render service to the prime contractor in or about the construction of the work or improvement, or a subcontractor licensed by the State of California who, under subcontract to the prime contractor, specially fabricates and installs a portion of the work or improvement according to detailed drawings contained in the plans and specifications, in an amount in excess of one-half of 1 percent of the prime contractor's total bid, or, in the case of bids or offers for the construction of streets or highways, including bridges, in excess of one-half of 1 percent of the prime contractor's total bid or ten thousand dollars ($10,000), whichever is greater."

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

If the Contractor fails to specify a Subcontractor, or specifies more than one Subcontractor for the same portion of the Work to be performed under the Contract (in excess of one-half of 1 percent of the Contractor's total Bid), the Contractor shall be qualified to perform that portion itself, and shall perform that portion itself, except as otherwise provided in the Code.

Pursuant to Section 4107, no Contractor whose Bid is accepted shall substitute any person as a Subcontractor in place of a Subcontractor listed in the Bid, except for the causes and by the procedures established in Section 4107.5. This section provides procedures to correct a clerical error in the listing of a Subcontractor.

Section 4110 provides that a Contractor violating any of the provisions of Chapter 4 violates the Contract and the Board may exercise the option either to cancel the Contract or assess the Contractor a penalty in an amount of not more than 10 percent of the subcontract involved, after a public hearing.

Subcontractors shall be qualified, sufficiently experienced, and appropriately licensed, and specifically qualified where required by the contract documents.

No subcontract releases the Contractor from the Contract, lessens Contractor’s responsibility for timely completing the Project work in accord with best construction practices, or relieves the Contractor of its responsibility for a subcontractor’s work.

If the Contractor violates Public Contract Code § 4100 et seq., the Agency may exercise the remedies provided under Public Contract Code § 4110. The Agency may refer the violation to the Contractors State License Board as provided under Public Contract Code § 4111.

By an appropriate written agreement, the Contractor shall require each Subcontractor, to the extent of the Work to be performed by the Subcontractor, to be bound to the Contractor by the
terms of the Bid and Contract Documents, and to assume toward the Contractor all the obligations and responsibilities which the Contractor, by the Bid and Contract Documents, assumes toward the Agency, except for the provisions of Section 7-4, Contractor’s Insurance, Section 7-4.1, Policies, paragraphs (i), (ii), and (iii) of these General Provisions relating to the limits of insurance coverage. The limits of insurance coverage for liability and business auto policies required by the Contractor from each Subcontractor shall be determined by the Contractor.

Each subcontract shall include an indemnity agreement in the form of Section 7-15, Indemnification, in favor of the Agency and its respective employees and agents. The Subcontractors shall name the parties described in Section 7-3.2, Endorsements, as additionally insured, but only with respect to work done by, for, or on behalf of the named insurees, in any liability insurance policies maintained by the Subcontractors. Contractor shall require and verify that all subcontractors maintain insurance meeting all the requirements stated herein, and Contractor shall ensure that Agency is an additional insured on insurance required from subcontractors. For CGL coverage subcontractors shall provide coverage with a format at least as broad as CG 20 38 04 13.

The Contractor-Subcontractor agreements shall preserve and protect the rights of the Agency under the Bid and Contract Documents with respect to the Work to be performed by the Subcontractor so that the subcontracting thereof will not prejudice such rights, and shall allow to the Subcontractor, unless specifically provided otherwise in the Contractor -Subcontractor agreement, the benefit of all rights, remedies and redress against the Contractor that the Contractor, by these Documents, has against the Agency.

Where appropriate, the Contractor shall require each Subcontractor to enter into similar agreements with their sub-Subcontractors. The Contractor shall make available to each proposed Subcontractor, prior to the execution of the subcontract, copies of the Bid and Contract Documents to which the Subcontractor will be bound by this Section and identify to the Subcontractor any terms and conditions of the proposed subcontract which may be at variance with the Bid and Contract Documents. Each Subcontractor shall similarly make copies of such Bid and Contract Documents available to their sub-Subcontractors.

The Contractor shall be fully responsible for the acts and omissions of the Contractor’s Subcontractors, and of persons either directly or indirectly employed by them, as the Contractor is for the acts and omissions of persons directly employed by the Contractor.

When a portion of the Work subcontracted by the Contractor is not being performed in a manner satisfactory to the Agency, the Agency shall notify the Contractor and shall inform the Contractor of the deficiencies in the Subcontractor's execution of the Work. If the Subcontractor fails to correct such deficiencies within five (5) days after Contractor’s receipt of notification from the Agency, the Contractor shall cause the Subcontractor to be removed immediately from the Work.
Each Subcontractor and materials supplier shall agree in writing to be bound by and submit any disputes under its contract for resolution in accordance with the dispute resolution provisions set forth in the sections addressing claims for damages.

The Contractor shall require each Subcontractor and materials supplier to agree in writing to utilize any reserve gate set aside, at the Agency’s election, for use by the Subcontractor, its suppliers and employees, or the materials supplier. Contractor shall require each Subcontractor and materials supplier to agree in writing to perform its obligations under this Contract notwithstanding the presence of pickets, labor protests, and/or strike activities at the reserve gate.

Each subcontractor must have an active and valid State contractor's license with a classification appropriate for the work to be performed (Bus & Prof Code, § 7000 et seq.).

Contractor shall not use a debarred subcontractor; a current list of debarred contractors is available at the Department of Industrial Relations' Web site. However, Contractor is responsible for making sure that all of its subcontractors are properly licensed and not disbarred.

2-3.2 Suppliers List. The Contractor warrants that it has listed all Suppliers known to the Contractor at the time of Award on the Agency provided forms contained in the Contract Documents. If other Suppliers are required, that were not listed by the Contractor prior to Award, the Contractor shall let the supply subcontract in accordance with a competitive bidding process performed at the Contractor’s expense.

2-3.3 Subcontractor List. The listing of Subcontractors provided by the Contractor, in compliance with the “Subletting and Subcontracting Fair Practices Act” (Public Contract Code §§4100-4114, inclusive), shall not be modified without the prior written approval of the Agency. If at any time after Award of the Contract the Contractor identifies a need for additional Subcontractor services, the Contractor shall immediately request in writing the Agency’s consent. The request shall include a justification, a description of the work, and an estimate of the costs for the services. The Agency shall make the sole and final determination as to the acceptance of the addition or substitution on any subcontractor. There shall be no adjustment to the contract price in the event Contractor identifies a need for additional Subcontractor services, regardless of whether the Agency approves or denies the request.

2-3.4 Self-Performance. The Contractor shall perform, with its own organization, Contract work amounting to at least 50 percent of the Contract Price except that any designated "Specialty Items" may be performed by subcontract and the amount of any such "Specialty Items" so performed will be deducted from the Contract Price before computing the amount required to be performed by the Contractor with its own organization. "Specialty Items" will be identified by the Agency in the Bid or in the Special Provisions. Where an entire item is subcontracted, the value of work subcontracted will be based on the Contract Unit Price. When a portion of an item
is subcontracted, the value of work subcontracted will be based on the estimated percentage of the Contract Unit Price. This will be determined from information submitted by the Contractor, and subject to approval by the Engineer.

The requirement for the Contractor to perform at least 50% of the contract work with its own forces will be waived only for contracts where only a “B” License is required for the prime contractor.

2-3.5 Status of Subcontractors. The Contractor shall give personal attention to the fulfillment of the Contract. The Contractor shall keep the Work under its control.

Subcontractors shall be considered employees of the Contractor, and the Contractor shall be responsible for their work.

2-3.6 Subcontract Requirements. The Contractor shall incorporate these specifications in its Subcontracts to the extent of the Work to be performed by such Subcontractor.

The Contractor shall obtain or require that each Subcontractor obtain insurance policies in accordance with section 7-3, “LIABILITY INSURANCE” which shall be kept in full force and effect during Work on this project and for the duration of this contract.

In any dispute between the Contractor and the Subcontractor the Agency shall not be made a party to any judicial or administrative proceeding to resolve the dispute.

The Subcontractors must be qualified and sufficiently experienced. You must ensure that your Subcontractors are appropriately licensed for the duration of the Work that is performed under the Subcontracts. In the event the Subcontractor is not properly licensed, you must cease payment to the Subcontractor for all work performed when the Subcontractor was not properly licensed. You must return to the Agency any payment you made to a Subcontractor for work performed when the Subcontractor was not licensed.

Where the Contract Documents require that a particular product be installed or applied by an applicator approved by the manufacturer, Contractor shall ensure the Subcontractor or Supplier employed for such work is approved by the manufacturer and provide proof of such approval upon request of Agency.

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

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

The Bidder shall provide two (2) good and sufficient surety bonds:

The "Payment Bond" (Material and Labor Bond) shall be for not less than 100 percent of the Contract Price, to satisfy claims of material suppliers and mechanics and laborers employed by it on the Work. The bond shall be maintained by the Contractor in full force and effect until the performance of the Contract is accepted by the Agency and until all claims for materials and labor are paid, and shall otherwise comply with the Civil Code.

The "Performance Bond" shall be for 100 percent of the Contract Price to guaranty faithful performance of all work, within the time prescribed, in a manner satisfactory to the Agency, and that all materials and workmanship will be free from original or developed defects. Upon Agency's acceptance of the Project work, Agency may at its sole discretion allow a substitute Performance Bond in an estimated amount to cover any repair, reconstruction or rework that may be required during any applicable warranty periods plus any attorneys' fees and costs in enforcing the obligations secured by the bond. Under no circumstances shall Contractor be relieved from its obligations to properly perform the requirements of the Contract and Contract Documents in accord with best practices in a good and workmanlike fashion. The bond must remain in effect until the end of all warranty periods set forth in the Contract Documents.

The Performance and Payment Bonds shall provide for payment of attorney fees and costs incurred by Agency in enforcing the obligations secured by the bond.

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

Should any surety at any time be unsatisfactory to the Agency, notice to that effect will be given to the Contractor. No further payments shall be deemed due or will be made under the Contract until a new surety qualifies and is accepted by the Agency.

Changes in the Work or extensions of time, made pursuant to the Contract, shall in no way release the Contractor or the Surety from its obligations. As a condition of providing a bond for this project the Surety waives any notice requirements of such changes in work or extensions of time.

2-5 PLANS AND SPECIFICATIONS
2-5.1 General. The Contractor shall keep at the Work site a copy of the Plans and Specifications and will provide the Engineer with access at all times.

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

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

The Contractor shall, upon discovering any error or omission in the Plans or Specifications, immediately call it to the attention of the Engineer in writing. If the Contractor fails to inform the Engineer in writing of any ambiguity, conflict, error or omission contained within the Contract Documents, any costs incurred by the contractor or additional future costs resulting from the Contractor’s action or inaction shall be borne solely by the Contractor and there shall be no cost to the Agency.

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

1) Permits of other agencies as may be required by law.
2) Change Orders and Supplemental Agreements; whichever occurs last.
3) Contract/Agreement
4) Addenda
5) Bid Schedule
6) Project Special Provisions
7) Project Plans
8) Agency Standard Drawings
9) Utility Standard Drawings
10) Regional Standard Drawings
11) Regional Supplement
12) “Greenbook” Standard Specifications for Public Works Construction (excepted as specifically modified herein)
13) Reference Specifications

Detail drawings shall take precedence over general drawings.

Other controlling drawings and codes:

STANDARD SPECIFICATIONS/CODES are the most current edition at the time of bidding.
1. Standard Specifications for Public Works Construction (Greenbook) and all Regional Supplements.
4. All local utilities’ standards, regulations and codes.

STANDARD DRAWINGS are the most current at the time of bidding.

1. Agency’s Standard Drawings and supplements.
2. State of California Mechanical, Electrical and Plumbing Codes related drawings.
3. All local utilities’ standard drawings.

2-5.3 Submittals

2-5.3.1 General. Anything required to be provided by the Contractor to the Agency for review, acceptance or approval is a submittal. Submittals shall be provided, at the Contractor’s expense as required by the Contract Documents, or when requested by the Engineer when needed to ensure consistency, quality, function, conformance, durability, compatibility or any other reason deemed necessary by the Engineer. The Agency shall provide an initial submittal review and one re-review for each resubmittal. The cost of all additional re-reviews for each submittal shall be paid for by the Contractor. The Agency may deduct the costs of the additional re-reviews from any monies owed to the Contractor.

Materials shall not be furnished or fabricated, or shall any work for which submittals are required be performed, before the required submittals have been reviewed and accepted without exception by the Engineer. Review or acceptance of the submittals by the Engineer shall not relieve the Contractor from responsibility for ambiguities, conflicts, errors, omissions, or deviations from the Contract Documents, unless Contractor specifically calls each ambiguities, conflicts, errors, omissions, or deviations to the attention of the Engineer both in the letter of transmittal and on the submittal. The Contractor shall be responsible for the correctness of the submittals. Work or materials that are incorporated into the work that differ from those required in the Contract Documents that were not approved with such proper written notice from Contractor shall be removed and replaced with the specified item at the Contractor’s expense.

The Contractor shall allow a minimum of 20 working days for review of submittals unless otherwise specified in the Special Provisions. A letter of transmittal shall accompany each submittal.

Prior to the start of work the Contractor shall prepare in Microsoft Excel and deliver to the Engineer a log of submittals that indicates all required submittals, and for each:
a) Estimated delivery date of the submittal.
b) Last day submittal can be delivered to keep the project schedule (factor in response time and resubmittal/response time).

Unless otherwise stated in the Contract Documents, the Contractor shall deliver via Virtual Project Manager (VPM) all submittals in pdf format to the Project Manager. Such submittals shall be returned via Virtual Project Management in pdf format. Some submittals may require material samples or hard copy of the submittal packages at the discretion of the Engineer. In such cases the hard copy and/or material samples shall be delivered to City Hall or the Project site as directed by the Engineer, this is in addition to and not in lieu of, uploading the transmittals and accompanying documents to VPM, including pictures of the material samples delivered.

Each submittal shall be consecutively numbered (eg. 1.0, 2.0, 3.0, etc.). Resubmittals shall be labeled with the original submittal number followed by an ascending decimal designation (e.g. The label ‘4.1’ would indicate the first resubmittal for submittal number 4). Each sheet of each submittal shall be consecutively numbered. Each set of shop drawings and submittals shall be accompanied by a letter of transmittal on the Contractor’s letterhead. The Letter of transmittal shall contain the following:

1. Project title and Agency CIP number.
2. Number of complete sets.
3. Contractor’s certification statement.
4. Specification section number(s) pertaining to material submitted for review.
5. Submittal number (Submittal numbers shall be consecutive including subsequent submittals for the same materials.)
6. Table of Contents describing the contents of the submittal.
7. Identification of deviations from the contract documents.

The Contractor shall subscribe to and shall place the following certification on all submittals:

"I hereby certify that the (equipment, material) shown and marked in this submittal is that proposed to be incorporated into this Project, is in compliance with the Contract Documents, can be installed in the allocated spaces, and is submitted for approval.”

By: ___________________________ Title: ________________________________

Date: __________________________

Company Name: ________________________________
2-5.3.2 Working Drawings. Working Drawings shall be of a size and scale to clearly show all necessary details. The Contractor shall confirm the scale of the drawings with the Engineer prior to preparation and submittal. Contractor agrees that Working Drawing Submittals processed by the Engineer are not Change Orders.

Six copies and one reproducible shall be submitted. If no revisions are required, 3 of the copies will be returned to the Contractor. If revisions are required, the Engineer will return one copy along with the reproducible for resubmission. Upon acceptance, the Engineer will return 2 of the copies to the Contractor and retain the remaining copies and the reproducible.

Working Drawings are required in the subsections shown in Table 2-5.3.2 (A):

<table>
<thead>
<tr>
<th>Item</th>
<th>Subsection No.</th>
<th>Title</th>
<th>Subject</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>7-8.5.2</td>
<td>Sanitary Sewers</td>
<td>Sewage Bypass and Plumbing</td>
</tr>
<tr>
<td>2</td>
<td>7-8.6.3</td>
<td>Water Pollution Control</td>
<td>Storm Water Pollution Prevention Plan</td>
</tr>
<tr>
<td>3</td>
<td>7-8.6.4</td>
<td>Work Pollution Control</td>
<td>Dewatering Plan</td>
</tr>
<tr>
<td>4</td>
<td>7-10.2.2</td>
<td>Work Area Traffic Control</td>
<td>Traffic Control Plan</td>
</tr>
<tr>
<td>5</td>
<td>7-10.4.2.2</td>
<td>Safety</td>
<td>Shoring Plan</td>
</tr>
<tr>
<td>6</td>
<td>300-3.2</td>
<td>Cofferdams</td>
<td>Structure Excavation &amp; Backfill</td>
</tr>
<tr>
<td>7</td>
<td>303-1.6.1</td>
<td>General</td>
<td>Falsework</td>
</tr>
<tr>
<td>8</td>
<td>303-1.7.1</td>
<td>General</td>
<td>Placing Reinforcement</td>
</tr>
<tr>
<td>9</td>
<td>303-3.1</td>
<td>General</td>
<td>Prestressed Concrete Construction</td>
</tr>
<tr>
<td>10</td>
<td>304-1.1.2</td>
<td>Falsework Plans</td>
<td>Structural Steel</td>
</tr>
<tr>
<td>11</td>
<td>306-2.1</td>
<td>General</td>
<td>Jacking Operations</td>
</tr>
<tr>
<td>12</td>
<td>306-3.1</td>
<td>General</td>
<td>Tunneling Operations</td>
</tr>
<tr>
<td>13</td>
<td>306-3.4</td>
<td>Tunnel Supports</td>
<td>Tunneling Operations</td>
</tr>
<tr>
<td>14</td>
<td>306-6</td>
<td>Remodeling Existing Sewer Facilities</td>
<td>Polyethylene Liner Installation</td>
</tr>
<tr>
<td>15</td>
<td>306-8</td>
<td>Microtunneling</td>
<td>Microtunneling Operations</td>
</tr>
</tbody>
</table>

Working Drawings listed above as Items 4, 5, 6, 7, 9, 10, 12, 13 and 14 shall be prepared by a Civil or Structural Engineer registered by the State of California. Item 4 may also be prepared by a Traffic Engineer registered by the State of California.

2-5.3.3 Shop Drawings. Contractor agrees that Shop Drawing Submittals processed by the Engineer are not Change Orders. The purpose of Shop Drawing Submittals by the Contractor is to demonstrate to the Engineer that the Contractor understands the design concept, that he demonstrates his understanding by indicating which equipment and material he intends to furnish and install, and by detailing the fabrication and installation methods he intends to use.
Shop Drawings are required in the subsections shown in Table 2-5.3.3 (A):

<table>
<thead>
<tr>
<th>Item</th>
<th>Subsection No.</th>
<th>Title</th>
<th>Subject</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>207-2.5</td>
<td>Joints</td>
<td>Reinforced Concrete Pipe</td>
</tr>
<tr>
<td>2</td>
<td>207-8.4</td>
<td>Joints</td>
<td>Vitrified Clay Pipe</td>
</tr>
<tr>
<td>3</td>
<td>207-10.2.1</td>
<td>Joints</td>
<td>Vitrified Clay Pipe</td>
</tr>
<tr>
<td>4</td>
<td>304-1.1.1</td>
<td>Shop Drawings</td>
<td>Structural Steel</td>
</tr>
<tr>
<td>5</td>
<td>304-1.1.2</td>
<td>Falsework Plans</td>
<td>Structural Steel</td>
</tr>
<tr>
<td>6</td>
<td>304-2.1</td>
<td>General</td>
<td>Metal Hand Railings</td>
</tr>
<tr>
<td>7</td>
<td>307-1</td>
<td>General</td>
<td>Shop Drawings</td>
</tr>
</tbody>
</table>

Shop drawings shall include complete fabrication, assembly, foundation, and installation drawings for the complete assembly of the system with all components, equipment, and parts, each with an assigned number corresponding to the system manufacturer's parts list. Shop drawings shall also show construction details for each component and piece of equipment.

When submitted for the Engineer's review, Shop Drawings shall bear the Contractor's certification that the Contractor has reviewed, checked, and approved the Shop Drawings and that they are in conformance with the requirements of the Contract Documents.

2-5.3.4 **Supporting Information.** Supporting information is information required by the Contract Documents for the purposes of administration of the Contract, analysis for verification of conformance with the Specifications, the operation and maintenance of a manufactured product or system to be constructed as part of the Work, and other information as may be required by the Engineer. Six copies of the supporting information shall be submitted to the Engineer prior to the start of the Work unless otherwise specified in the Contract Document or directed by the Engineer. Supporting information for systems shall be bound together and include all manufactured items for the system. If resubmittal is not required, 3 copies will be returned to the Contractor. Supporting information shall consist of the following and is required unless otherwise specified in the Special Provisions.

The following submittals are required prior to the start of work:
1. 24-hour emergency contact information.
2. Name and contact information of the company contact and superintendent who is authorized to legally bind the Contractor.
3. List of all subcontractors regardless of percentage of work to be performed.
4. Construction schedule
5. Public notifications
6. Digital photo documentation of the project site and adjacent areas.
7. Corner Records of all survey monuments tie-out in or near the work area (if surveying is to be provided by the Contractor).
8. Specifications and certifications for each material or item to be used on the project.
9. List of all equipment to be employed on the project.
10. Traffic control plans.
11. Certified payroll documents set up documents.
12. Illness and Injury Prevention Program Plan
13. Certificates of Compliance for materials and equipment to be used.
14. Schedule of Values
15. Construction Schedule
16. All permits and contractor licenses
17. Business licenses
18. Confined Space Entry Program and Shoring Plan, (if required)
19. Cut sheet/shop drawings, manufacturer’s brochures, technical bulletins and reports, specifications, diagrams for all products to be used on the project
20. Plans, schematics, drawings and engineering calculations as required per the contract documents and/or permitting
21. SWPPP (if required)
22. Controller cabinet wiring diagrams (if any)
23. Data, including, but not limited to, catalog sheets, manufacturer’s brochures, technical bulletins, specifications, diagrams, product samples, and other information necessary to describe a system, product or item. This information is required for irrigation systems, street lighting systems, and traffic signals, and may also be required for any product, manufactured item, or system.
24. Other submittals as described herein, referenced or described in referenced materials, or as requested by the Engineer

The following submittals are required during the work:
25. Superintendent’s daily report, which shall include:
   a. Name, work classification and hours of each worker
   b. Equipment make and model and character of use (use or idle hours).
   c. Work accomplished
26. Certificates of compliance for products delivered.
27. Incident reports
28. Photo documentation
29. Schedule updates
30. Material tickets
31. Product samples and mock-ups.
32. Schedule of Values reflecting percentage of completion with progress payment requests
33. Certified payroll documents
34. Interim as-built drawings
35. Other submittals as described herein, referenced or described in referenced materials, or as requested by the Engineer

The following submittals are required at the completion of work:
36. Notice that work is complete
37. Warranties/Guarantees
38. User Manuals
39. As-built plans
40. Close-out documents from Appendix D.
41. Other submittals as described herein, referenced or described in referenced materials, or as requested by the Engineer

2-5.4 Record Drawings (Red-line As-built drawings). The Contractor shall continuously maintain (2) two identical sets of accurate and legible as-built plans on sets of contract drawings of all work which occurs during construction. The contractor shall record the exact location by dimension, and exact depth, by elevation, of all underground lines, valves, plugged tees, capped ends, and all other underground facilities. The Contractor shall record, by dimension and/or scale drawings, all wiring, conduits and pull boxes as actually installed. All information necessary to maintain and/or service any concealed work shall be noted on these record drawings.

In preparing as-built plans, the Contractor shall show dimensions from two permanent points, such as building corners, curbs, sidewalks, walls, etc. Changes to any of the following items shall be shown on the as-built plans as well as any other items or improvements, including but not limited to, previously unknown utilities discovered during the course of work, all items installed within the contractor’s scope of work (including work added by change order and/or field order) as deemed necessary by the Engineer:

- Curbs, sidewalks or other fixed permanent improvements
- Changes in elevations per grading plan
- Street light installations
- Water meters
- Sewer laterals
- Connections to existing water sources
- Routing of irrigation main, lateral lines and control wires
- Control valves
- Quick couplers
- Backflow prevention devices
- Gate valves
- Controllers

Such records shall be kept up to date with all entries checked by the Engineer before the work is buried or covered up.
One set of as-builts shall be maintained at the job site at all times. The other set shall be provided to the Engineer monthly, a minimum of 5 working days prior to the last working day for the month for review. As-Builts record drawing will be reviewed when the Contractor submits periodic application for payment in order to verify the accuracy and timeliness of recording the actual construction conditions. If the Contractor's "As Built" documentation is not submitted or is not satisfactory to the Engineer, this deficiency may be cause to delay approval of the periodic or final payment applications until the deficiencies are satisfactorily resolved.

Upon completion of the work (but prior to acceptance of the work), Contractor shall deliver to the Agency two sets of complete "As Built" record drawings.

If the Contractor fails to keep adequate As-Built Drawings and/or does not deliver the two sets upon completion of the work, the Engineer may take any and all measures necessary to create proper and acceptable As-Built drawings through any means the Engineer deems appropriate including hiring qualified third parties. All costs incurred by the Agency to develop and produce As-Built drawings shall be deducted from amounts due to the Contractor.

As-built plans for other agencies participating in the Project shall be provided in format and substance and at review intervals pursuant to their individual requirements. It shall be the responsibility of the Contractor to contact those agencies for their requirements.

See additional requirements within the Contract Documents (if any).

2-5.4.1 Payment. Payment for all costs associated with the keeping and processing of As-Builts, including As-builts for other agencies, shall be included in the various line items of work, and no additional compensation shall be made to Contractor.

2-6 WORK TO BE DONE. The work to be performed under this Contract shall consist of furnishing all plant, tools, equipment, materials, machinery, supplies and manufactured articles, and for furnishing all transportation, services, including fuel, power and water and essential communications, and the performance of all labor, work or other operations required for the fulfillment of the Contract, in strict accordance with the specifications, schedules and drawings, all of which are made a part hereof, and including such detailed sketches as may be furnished by the Engineer from time to time during the construction in explanation of said drawings.

The work shall be complete, and all work material and services not expressly called for in the specifications, or not shown on the drawings which may be necessary for complete and proper construction to carry out the Contract in good faith, shall be performed, furnished and installed by the Contractor at no increase in cost to the Agency.
2-7 SUBSURFACE DATA. The Agency does not represent that the referenced documents show or indicate all the conditions that will be encountered in performing the Work. The Agency represents only that the reports of explorations and tests show the conditions encountered at the particular locations and at the particular times they were obtained. The Bidders and other users of the data are cautioned that interpretations and conclusions contained in the documents were formulated for design purposes only and were based on work performed in such a way as to expressly provide information required for design.

All soil and test hole data, ground water elevations, and soil analyses shown on the Plans or included in the Special Provisions apply only at the location of the test holes and to the depths indicated. Soil test reports, if any, are available for inspection at the office of the Engineer. Additional subsurface exploration may be performed by the Contractor at their expense and upon approval by the Agency.

The indicated groundwater elevation is that which existed on the date specified in the data. It is the Contractor's responsibility to determine and allow for the groundwater elevation on the date(s) the Work is performed. The Contractor shall assume that there will be a difference in groundwater elevations between what is shown in soil boring logs and what is actually encountered during construction. Changes or differences in groundwater elevation will not be considered as a basis for Changed Conditions per section 3-4 or Extra Work per section 3-3.

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

The Contractor shall confine operations to the areas shown unless special arrangements are otherwise made with individual property owners. The Contractor shall obtain a written release from the property owner and provide a copy of said release to the Agency for any special arrangements made with property owners prior to any action relating to the special arrangement is taken by the Contractor. Furthermore, the Contractor shall conduct operations in accordance with any other provisions and shall observe any restrictions contained in these Special Provisions or as directed by the Engineer concerning work on private property.

SECTION 2-9.0 WILL APPLY ONLY IF THE NOTICE INVITING BIDS SPECIFICALLY PROVIDES THAT CITY WILL PERFORM ALL SURVEY WORK FOR THE PROJECT. IN ALL OTHER CASES, SECTION 2-9.0 WILL NOT APPLY.
2-9.0 SURVEYING SERVICE. The Engineer will perform and be responsible for the accuracy of surveying adequate for construction. The Contractor must notify the Engineer at least 7 days before starting the Work to allow for the preservation of survey monuments, and benchmarks. The Contractor shall preserve construction survey stakes and marks for the duration of their usefulness. If any construction survey stakes are lost or disturbed and need to be replaced, such replacement will be performed by the Engineer at the expense of the Contractor.

The Contractor shall notify the Engineer in writing at least 2 working days before survey services will be required in connection with the laying out of any portion of the Work. The Contractor shall dig all holes necessary for centerline monument wells (if required as shown on plan).

Unless otherwise specified in the Special Provisions, stakes will be set and stationed by the Engineer for curbs, headers, sewers, water, storm drains, structures, and rough grade. A corresponding cut or fill to finished grade (or flowline) will be indicated on a grade sheet which will be given to contractor prior to work.

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

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

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

Finished surfaces in all cases shall conform to the lines, grades, cross-sections and dimensions shown on the approved Bid and Contract Documents. Deviations from the approved documents and working drawings shall in all cases be determined and authorized in writing by the City.

1. The Contractor shall not disturb or permanently cover survey monuments or benchmarks without the consent of the Engineer or the. The Contractor shall bear the expense of uncovering and replacing any that may be disturbed or covered without permission.

2. When a change is made in the finished elevation of the pavement of any roadway in which a street survey monument is located, adjust the monument cover to the new grade within 7 days of finished paving unless otherwise specified in the Special Provisions. If a referenced monument is unable to be reset in its original location due to improvements, establish the reset monument in a location approved by the Engineer.

3. Replacing and establishing survey monuments and benchmarks must be done only under the direction of the Engineer by a Licensed Land Surveyor or a Registered Civil Engineer authorized to practice land surveying within the State of California.
IN ALL OTHER CASES, SURVEY TO BE DONE BY CONTRACTOR:

2-9.1 Survey Service

The Contractor shall hire and pay for the services of a Surveyor to perform all work necessary for establishing control, construction staking, records research and all other surveying work necessary to construct the work, provide surveying services as required herein, and provide surveying, drafting and other professional services required to satisfy the requirements of the Land Surveyors Act.

2-9.2 Submittal of Surveying Data

All surveying data submittals shall conform to the requirements herein. The Contractor shall submit two copies of grade sheets to the Engineer prior to commencing work in the area affected by the grade sheets. The Contractor shall submit field notes for all surveying required herein to the Engineer within ten days of performing the survey when requested. All surveying field notes, grade sheets and survey calculations shall be submitted in bound form on 215mm by 280 mm (8 1/2" by 11") paper or electronic format. The field notes, calculations and supporting data shall be clear and complete. Supporting data shall include all maps, affidavits, plats, field notes from earlier surveys and all other evidence used by the Surveyor to determine the location of the monuments set. The field notes and calculations will be labeled with name of the Surveyor, the party chief, the field crewmembers and the author of the field notes or calculations. They shall be annotated with the date of observation or calculation, be numbered with consecutive page numbers and shall be readable without resort to any electronic aid, computer program or documentation for any computer program. The field notes shall be prepared in conformance with the CALTRANS “Surveys Manual”. The Contractor through its Licensed Land Surveyor will, at its cost and in accordance with Business and Professions Code Section 8771, file a Corner Record or a Record of Survey referencing survey monuments subject to disturbance in the Office of the County Surveyor. The recording will take place twice i.e., prior to the start of construction and prior to the Completion. The corner records for tying out the survey monuments shall be delivered to the Engineer prior to the commencement of work. If it is found that no monuments and/or benchmarks will be disturbed during the course of this contract then a letter from a Licensed Land Surveyor certifying to that condition prior to the start of work will be submitted to the Engineer.

2-9.2.2 Survey Requirements

Stakes shall be set at offsets approved by the Engineer at no greater intervals than specified in TABLE 2-9.2.2(A) as measured along the project stationing. Stakes shall be set to show the location and grade of future curbs adjacent to traffic signal locations where the curb is not being built as a part of this contract. Staking and marking shall be completed by the Surveyor before the start of construction in the area marked. Permanent monuments shall be set in kind to the monument replaced or as shown on plan and marked with the registration number of the
Surveyor. Habitat mitigation sites and other areas to be preserved that are shown on the plans shall be staked and flagged prior to the start of any other activities within the limits of the work.

<table>
<thead>
<tr>
<th>Feature Staked</th>
<th>Stake Description</th>
<th>Centerline or Parallel to Centerline Spacing</th>
<th>Lateral Spacing (Within)</th>
<th>Setting Tolerance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Street Centerline</td>
<td>Standard A Monument Riv. Co. Ord.461 Section 21</td>
<td>≤300m (1000'), Street Intersections, Begin and end of curves, only when shown on the plans</td>
<td>On street centerline</td>
<td>7 mm (0.02’) Horizontal, also see section 2-9.2.1 herein</td>
</tr>
<tr>
<td>Clearing</td>
<td>Lath in soil, painted line on PCC &amp; AC surfaces</td>
<td>lath - Intervisible, ≤ 15m (50”) on tangents &amp; ≤ 7.5m (25’) on curves, Painted line - continuous</td>
<td>at clearing line</td>
<td>0.3 m (1’) Horizontal</td>
</tr>
<tr>
<td>Slope</td>
<td>RP + Marker Stake</td>
<td>Intervisible and ≤ 15m (50’)</td>
<td>Grade Breaks &amp; ≤7.6 m (25’)</td>
<td>30 mm (0.1’) Vertical &amp; Horizontal</td>
</tr>
<tr>
<td>Fence</td>
<td>RP + Marker Stake</td>
<td>≤ 60 m (200’) on tangents, ≤ 15m (50’) on curves when R≥ 300m (1000’) &amp; 7.5m (25’) on curves when R≤ 300m (1000’)</td>
<td>N/A (constant offset)</td>
<td>30 mm (0.1’) Horizontal</td>
</tr>
<tr>
<td>Rough Grade Cuts or Fills ≥ 10 m (33’)</td>
<td>RP + Marker Stake</td>
<td>≤ 15m (50’)</td>
<td>N/A</td>
<td>30 mm (0.1’) Vertical &amp; Horizontal</td>
</tr>
<tr>
<td>Final Grade (includes top of: Basement soil, subbase and base)</td>
<td>RP + Marker Stake, Blue-top in grading area</td>
<td>≤ 15m (50’) on tangents &amp; curves when R≥ 300m (1000’) &amp; ≤ 7.5m (25’) on curves when R≤ 300m (1000’)</td>
<td>≤6.7 m (22’)</td>
<td>10 mm ((\frac{3}{8})”) Horizontal &amp; 7 mm ((\frac{1}{4})”) Vertical</td>
</tr>
<tr>
<td>Asphalt Pavement Finish Course</td>
<td>RP, paint on previous course</td>
<td>≤ 7.5m (25’) or as per the intersection grid points shown on the plan whichever provides the denser information</td>
<td>edge of pavement, paving pass width, crown line &amp; grade breaks</td>
<td>10 mm ((\frac{3}{8})”) Horizontal &amp; 7 mm ((\frac{1}{4})”) Vertical</td>
</tr>
<tr>
<td>Drainage Structures, Pipes</td>
<td>RP + Marker Stake</td>
<td>Intervisible &amp; ≤ 7.5m (25’), beginning and end, BC &amp; EC of facilities, Grade breaks, as appropriate</td>
<td>10 mm ((\frac{3}{8})”) Horizontal &amp; 7 mm ((\frac{1}{4})”) Vertical</td>
<td></td>
</tr>
<tr>
<td>Facility Type</td>
<td>Description</td>
<td>Marking Details</td>
<td>Notes</td>
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<tr>
<td><strong>&amp; similar Facilities</strong></td>
<td>Alignment breaks, Junctions, Inlets &amp; similar facilities, Risers &amp; similar facilities (except plumbing), Skewed cut-off lines</td>
<td>RP + Marker Stake ≤ 7.5m (25’), BC &amp; EC, at $\frac{3}{4}\Delta$, $\frac{1}{2}\Delta$ &amp; $\frac{3}{4}\Delta$ on curb returns &amp; at beginning &amp; end (constant offset)</td>
<td>10 mm ($\frac{3}{8}$”) Horizontal &amp; 7 mm ($\frac{1}{4}$”) Vertical</td>
<td></td>
</tr>
<tr>
<td><strong>Curb</strong></td>
<td>Vertical locations shall be based on the ultimate elevation of curb and sidewalk</td>
<td>RP + Marker Stake at each pole &amp; controller location as appropriate</td>
<td>10 mm ($\frac{3}{8}$”) Horizontal &amp; 7 mm ($\frac{1}{4}$”) Vertical</td>
<td></td>
</tr>
<tr>
<td><strong>Traffic Signal</strong></td>
<td>Vertical locations shall be based on the ultimate elevation of curb and sidewalk</td>
<td>RP + Marker Stake at each junction box location as appropriate</td>
<td>10 mm ($\frac{3}{8}$”) Horizontal &amp; 7 mm ($\frac{1}{4}$”) Vertical</td>
<td></td>
</tr>
<tr>
<td><strong>Signal Poles &amp; Controller</strong></td>
<td>Vertical locations shall be based on the ultimate elevation of curb and sidewalk</td>
<td>RP + Marker Stake at each pole &amp; controller location as appropriate</td>
<td>10 mm ($\frac{3}{8}$”) Horizontal &amp; 7 mm ($\frac{1}{4}$”) Vertical</td>
<td></td>
</tr>
<tr>
<td><strong>Junction Box</strong></td>
<td>Vertical locations shall be based on the ultimate elevation of curb and sidewalk</td>
<td>RP + Marker Stake at each junction box location as appropriate</td>
<td>10 mm ($\frac{3}{8}$”) Horizontal &amp; 7 mm ($\frac{1}{4}$”) Vertical</td>
<td></td>
</tr>
<tr>
<td><strong>Conduit</strong></td>
<td>Vertical locations shall be based on the ultimate elevation of curb and sidewalk</td>
<td>RP + Marker Stake ≤ 15 m (50’) on tangents &amp; curves when R ≥ 300m (1000’) &amp; ≤ 7.5m (25’) on curves when R ≤ 300m (1000’) or where grade ≤ 0.30% as appropriate</td>
<td>10 mm ($\frac{3}{8}$”) Horizontal &amp; 7 mm ($\frac{1}{4}$”) Vertical when depth cannot be measured from existing pavement 7 mm ($\frac{1}{4}$”) Vertical</td>
<td></td>
</tr>
<tr>
<td><strong>Minor Structure</strong></td>
<td>Vertical locations shall be based on the ultimate elevation of curb and sidewalk</td>
<td>RP + Marker Stake + Line Stake for catch basins: at centerline of box, ends of box &amp; wings &amp; at each end of the local depression as appropriate</td>
<td>10 mm ($\frac{3}{8}$”) Horizontal &amp; 7 mm ($\frac{1}{4}$”) Vertical (when vertical data needed)</td>
<td></td>
</tr>
<tr>
<td><strong>Abutment Fill</strong></td>
<td>Vertical locations shall be based on the ultimate elevation of curb and sidewalk</td>
<td>RP + Marker Stake + Line Stake ≤ 15 m (50’) &amp; along end slopes &amp; conic transitions as appropriate</td>
<td>30 mm (0.1’) Vertical &amp; Horizontal</td>
<td></td>
</tr>
<tr>
<td><strong>Wall</strong></td>
<td>Vertical locations shall be based on the ultimate elevation of curb and sidewalk</td>
<td>RP + Marker Stake + Line Stake ≤ 15 m (50’) &amp; at beginning &amp; end of: each wall, BC &amp; EC, layout line angle points, changes in footing dimensions &amp;/or elevation &amp; wall height as appropriate</td>
<td>7 mm ($\frac{1}{4}$”) Horizontal &amp; 7 mm ($\frac{1}{4}$”) Vertical</td>
<td></td>
</tr>
<tr>
<td><strong>Major Structure</strong></td>
<td>Vertical locations shall be based on the ultimate elevation of curb and sidewalk</td>
<td>RP + Marker Stake + Line Stake 3 m to 10 m (10’ to 33’) as required by the Engineer, BC &amp; EC, transition points &amp; at beginning &amp; end. Elevation points on footings at bottom of columns as appropriate</td>
<td>10 mm ($\frac{3}{8}$”) Horizontal &amp; 7 mm ($\frac{1}{4}$”) Vertical</td>
<td></td>
</tr>
<tr>
<td><strong>Footings, Bents, Abutments &amp; Wingwalls</strong></td>
<td>Vertical locations shall be based on the ultimate elevation of curb and sidewalk</td>
<td>RP + Marker Stake + Line Stake + Guard Stake 3 m to 10 m (10’ to 33’) as required by the Engineer, BC &amp; EC, transition points &amp; at beginning &amp; end. Elevation points on footings at bottom of columns as appropriate</td>
<td>10 mm ($\frac{3}{8}$”) Horizontal &amp; 7 mm ($\frac{1}{4}$”) Vertical</td>
<td></td>
</tr>
<tr>
<td>Category</td>
<td>Methodology</td>
<td>Notes</td>
<td>Elevation Points</td>
<td></td>
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<td>-------------------------------------------------</td>
<td>----------------------------------------------------------------------</td>
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<td></td>
</tr>
<tr>
<td>Superstructures</td>
<td>RP</td>
<td>3 m to 10 m (10' to 33') sufficient to use string lines, BC &amp; EC, transition points &amp; at beginning &amp; end. Elevation points on footings at bottom of columns</td>
<td>as appropriate</td>
<td></td>
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<td></td>
<td></td>
<td></td>
<td>10 mm (3/8&quot;) Horizontal &amp; 7 mm (1/4&quot;) Vertical</td>
<td></td>
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<tr>
<td>Miscellaneous</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Contour Grading</td>
<td>RP + Marker Stake</td>
<td>≤ 15 m (50')</td>
<td>along contour line</td>
<td></td>
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<tr>
<td></td>
<td></td>
<td></td>
<td>30 mm (0.1’) Vertical &amp; Horizontal</td>
<td></td>
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<tr>
<td>Utilities</td>
<td>RP + Marker Stake</td>
<td>≤ 15 m (50’) on tangents &amp; curves when R ≥ 300m (1000') &amp; ≤ 7.5m (25’) on curves when R ≤ 300m (1000’) or where grade ≤ 0.30%</td>
<td>as appropriate</td>
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<td></td>
<td></td>
<td></td>
<td>10 mm (3/8”) Horizontal &amp; 7 mm (1/4”) Vertical</td>
<td></td>
</tr>
<tr>
<td>Channels, Dikes &amp; Ditches</td>
<td>RP + Marker Stake</td>
<td>intervisible &amp; ≤ 30 m (100’), BC &amp; EC of facilities, Grade breaks, Alignment breaks, Junctions, Inlets &amp; similar facilities</td>
<td>as appropriate</td>
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<td></td>
<td></td>
<td></td>
<td>30 mm (0.1’) Horizontal &amp; 7 mm (1/4”) Vertical</td>
<td></td>
</tr>
<tr>
<td>Signs</td>
<td>RP + Marker Stake + Line Point + Guard Stake</td>
<td>At sign location</td>
<td>Line point</td>
<td></td>
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<tr>
<td></td>
<td></td>
<td></td>
<td>30 mm (0.1’) Vertical &amp; Horizontal</td>
<td></td>
</tr>
<tr>
<td>Subsurface Drains</td>
<td>RP + Marker Stake</td>
<td>intervisible &amp; ≤ 15 m (50’), BC &amp; EC of facilities, Grade breaks, Alignment breaks, Junctions, Inlets &amp; similar facilities, Risers &amp; similar facilities</td>
<td>as appropriate</td>
<td></td>
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<tr>
<td></td>
<td></td>
<td></td>
<td>30 mm (0.1’) Horizontal &amp; 7 mm (1/4”) Vertical</td>
<td></td>
</tr>
<tr>
<td>Overside Drains</td>
<td>RP + Marker Stake</td>
<td>longitudinal location</td>
<td>At beginning &amp; end</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>30 mm (0.1’) Horizontal &amp; 7 mm (1/4”) Vertical</td>
<td></td>
</tr>
<tr>
<td>Markers</td>
<td>RP + Marker Stake</td>
<td>for asphalt street surfacing ≤ 15 m (50’) on tangents &amp; curves when R ≥ 300m (1000’) &amp; ≤ 7.5m (25’) on curves when R ≤ 300m (1000’).</td>
<td>At marker location(s)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>7 mm (3/8”) Horizontal</td>
<td></td>
</tr>
<tr>
<td>Railings &amp; Barriers</td>
<td>RP + Marker Stake</td>
<td>At beginning &amp; end and ≤ 15 m (50’) on tangents &amp; curves when R ≥ 300m (1000’) &amp; ≤ 7.5m (25’) on curves when R ≤ 300m (1000’).</td>
<td>at railing &amp; barrier location(s)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>10 mm (3/8”) Horizontal &amp; Vertical</td>
<td></td>
</tr>
</tbody>
</table>
AC Dikes ① | RP + Marker Stake | At beginning & end as appropriate | 30 mm (0.1’) Horizontal & Vertical
---|---|---|---
Box Culverts | 3 m to 10 m (10’ to 33’) as required by the Engineer, BC & EC, transition points & at beginning & end. Elevation points on footings & at invert as appropriate | 10 mm (3/8”) Horizontal & 7 mm (1/4”) Vertical
Pavement Markers ① | RP | 60 m (200’) on tangents, 15m (50’) on curves when R ≥ 300m (1000’) & 7.5m (25’) on curves when R ≤ 300m (1000’) For PCC surfaced streets lane cold joints will suffice | at pavement marker location(s) | 7 mm (1/4”) Horizontal

① Staking for feature may be omitted when adjacent marker stakes reference the offset and elevation of those features and the accuracy requirements of the RP meet the requirements for the feature.

② Reference points shall be sufficiently durable and set securely enough to survive with accuracy intact throughout the installation & inspection of the features or adjacent facilities for which they provide control. RP means reference point for the purposes of this table.

③ Perpendicular to centerline.

④ Some features are not necessarily parallel to centerline but are referenced thereto.

⑤ Multi-plane surfaced features shall be staked so as to provide line & grade information for each plane of the feature.

⑥ ≥ means greater than, or equal to, the number following the symbol. ≤ means less than, or equal to, the number following the symbol.

⑦ The cut datum for storm drainage & sanitary sewer pipes & similar structures shall be their invert. The cut datum for all other utilities shall be the top of their pipe or conduit.

**TABLE 2-9.2.2(B)**

SURVEY STAKE COLOR CODE FOR CONSTRUCTION STAKING

<table>
<thead>
<tr>
<th>Type of Stake</th>
<th>Description</th>
<th>Color*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Horizontal Control</td>
<td>Coordinated control points, control lines, control reference points, centerline, alignments, etc.</td>
<td>White/Red</td>
</tr>
<tr>
<td>Vertical Control</td>
<td>Bench marks</td>
<td>White/Orange</td>
</tr>
</tbody>
</table>
2-9.3 Line and Grade

All work shall conform to the lines, elevations, and grades shown on the Plans. Three consecutive points set on the same slope shall be used together so that any variation from a straight grade can be detected. Any such variation shall be reported to the Engineer. In the absence of such report, the Contractor shall be responsible for any error in the grade of the Work. Grades for underground conduits will be set at the surface of the ground. The Contractor shall transfer them to the bottom of the trench. Finished surfaces in all cases shall conform to the lines, grades, cross-sections and dimensions shown on the approved Bid and Contract Documents. Deviations from the approved documents and working drawings shall in all cases be determined and authorized in writing by the City.

2-9.4 Payment for Survey

Payment for work performed to satisfy the requirements of Sections 2-9.1 through 2-9.2 shall be included in the actual bid items requiring the survey work unless a specific bid item for survey has been provided and no additional payment shall be made therefore. Extension of unit prices for extra work shall include full compensation for attendant survey work and no additional payment will be made therefore. Payment for the replacement of disturbed monuments and the filing of records of survey and/or corner records, including filing fees, shall be incidental to the work necessitating the disturbance of said monuments and no additional payment will be made therefore.

2-10 AUTHORITY OF THE BOARD AND THE ENGINEER. The Board has the final authority in all matters affecting the Work. Within the scope of the Contract, the Engineer has the authority to enforce compliance with the Contract Documents. The Contractor shall promptly comply with instructions from the Engineer.

The decision of the Engineer is final and binding on all questions relating to:
  a) quantities;
  b) acceptability of material, equipment, or work;
  c) execution, progress or sequence of work; and
d) interpretation of the Plans, Specifications, or other Contract Documents.

e) Any other areas specifically identified in the Contract Documents or under the law.

Compliance with instructions from the Engineer shall be a condition precedent to any payment under the Contract, unless otherwise ordered by the Board.

2-11 INSPECTION. The Work is subject to inspection and approval by the Engineer. The Contractor shall notify the Engineer before noon at least one working day before inspection is required. Work shall be done only in the presence of the Engineer, unless otherwise approved. Any work done without proper inspection will be subject to rejection. The Engineer and any authorized representatives shall at all times have access to the Work during its construction at shops and yards and while in storage, as well as to the Work site. The Contractor shall provide every reasonable facility for ascertaining that the materials and workmanship are in accordance with these Specifications. Inspection of the Work shall not relieve the Contractor of the obligation to fulfill all conditions of the Contract and the Project Documents. Contractor is solely responsible for completing the Project work using best construction practices in a good and workmanlike fashion.

Defective work, unsuitable material(s) and equipment may be rejected notwithstanding and regardless of the fact that such defective work, unsuitable materials and equipment may or may not have been previously inspected by the Agency's Representative or that payment therefore has been included in an estimate for payment. Any defective work, unsuitable material(s) and equipment shall be replaced immediately to original contract specifications and any other improvements damaged as a results such replacement shall be repaired to as good or better condition. All such work shall be done at Contractor’s expense, and there shall be no costs to the Agency.

All costs of inspection and testing performed during overtime work by the Contractor, which is allowed solely for the convenience of the Contractor shall be borne by the Contractor. The Agency shall have the authority to deduct the cost of all such inspection and testing from any partial payments otherwise due to the Contractor. The value of services rendered for these purposes shall be at full cost recovery rates.

2-11.1 Inspection by Other Agencies and Utilities. Whenever any part of the Work to be performed is under the jurisdiction or control or is to be paid for, in whole or in part, by another public subdivision, entity, jurisdiction or utility company, such Work shall be subject to inspection and approval by the proper officials of such entities or jurisdictions, and it must pass inspection, in addition to Agency inspection, and such other inspections as may be otherwise provided for in the Bid and Contract Documents.

The Contractor shall schedule separate preconstruction meetings for each agency or utility prior to commencing work within their jurisdiction.
The Contractor is solely responsible for requesting and coordinating such inspections.

2-12 SPECIAL NOTICES. When specified in the Specifications or directed by the Engineer, any notice required to be served in accordance with this subsection shall be in writing, dated, and signed by the Contractor or the Engineer. Such notices shall be served by any of the following methods:

a) Personal delivery with proof of delivery, which may be made by declaration under penalty of perjury by any person over the age of 18 years. The proof of delivery shall show that delivery was performed in accordance with these provisions. Service shall be effective on the date of delivery. Notices given to the Contractor by personal delivery may be made to the Contractor's authorized representative at the Work site.

b) Certified mail addressed to the mailing address of the recipient postage prepaid; return receipt requested. Service shall be effective on the date of deposit of the mailing with the United State Postal Service (USPS). Contractor is responsible for securing the notice from the USPS.

The Agency may elect (but is not required) to also send the same notice by regular mail in addition to the method described above.

The delivery of any notice, instruction, claim, protest or other written communications personally to the Contractor or his Superintendent, to the Engineer or to the Agency shall constitute service thereof upon the Contractor, the Engineer or to the Agency, respectively.

The depositing in a post-paid wrapper directed to the official address of the Contractor, the Engineer or the Agency in any USPS mail box regularly maintained by the USPS, of any notice, instruction, claim protest or other written communication, shall be deemed sufficient service thereof upon the Contractor, the Engineer or the Agency, respectively, and the date of service shall be the day following the date of such mailing.

The official address of the Contractor shall be the address given in the accepted Proposal, or such other address as the Contractor may subsequently designate in writing to the Engineer. The official address of the Engineer is:

    City of Menifee Engineering Department
    29714 Haun Rd
    Menifee, California 92586

or such other address as the Engineer may subsequently designate in writing to the Contractor.

2-13 SITE ACTIVITIES BY THE AGENCY OR SEPARATE CONTRACTORS
2-13.1 Agency's Right to Award Separate Contracts. The Agency reserves the right to perform work or operations outside the scope of Work of this contract related to the Project with separate contractors. If Work to be performed by another party was not noted in this contract, the Agency will give written notice to the Contractor 10 Working Days prior to the start of any work. If the Contractor determines that the work being performed by others may interfere with, or cause damages to Work being performed by the Contractor, the Contractor shall notify the Agency in writing within 3 Working Days of the Agency’s notice.

2-13.2 Integration of the Work with Separate Contractors. If specified in the Contract Documents, the Contractor shall prepare a plan in order to integrate the work performed by Separate Contractors with the performance of the Work, and shall submit such plan to the Agency for approval. The plan shall be fair and reasonable for the Contractor and the Separate Contractors, and the Contractor shall work with the Separate Contractors to reach agreement on such plan. The Contractor shall arrange the performance of the Work so that the Work and the work of the Separate Contractors are, to the extent applicable, properly integrated, jointed in an acceptable manner, and performed in the proper sequence so that any disruption or damage to the Work or to any work of Separate Contractors is avoided.

The cost of coordinating traffic control and attending project coordination meeting shall be included in the various line items of work and there shall be no further costs to the Agency.

If part of the Project work depends on proper execution or results upon construction or operations of a separate contractor, prior to proceeding with that portion of the Work, Contractor shall promptly report to the separate contractor and the Engineer apparent discrepancies or defects in such other construction that would render it unsuitable for proper execution and results by Contractor. Contractor shall use good faith efforts to resolve any such discrepancies or defects or any related disagreements. Contractor’s failure to report apparent discrepancies or defects in such other construction to the Engineer constitutes Contractor’s acceptance of the work of separate contractors as fit, proper, and coordinated with the Work.

2-14 Flow and acceptance of water. It is anticipated that storm, surface, or other waters will be encountered at various times during the work herein contemplated. The Contractor, by submitting a bid, acknowledges that it has investigated the risk arising from such waters and has prepared its bid accordingly; and Contractor submitting a bid assumes all said risk. The Contractor shall conduct its operations in such a manner that storm or other existing waters may proceed uninterrupted along their existing street or drainage courses. Diversions of water for short reaches to protect construction in progress will be permitted if public and/or private properties, in the opinion of the Engineer, are not subject to probability of damage. The Contractor shall obtain written permission from the applicable public agency or property owner before any diversion of water outside of public right-of-way will be permitted.
2-15  **Notice of third party claims.** Pursuant to Public Contract Code Section 9201, the City will provide Contractor with timely notification of the receipt of any third-party claim relating to the Contract. Contractor shall attempt to verify and resolve claims promptly.
SECTION 3 - CHANGES IN WORK

3-1 CHANGES REQUESTED BY THE CONTRACTOR

3-1.1 General. Changes in the Plans and Specifications, requested in writing by the Contractor, which do not materially affect the Work and which are not detrimental to the Work or to the interests of the Agency, may be granted by the Engineer. Nothing herein shall be construed as granting a right to the Contractor to demand acceptance of such changes. Any such changes shall not be effective or allowed until the Engineer has issued a signed change order or bulletin.

3-1.2 Payment for Changes Requested by the Contractor. If such changes are allowed by the Agency, they shall be made at a reduction in cost to the Agency to reflect the time and cost savings achieved by the Contractor. Agency and Contractor shall agree to the amount of such deductive changes prior to any work being performed or relieved from performance. Under no circumstances shall such changes result in additional costs to the Agency.

3-2 CHANGES INITIATED BY THE AGENCY

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

Change Orders shall be in writing and state the dollar value of the change or establish the method of payment, any adjustment in the Contract time of completion, and when negotiated prices are involved, shall provide for the Contractor's signature indicating acceptance. Change Orders shall include all direct and indirect costs and time impacts including but not limited to profits and extended home office overhead associated with the changes contemplated in the Change Order.

3-2.2 Contract Unit Prices

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

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

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

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

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

3-2.2.3 Decreases of More Than 25 Percent. Should the actual quantity of an item of work covered by a Contract Unit Price, and constructed in conformance with the Plans and Specifications, be less than 75 percent of the Bid quantity, an adjustment in payment will not be made unless so requested in writing by the Contractor. If the Contractor so requests, payment will be made on the basis of an adjustment in the Contract Unit Price mutually agreed to by the Contractor and the Agency, or at the option of the Engineer, on the basis of Extra Work per 3-3; however, in no case will payment be less than would be made for the actual quantity at the Contract Unit Price nor more than would be made for 75 percent of the Bid quantity at the Contract Unit Price.

3-2.3 Stipulated Unit Prices. Stipulated Unit Prices may be used for the adjustment of Contract changes when so specified in the Special Provisions.

3-2.4 Payment for Overtime Work. Except as otherwise provided in this Section, the Contractor shall not receive additional compensation for overtime work; i.e., work in excess of eight (8) hours in any one calendar day or forty (40) hours in any one calendar week, even though such overtime work may be required under emergency conditions and may be ordered by the Engineer in writing. Additional compensation will be paid to the Contractor for overtime work only in the event extra work is ordered by the Engineer and the change order specifically authorizes the use of overtime work and then, only to such extent as previously approved by the Engineer.
3-2.5 **Failure to Agree on Prices.** If mutual agreement cannot be reached, the Engineer may direct the Contractor to proceed on the basis of Extra Work per 3-3, except as otherwise specified in 3-2.2.2 and 3-2.2.3.

3-2.6 **Eliminated Items.** Should any Bid item be eliminated in its entirety, payment will be made to the Contractor for its actual costs incurred in connection with the eliminated item prior to notification in writing from the Engineer so stating its elimination.

If material conforming to the Plans and Specifications is ordered by the Contractor for use in the eliminated item prior to the date of notification of elimination by the Engineer, and if the order for that material cannot be canceled, payment will be made to the Contractor for the actual cost of the material.

In this case, the material shall become the property of the Agency. Payment will be made to the Contractor for its actual costs for any further handling. If the material is returnable, the material shall be returned and payment will be made to the Contractor for the actual cost of charges made by the supplier for returning the material and for handling by the Contractor.

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

### 3-3 EXTRA WORK

#### 3-3.1 General. The Contractor, in providing the services set forth herein, shall not perform work in excess of the project without the written permission of the Agency or its designated representative. All requests for extra work shall be by written change order submitted to the Agency and approved in writing prior to the commencement of the work.

#### 3-3.2 Payment

**3-3.2.1 Basis for Establishing Costs**

**3-3.2.2 Labor.** The cost of labor shall be the actual cost for wages of workers performing the Extra Work at the time the Extra Work is done, plus employer payments of payroll taxes, workers compensation insurance, liability insurance, health and welfare, pension, vacation, apprenticeship funds, and other direct costs, resulting from Federal, State, or local laws, as well as assessments or benefits required by lawful collective bargaining agreements.

The use of a labor classifications which would increase the Extra Work cost will not be permitted unless the Contractor establishes the necessity for such additional costs. Labor costs for equipment operators and helpers shall be reported only when such costs are not included in the invoice for equipment rental. The labor cost for foremen shall be proportioned to all of their
assigned work and only that applicable to the Extra Work will be paid. Non-direct labor costs, including superintendence, shall be considered part of the markup specified herein.

3-3.2.3 Materials. The cost of materials reported shall be at invoice or lowest current price at which such materials are locally available and delivered to the Work site in the quantities involved, plus sales tax, freight, and delivery.

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

3-3.2.4 Tool and Equipment Rental. No payment will be made for the use of tools which have a replacement value of $200 or less.

Regardless of ownership, the rates to be used in determining equipment rental costs shall be the rates indicated in the California Department of Transportation publication entitled "Labor Surcharge and Equipment Rates" current edition at the time the Extra Work is performed.

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

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

All equipment shall be acceptable to the Engineer, in good working condition, and suitable for the purpose for which it is to be used.

The reported rental time for equipment already at the Work site shall be the duration of its use on the Extra Work. This time shall begin when the equipment is first used on the Extra Work, plus the time required, to move it from its previous site and back, or to a closer site.

3-3.2.5 Other Items. The Agency may authorize other items which may be required on the Extra Work, including labor, services, material, and equipment. These items must be different in their nature from those required for the Work, and be of a type not ordinarily available from the Contractor or Subcontractors.

3-3.2.6 Invoices. Vendors' invoices for material, equipment rental and other expenditures shall be submitted with the daily report per 3-3.3. If the daily report is not substantiated by invoices
or other documentation, the Agency may establish the cost of the item involved at the lowest price which was current at the time of the report.

3-3.2.7 Markup

(a) The overhead and profit markup for extra work by the contractor for their own work shall be:
   a. Labor 20%
   b. Materials 15%
   c. Tools and equipment 15%

(b) The overhead and profit markup for extra work by the subcontractor for their own work shall be:
   a. Labor 20%
   b. Materials 15%
   c. Tools and equipment 15%

The prime contractor markup for subcontractor work shall be 5%. Regardless of the number of hierarchical tiers of Subcontractors, the 5% Contractor’s mark-up may be applied one time only to the performing Subcontractor’s total cost.

Costs for additional bond premiums shall be calculated at the end of the project and a change order for the credit or additional costs shall be paid at that time by Change Order.

The mark up percentages shall include all direct and indirect costs and time impacts including but not limited to profits and extended home office overhead associated with the extra work.

3-4 CHANGED CONDITIONS. The Contractor shall not be entitled to the payment of any additional compensation for any act, or failure to act, by the Engineer, including failure or refusal to issue a change order, or for the happening of any event, thing, occurrence, or other cause, unless the Contractor shall have first given the Engineer due written notice of potential claim as hereinafter specified. The written notice of potential claim for changed conditions shall be submitted by the Contractor to the Engineer upon their discovery and prior to the time that the Contractor performs any work giving rise to the potential claim and under no circumstances greater than 24 hours from the time of the discovery of the changed condition by Contractor. The Contractor’s failure to give timely written notice of potential claim for changed conditions to the Agency upon their discovery, and before they are disturbed, shall constitute a waiver of all claims in connection therewith.

No action will be taken by the Contractor that may be the subject of an extra claim by the Contractor without written direction and approval of the Engineer.
The Contractor shall provide the Agency with a written document containing a description of the particular circumstances giving rise to the potential claim, the reasons for which the Contractor believes additional compensation may be due and nature of any and all costs involved within FIVE (5) working days of the date of service of the written notice of potential claim for changed conditions. Verbal notifications are not allowed.

The potential claim shall include the following certification relative to the California False Claims Act, Government Code Sections 12650-12655.

“The undersigned certifies that the above statements are made in full cognizance of the California False Claims Act, Government Code sections 12650-12655. The undersigned further understands and agrees that this potential claim, unless resolved, must be restated as a claim in response to the Agency’s proposed final estimate in order for it to be further considered.”

By: ________________________________ Title: ________________________________

Date: ________________________________

Company Name: ________________________________

The Contractor’s estimate of costs may be updated when actual costs are known. The Contractor shall submit substantiation of its actual costs to the Engineer within ten (10) working days after the affected work is completed. Failure to do so shall be sufficient cause for denial of any claim subsequently filed on the basis of said notice of potential claim.

Extra work that follows a changed condition must be documented and confirmed daily with the Engineer’s representative. Failure to provide daily accounting at the end of each day to the Engineer’s representative shall constitute a waiver of any claim for the work of that day. Failure to give the Engineer 24 hour notice of this work so it may be observed, documented and inspected shall constitute a waiver of any claim for the work of that day.

It is the intention of this section that differences between the parties arising under and by virtue of the Contract be brought to the attention of the Engineer at the earliest possible time, but no later than that which is required herein, in order that such matters may be settled, if possible, or other appropriate action may be promptly taken.

Compliance with this section shall not be required as a prerequisite to notice provisions in Section 6-7.3 Contract Time Accounting, nor to any claim that is based on differences in measurement or errors of computation as to contract quantities.

3-5 **DISPUTED WORK.** If the Contractor and the Agency are unable to reach agreement, the Agency may direct the Contractor to proceed with the Disputed Work. Payment shall be as later
determined by 3-2, 3-3, mediation or arbitration, if the Agency and Contractor agree thereto, or as fixed in a court of law.

Although not to be construed as proceeding under 3-3, the Contractor shall keep and furnish records of Disputed Work to the Engineer in accordance with 3-3.

3-6 DISPUTE RESOLUTION PROCEDURES

3-6.1 Informal Dispute Resolution. Prior to proceeding with mandatory mediation the contractor shall attempt to resolve all disputes informally through the Agency’s chain of command, to and including the most senior executive.

The Contractor is required to submit a complete report within ten (10) working days after completion of the disputed work and before submitting the final invoice stating its position on the claim, the contractual basis for the claim, along with all evidence and documentation supporting the claim. The Contractor's failure to deliver this notice in writing to the Agency in a timely manner shall constitute a waiver of the claim and the Contractor shall have no standing to bring the claim against the Agency in a court of law.

The Agency will conduct a reasonable review of such claim and, within 45 days, provide the claimant with a written statement identifying what portion of the claim is disputed and what portion is undisputed and both parties shall work to resolve “claims” as that terms is defined by Public Contract Code section 9204.

Additionally, for all claims that may arise between the Contractor and the Agency which do not exceed the sum of three hundred seventy-five thousand dollars ($375,000), the requirements of California Public Contract Code sections 20104 through 20104.6, inclusive, shall apply. Said Code sections shall apply for the purpose of filing claims and civil actions for “claims” as defined in section 20104 of the Public Contract Code.

The Agency or Contractor may demand a meet and confer conference one time and at any time during the process after the initial claim has been timely delivered to the Agency and the Agency has responded to the claim. The meet and confer conference must be held within 20 working days of the demand. The time and location of the conference will be set by the Agency and will be noticed to the Contractor 5 days before the conference.

The Agency’s most senior executive’s decision on any claim will be the Agency’s final decision on the claim.

The authority within the informal dispute resolution chain of command is limited to recommending a resolution of a claim to the Board. Actual approval of the claim is subject to the change order provisions in the contract.
3-6.2 Mandatory Mediation. If a dispute arises out of, or relates to the Contract, or the breach thereof, and if said dispute cannot be settled through contract provisions provided for claim settlement or negotiations, the parties agree to first endeavor to settle the dispute in an amicable manner, using mandatory mediation before the Judicial Arbitration and Mediation Service Judicial Arbitration and Mediation Service ("JAMS") located at 3800 Concours St, Empire Tower IV Suite 320 Ontario, CA 91764 subject to the following provisions:

(i) The party seeking mediation shall deliver a written notice of demand to resolve the dispute by mediation to the adverse party and to the mediation service. No demand to resolve the claim or controversy by mediation shall be made by the Contractor until the Contractor has made its claim in writing to the Agency in accordance with 6-6.4 of the Standard Specifications and either (i) ten days have elapsed since the date upon which the Agency has rendered its decision with respect to the claim; or (ii) forty-five (45) days have elapsed since the date the Agency received the claim from the Contractor and the Agency did not respond in the time allotted herein. The response shall include a short and plain statement of the party's defense to the claim and shall also state whether the party agrees to the mediator chosen by the demanding party. In the event the parties cannot agree upon a mediator, JAMS shall select and name the mediator.

(ii) The party seeking mediation shall deliver a written notice of demand to resolve the dispute by mediation to the adverse party and to JAMS before the final invoice is delivered to the Agency. Delivery of an invoice labeled in any way as “final invoice” to the Agency shall constitute a waiver of all claims by the Contractor and the Contractor shall have no standing to bring the claim against the Agency in a court of law. For the purpose of this section and waiver a retention invoice is not the final invoice.

(iii) The locale of the mediation shall be in Ontario, California.

(iv) In the event JAMS is no longer in business and there is no comparable successor, then the parties shall agree upon another mediator. If the parties cannot agree upon another mediator, then a single neutral mediator shall be appointed pursuant to Section 1281.6 of the Code of Civil Procedure substituting the term “mediator” for “arbitrator.”

The Contractor's failure to give notices of the request for mandatory mediation in a timely manner shall constitute a waiver of the claim, and the Contractor shall have no standing to bring the claim against the Agency in a court of law.

3-6.3 Conduct of Mediation Sessions

1. Mediation hearings will be conducted in an informal manner and discovery will not be allowed.
2. The discussions, statements, or admissions will be confidential to the proceedings, subject to all applicable evidentiary and mediation privileges including but not limited to Evidence Code § 1152, et seq., and will not be used for any other purpose as it relates to the party’s legal position. The parties may agree to exchange any information they deem necessary.

3. Both parties must have an authorized representative attend the mediation. Each representative must have the authority to recommend entering into a settlement; provided however that in the case of the Agency any recommended settlement is contingent upon the approval of Agency’s city council or governing board. Either party may have attorney(s), witnesses or expert(s) present. Either party may request a list of witnesses and notification whether attorney(s) will be present.

4. Any resultant agreements from mediation must be documented in writing. Mediation results and documentation, by themselves, must be “non-binding” and inadmissible for any purpose in any legal proceeding, unless such admission is otherwise agreed upon, in writing, by both parties. Mediators must not be subject to any subpoena or liability and their actions must not be subject to discovery.

3-6.4 Claim Certification Requirements. If the claim seeks an increase in the Contract Price, the Contract Time, or both, the Contractor shall submit with the claim an affidavit certifying that:

a) The claim is made in good faith and covers all costs and delays to which the Contractor is entitled as a result of the event(s) giving rise to the claim;

b) The amount claimed accurately reflects the adjustments in the Contract Price, the Contract Time, or both to which the Contractor believes it is entitled; and

c) All supporting costs and pricing data are current, accurate, complete, and represent the best of the Contractor’s knowledge and belief.

The claim shall include the following certification relative to the California False Claims Act, Government Code Sections 12650-12655.

“The undersigned certifies that the above statements are made in full cognizance of the California False Claims Act, Government Code sections 12650-12655. The undersigned further understands and agrees that this potential claim, unless resolved, must be restated as a claim in response to the Agency’s proposed final estimate in order for it to be further considered.”

By: ________________________________ Title: ________________________________

Date: _______________________________
Company Name: ____________________________________________________________

The Contractor shall ensure that the affidavit is executed by an official who has the authority to legally bind Contractor.

3-6.5 Work Continuance. Unless otherwise agreed between the Agency and the Contractor in writing, the Contractor shall carry on the Work and maintain its progress during any dispute and the Agency shall continue to make payments to the Contractor for matters not in dispute in accordance with the Bid and Contract Documents.

3-6.6 Mandatory Assistance. If a third party dispute or litigation, or both, arises out of, or relates in any way to the Services provided under this contract, upon the Agency’s request, the Contractor agrees to assist in resolving the dispute or litigation. The Contractor assistance includes, but is not limited to, providing professional consultations, attending mediations, arbitrations, depositions, trials or any event related to the dispute resolution, litigation, or both.

3-6.7 Attorney Fees Related To Mandatory Assistance. In providing the Agency with dispute or litigation assistance, the Contractor and or Subcontractors or their agents, officers, and employees may incur expenses and or costs. The Contractor agrees that any attorney fees and costs it may incur are not reimbursable.

3-6.8 Compensation for Mandatory Assistance. In its sole discretion, the Agency may choose to reimburse the Contractor for reasonable fees and expenses incurred by the Contractor for any required assistance rendered in accordance with “Mandatory Assistance” as Extra Work. The Agency in its sole discretion shall determine whether these fees and expenses were necessary due to the conduct of or failure to act by the Contractor or Subcontractors or their respective agents, officers, and employees. If the Agency determines that the basis of the dispute or litigation in which these fees and expenses were incurred were the result of the conduct of or failure to act by the Contractor or Subcontractors or their respective agents, officers, and employees, in part or in whole, the Agency shall be entitled to be reimbursed for any payments made for these fees and expenses.

Reimbursement may be through any legal means necessary, including the Agency’s withholding of payment.

3-6.9 Costs Relating To The Weather Damage. The Contractor shall have no claims against the Agency for damages to any elements of the project resulting from the action of the elements, weather or nature. If, however, in the opinion of the Engineer, Contractor has made all reasonable efforts to protect the Work, Contractor may be granted a reasonable extension of Contract Time to make proper repairs, renewals, and replacements of Work in accordance with Section 6, “PROSECUTION, PROGRESS, AND ACCEPTANCE OF THE WORK.”
SECTION 4 - CONTROL OF MATERIALS

4-1 MATERIALS AND WORKMANSHIP

4-1.1 General. All materials, parts, and equipment furnished by the Contractor in the Work shall be new, high grade, and free from defects. Used or secondhand materials, parts, and equipment may be used only if so specified in the Special Provisions.

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

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

4-1.2 Protection of Work and Materials

4-1.2.1 Property Rights in Material. Nothing in the contract shall be construed as vesting in the Contractor any right of property in the materials used after they have been attached or affixed to the work or the soil. All such materials shall become the property of the Agency upon being so attached or affixed.

4-1.3 Inspection Requirements

4-1.3.1 General. Except as specified in the Contract Documents, the Agency will bear the cost of testing locally produced materials and/or on-site materials and workmanship where the results of such tests meet or exceed the requirements indicated in the Standard Specifications and the Special Provisions. The cost of all other tests shall be borne by the Contractor.

The Contractor shall pay for the cost of any re-testing of materials for failure of the original test of any materials by the Agency deduction said costs from any payment due.

The Contractor shall pay for the cost of any minimum “show up” costs of a materials testing technician that was called for by the Contractor but ultimately the Contractor work was not ready for the inspection. Any such costs shall be deducted from any amounts due to the Contractor.

At the option of the Engineer, the source of supply of each of the materials to be incorporated in the Work shall be approved by the Engineer before the delivery is started. All materials proposed for use may be inspected or tested at any time during their preparation and use. If, after
incorporating such materials into the Work, it is found that sources of supply that have been approved do not furnish a uniform product, or if the product from any source proves unacceptable at any time, the Contractor shall furnish approved material from other approved sources. If any product proves unacceptable after improper storage, handling or for any other reason it shall be rejected, not incorporated into the work, and shall be removed from the project site all at the Contractor’s expense.

Compaction tests may be made at any location along the work as deemed necessary by the Engineer.

Additional materials and fabricated items which require inspection at the source shall be as specified in the Special Provisions.

Steel pipe in sizes less than 18 inches (450mm) and vitrified clay and cast iron pipe in all sizes are acceptable upon certification as to compliance with the Specifications, subject to sampling and testing by the Agency. Standard items of equipment such as electric motors, conveyors, elevators, plumbing fixtures, etc., are subject to inspection at the Work site only. Special items of equipment such as designed electrical panel boards, large pumps, sewage plant equipment, etc., are subject to inspection at the source for performance testing only. Inspection at the source for other items shall be as specified in the Special Provisions.

4-1.3.2 Inspection by the Agency. The Agency will provide inspection and testing laboratory services within the continental United States within a 50-mile radius of the geographical limits of the Agency. Inspection and testing laboratory services beyond this radius or outside the continental United States shall be provided by the Contractor and approved by the Engineer.

4-1.3.3 Inspection of Items Not Locally Produced. When the Contractor intends to purchase materials, fabricated products, or equipment from sources located more than 50 miles (80km) outside the geographical limits of the Agency or outside the United States, an inspector or accredited testing laboratory approved by the Engineer, shall be engaged by the Contractor at its expense, to inspect the materials, equipment or process. This approval shall be obtained before producing any material or equipment. The inspector or representative of the testing laboratory shall evaluate the materials for conformance with the requirements of the Plans and Specifications. The Contractor shall forward reports required by the Engineer. No materials or equipment shall be shipped nor shall any processing, fabrication or treatment of such materials be done without proper inspection by the approved agent. Approval by said agent shall not relieve the Contractor of responsibility for complying with the requirements of the Contract Documents.

4-1.4 Tests of Materials. Before incorporation into the Work, the Contractor shall submit samples of materials, as the Engineer may require, at no cost to the Agency. The Contractor, at its expense, shall deliver the materials for testing to the place and at the time designated by the
Engineer. Unless otherwise specified in the Special Provisions, all initial testing and a reasonable amount of retesting will be performed under the direction of the Engineer, and at no expense to the Contractor. If the Contractor is to provide and pay for testing, it will be so specified in the Special Provisions.

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

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

Third party independent testing and quality control testing shall be performed within the United States.

4-1.5 Certificate of Compliance. A Certificate of Compliance shall be furnished to the Engineer prior to the use of any material or assembled material for which these Specifications so require or if so required by the Engineer.

The Engineer may waive the materials testing requirements of the Specifications and accept a Certificate of Compliance. Material test data may be required by the Engineer to be included with the submittal.

Materials used on the basis of a Certificate of Compliance may be sampled and tested at any time. The submission of a Certificate of Compliance shall not relieve the Contractor of responsibility for incorporating material into the Work which conforms to the requirements of the Contract Documents, and any material not conforming to the requirements will be subject to rejection by the Engineer whether in place or not.

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

A listing of materials is not intended to be comprehensive, or in order of preference. The Contractor may offer any material, process, or equipment considered to be equivalent to that indicated. The substantiation of offers shall be submitted as provided in the Contract Documents.

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

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

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

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

The Contractor is responsible for the satisfactory performance of substituted items. If, in the sole judgment of the Engineer, the substitution is determined to be unsatisfactory in performance, appearance, durability, compatibility with associated items, availability of repair parts and/or suitability of application the Contractor shall remove the substituted item and replace it with the originally specified item at no cost to the Agency.

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

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

Scales shall be arranged so they may be read easily from the operator's platform or area. They shall indicate the true net weight without the application of any factor. The figures of the scales shall be clearly legible. Scales shall be accurate to within 1 percent when tested with the plant shut down.

Weighing equipment shall be so insulated against vibration or moving of other operating equipment in the plant area that the error in weighing with the entire plant running will not exceed 2 percent for any setting nor 1.5 percent for any batch.

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

### 4-1.9 Construction Materials Dispute Resolution (Soils, Rock Materials, Concrete, Mortar and Related Materials, Masonry Materials, Asphalt Materials, Rock Products, and Modified Asphalts)

In the interest of safety and public value, whenever credible evidence arises to contradict the test values of materials, the Agency and the Contractor will initiate an immediate and cooperative investigation. Test values of materials are results of the materials’ tests, as defined by these Specifications or by the Special Provisions, required to accept the Work. Credible evidence is process observations or test values gathered using industry accepted practices. A contradiction exists whenever test values or process observations of the same or similar materials are diverse enough such that the Work acceptance or performance becomes suspect. The investigation shall allow access to all test results, procedures, and facilities relevant to the Disputed Work and consider all available information and, when necessary, gather new and additional information in an attempt to determine the validity, the cause, and if necessary, the remedy to the contradiction. If the cooperative investigation reaches any resolution mechanism acceptable to both the Agency and the Contractor, the contradiction shall be considered resolved and the cooperative investigation concluded.

Whenever the cooperative investigation is unable to reach resolution, the investigation may then either conclude without resolution or continue by written notification of one party to the other requesting the implementation of a resolution process by committee. The continuance of the investigation shall be contingent upon recipient’s agreement and acknowledged in writing within 3 calendar days after receiving a request. Without acknowledgement, the investigation shall conclude without resolution.

The committee shall consist of 3 State of California Registered Civil Engineers. Within 7 calendar days after the written request notification, the Agency and the Contractor will each select 1 engineer. Within 14 calendar days of the written request notification, the 2 selected engineers will select a third engineer. The goal in selection of the third member is to complement the professional experience of the first 2 engineers. Should the 2 engineers fail to select the third engineer, the Agency and the Contractor shall each propose 2 engineers to be the third member within 21 calendar days after the written request notification. The first 2 engineers previously selected shall then select 1 of the 4 proposed engineers in a blind draw.

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

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

a) Within 7 days of the formation of the committee, the Agency and the Contractor reach an acceptable resolution mechanism; or
b) Within 14 days of the formation of the committee, the initiating party withdraws its written notification and agrees to bear all investigative related costs thus far incurred; or
c) At any point by the mutual agreement of the Agency and the Contractor.

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

4-2 MATERIAL PROVIDED BY THE AGENCY. If applicable and upon written request of the Contractor, any materials furnished by the Agency shall be available to the Contractor within a reasonable time at the points designated in the Bid and Contract Documents. The cost of handling, including loading and unloading, transport, storing, and placing all materials after they are made available to the Contractor shall be considered as included in the contract prices for the items in connection with which they are used.

The Contractor shall be held responsible for all material provided to him and deductions will be made from any monies due to the Contractor to make good any shortages, damages and deficiencies, from any cause whatsoever, which may occur after materials are provided.

4-3 TAXES. The Contractor shall pay all sales, consumer, use and other similar taxes for the Work or portions thereof provided by the Contractor which are legally enacted at the time bids are received, whether or not yet effective. The Total Bid Amount shall be deemed to include such taxes and the Contractor shall not be entitled to separate compensation for such taxes.
SECTION 5 - UTILITIES

5-1 LOCATION. Section 4216 and 4217 of the Governmental Code requires a Dig Alert Identification Number be issued before a "Permit to Excavate" will be valid. For your Dig Alert I.D. Number call Underground Service Alert Toll Free 1-800-422-4133 two working days before you dig.

California Assembly Bill 3020 made it mandatory for all those who plan to do any digging or excavating to inform a regional notification center at least two days in advance. Failure to do so can result in a fine of several thousand dollars and in addition, the contractor could be charged for the repair of any damages to the underground facilities.

Copies of the construction drawings have been sent to the various utilities for their use in determining any necessary relocation of facilities. Additionally, a request has been made to check said drawings for errors, omissions or discrepancies.

The Agency and relevant utility companies have, by a search of known records, endeavored to locate and indicate on the Plans, all utilities which exist within the limits of the work. However, the accuracy and/or completeness of the nature, size and/or location of utilities indicated on the Plans is not guaranteed or warrantied by the Agency or utility company.

IT IS ANTICIPATED THAT NOTIFICATION OF THE UTILITIES AND “UNDERGROUND SERVICE ALERT” WILL RESULT IN FIELD MARKING OF UTILITY MAINS BUT MOST LIKELY WILL NOT RESULT IN COMPLETE MARKING OF UTILITY SERVICE LATERALS.

The Contractor shall pothole all underground utilities which are shown on the Plans, assumed to exist per this section, or marked in the field by utility owners as being within 5 feet horizontal distance from the edge of any planned project sewer, water main, storm drain, electrical conduit, gas main, telephone conduit, cablevision conduit, irrigation conduit alignment, or other conduit of any type. The potholes shall be at all crossings of each utility and at one hundred (100) foot maximum intervals along each utility.

This potholing shall be done as a first order of work and time shall be allowed for the Engineer to field check the location of such utilities to make certain that they will not interfere with the proposed improvements. The Contractor shall backfill and patch these potholes immediately after establishing those locations. The backfill shall conform to the relative compaction requirements for trenches. The Contractor shall maintain all patches a smooth, firm traversable surface fit for the use of that surface at all times until the permanent repair or improvement is installed.
The Contractor must fill all potholes on the same day of excavation, and, if no trenching is performed within 10 Working Days, fully restore all potholes and any damaged surrounding areas to their original condition unless otherwise allowed by the Engineer.

The Contractor must notify the Engineer, in writing, of any conflicts between existing utilities and the proposed work a minimum of 5 Working Days, and 300’ in advance of the work to provide adequate time, and space for any changes to the work needed to avoid unforeseen conflicts. Contractor must perform utility location far enough in advance of the Work to provide the written notification specified in this subsection.

The Contractor shall contact and coordinate with the utility owner for the relocation and/or replacement of their facility within the work area and determine the extent and time required for any and all relocations and for reconstruction of utility facilities. This coordination includes, but is not limited to, holding and chairing regular utility coordination meetings to the satisfaction of the Agency.

Nothing herein shall be deemed to require the Agency to indicate the presence of existing service laterals or appurtenances whenever the presence of such utilities on the site of the construction project can be inferred from the presence of other visible facilities, such as buildings, meters, and junction boxes, on or adjacent to the site of the construction; however, nothing herein shall relieve the Agency from identifying mains or trunk lines in the drawings and specifications. The Agency shall reserve its right against any utility for delays, which are the responsibility of the utility and for any obligation impaired on the utility either by law or by contract to pay the cost of removal or relocation of existing utility facilities.

If the Contractor, while performing the Contract, discovers utility facilities not identified by the Agency in the Contract drawings or specifications, he/she shall immediately notify the Agency and utility company in writing.

In all cases of alteration or relocation of service connections, the Contractor shall notify the customer being affected a minimum of four (4) hours prior to said alteration or relocation, and service connection shall be returned to service in an amount of time not to exceed four (4) hours or as agreed between the parties.

Damage to any existing utility by the contractor that is discovered after the acceptance of the work by the Agency shall be repaired by the Contractor at the contractor’s expense and to the satisfaction of the utility company that owns the damaged improvement.

No claim for additional compensation or unforeseen delay will be considered for the Contractor’s failure to adequately locate existing utilities, including service laterals, in the vicinity of proposed improvements as described herein.
The Contractor shall be responsible for detecting, determining and marking in the field the alignment of utility service (sewer, water, gas, etc.) laterals in the vicinity of proposed excavation, boxes, pads, and streetlights. This will include whatever research, excavation, electronic detection, potholing or testing which is necessary to make this determination. This will be done prior to marking out and constructing the proposed improvements, in order to allow for placement and/or adjustment of trench, box, and pad locations due to actual field conditions.

In addition to Caltrans, certain other agencies are not required to become a member of the regional notification center. The Contractor shall contact Caltrans and other non-member agencies such as railroads, federal government, flood control districts, and regional sanitation districts for the location of their subsurface installations.

The Contractor shall keep two (2) as-built drawings for all located utilities. One set of as-built drawings shall be delivered to the Engineer upon completion of the potholing.

**5-2 PROTECTION.** The Contractor shall not interrupt the service function or disturb the support of any utility without authority from the utility owner or direction from the Engineer. Valves, switches, vaults, and meters shall be maintained readily accessible for emergency shutoff.

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

Upon learning of the existence and location of any utility omitted from or shown incorrectly on the Plans, the Contractor shall immediately notify the Engineer in writing. When authorized by the Engineer, support or protection of the utility will be paid for as provided in 3-2 or 3-3.

The Contractor shall immediately notify the Engineer and the utility owner if any utility is disturbed or damaged. The Contractor shall bear the costs of repair or replacement of any utility damaged if located in accordance with 5-1.

When placing concrete around or contiguous to any non-metallic utility installation, the Contractor shall at its expense:

a) Furnish and install a 2-inch (50mm) cushion of expansion joint material or other similar resilient material; or

b) Provide a sleeve or other opening which will result in a 2-inch (50mm) minimum-clear annular space between the concrete and the utility; or

c) Provide other acceptable means to prevent embedment in or bonding to the concrete.

Where concrete is used for backfill or for structures which would result in embedment, or partial embedment, of a metallic utility installation; or where the coating, bedding or other cathodic
protection system is exposed or damaged by the Contractor's operations, the Contractor shall notify the Engineer and arrange to secure the advice of the affected utility owner regarding the procedures required to maintain or restore the integrity of the system. The contractor shall provide support for all utilities that require support in a manner that is approved by the owner of such utility. It is the contractor’s sole responsibility to come up with the appropriate method to provide support to all crossing utility.

The fact that existing utilities and improvements, either above or below the ground surface, are not shown on the drawings shall not relieve the Contractor of liability for complete and careful protection of said utilities or improvements from damage as specified herein. All repairs to damaged utilities or improvements shall be inspected and approved by an authorized representative of the utility and/or improvement Owner before being concealed by backfill or other work.

The Contractor shall notify the utility company in a manner and time in accordance with that particular utility company’s policy of any conflicts or work in proximity of utility lines or conduits that require special notification or oversight. Failure to timely notify and coordinate with any given utility will not be a reason to extend the project time.

If a private service is interrupted do to contractor damage of a given utility, the contractor shall immediately repair and restore or ensure the repair and restoration of that service to the user. The contractor shall notify that user immediately of the interruption and an approximate time that the service will be restored.

All cost for locating and protecting existing utilities, and coordinating with utilities including management, supervision, labor, equipment, materials, ancillary work, overhead and profit shall be included in the various line items of work and there shall be no additional costs to the Agency.

For the Contractor's information, the following companies are listed for initial contacts concerning the above requirements and coordination of new and/or existing utility operations for the project:

CALL DIG ALERT BEFORE YOU DIG
811

<insert contact information for all local utilities here>

5-3 REMOVAL. Unless otherwise specified in the Special Provisions, the Contractor shall remove all interfering portions of utilities shown on the Plans as "abandoned" or "to be abandoned in place". Before starting removal operations, the Contractor shall ascertain from the Agency whether the abandonment is complete, and the costs involved in the removal and disposal shall be included in the Bid for the items of work necessitating such removals.
5-4 RELOCATION. When feasible, the owners responsible for utilities within the area affected by the Work will complete their necessary installations, relocations, repairs, or replacements before commencement of the Work by the Contractor. When the Plans or Special Provisions indicate that a utility installation is to be relocated, altered, or constructed by others, the Agency will conduct all negotiations with the owners and utility work will be done at no cost to the Contractor, except as otherwise specified in 301-1.6. Utilities which are relocated in order to avoid interference shall be protected in their position and the cost of such protection shall be included in the Bid for the items of work necessitating such relocation.

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

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

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

The utility owner will relocate service connections as necessary within the limits of the Work or within temporary construction or slope easements. When directed by the Engineer, the Contractor shall arrange for the relocation of service connections as necessary between the meter and property line, or between a meter and the limits of temporary construction or slope easements. Payment for the relocation of such service connections shall be in accordance with 3-2 or 3-3. Payment will include the restoration of all existing improvements which may be affected thereby. The Contractor may agree with the owner of any utility to disconnect and reconnect interfering service connections. The Agency will not be involved in any such agreement.

5-5 DELAYS. The Contractor shall notify the Engineer of its construction schedule insofar as it affects the protection, removal, or relocation of utilities. Said notification shall be included as a part of the construction schedule in accordance with 6-1. The Contractor shall notify the Engineer in writing of any subsequent changes in the construction schedule which will affect the time available for protection, removal, or relocation of utilities.
The Contractor will not be entitled to damages or additional payment for delays attributable to utility relocations or alterations if correctly located, noted, and completed in accordance with 5-1.

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

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

If the Contractor sustains loss due to delays attributable to interferences, relocations, or alterations not covered by 5-1, which could not have been avoided by the judicious handling of forces, equipment, or plant, there shall be paid to the Contractor such amount as the Engineer may find to be fair and reasonable compensation for such part of the Contractor’s actual loss as was unavoidable and the Contractor may be granted an extension of time.

5-6 COOPERATION. When necessary as determined by a utility company, the Contractor shall conduct its operations as to permit access to the Work site and provide time for any utility work to be accomplished during the progress of the Work.

5-7 WATER AND SANITATION DISTRICTS. The City is served by multiple water and/or sanitation agencies (Districts). These include the City of Menifee Water Department, Eastern Municipal Water District (EMWD), and Lake Menifee Municipal Water District (LHMWD). District facilities shall be adjusted, installed, protected, or removed as described within these Specifications and as stated or depicted on the Plans, District Standard Drawings, and District Approved Materials List(s).

Contractor shall be responsible for providing, at its expense, all temporary water service(s) during Project, including, but not limited to, mainline and service hi-line, metering, sanitary facilities, bypass equipment, pumping, etc.

The Contractor shall not interrupt the service function or disturb the supporting base of any utility without authority from the owner and ordered by the District.

Where protection is required to ensure support of utilities, the Contractor shall furnish and place the necessary protection at its expense. The Contractor shall maintain a minimum of 12
inches separation, or other minimum separation requirements of the relevant District, between District facilities and other utilities, unless approved by the District prior to construction.

The Contractor shall immediately notify the District and the utility owner if he disturbs, disconnects or damages any utility. In the event of necessary repair work on a District facility, the District has the right to hire another contractor to do the repair work. The project Contractor will be responsible for the cost of the repair.

Inspection and acceptance of sewer and water facilities shall be performed by a representative of the relevant District.

All requirements of the Contract Documents shall be in full force and effect for all work done for water and sewer facilities.
SECTION 6 - PROSECUTION, PROGRESS AND ACCEPTANCE OF WORK

6-1. CONSTRUCTION SCHEDULE, COMMENCEMENT OF THE WORK, VIRTUAL PROJECT MANAGER

6-1.1 Construction Schedule. The Contractor shall provide the construction schedule in PDF on a memory stick and on 11” x 17” paper format to the Engineer at the Pre-construction Meeting. The contractor shall comply with the following construction schedule requirements.

6-1.2 Construction Schedule for Contracts Exceeding $500,000 in Value. The Contractor shall be responsible for developing, coordinating, revising, updating, and maintaining the cost loaded construction schedule (Schedule) utilizing the Critical Path Method (CPM).

Schedule updates shall be provided within 5 days of the Engineer’s written approval of changes to the scope of work or critical path items.

The Contractor shall provide complete Schedule updates or Schedule confirmations once a month for the duration of the project that are subject to the Engineer’s review and approval under same conditions and requirements as the original Schedule.

Schedule versions shall be based solely on the Work as awarded, and shall exclude any substitute proposals even if the Contractor pursues a substitution in accordance with provisions of the Contract.

Total float is the number of days by which a part of the Work in the Schedule may be delayed from its early dates without necessarily extending the Contract Time. The Contract float is the number of days between the Contractor’s anticipated date for early completion of the Work, or specified part, and the corresponding Contract Time. Total float and Contract Time float belong to the Project and are not for the exclusive benefit of any Party. They shall be available to the Agency or the Contractor to accommodate changes in the Work or to mitigate the effect of events, which may delay performance or completion.

The Schedule shall show a breakdown of Work into activities and relationships to the extent required to effectively manage the Work. The Schedule shall show the division of the Work into activities and specify the progression from the Notice to Proceed (NTP) to the end of the Contract Time.

The Schedule shall include appropriate time allowances and constraints for submittals, requests for information and responses thereto, items of interface with Work performed by others, and specified construction, start-up and performance tests.
The Contractor shall include in the Schedule inclusive in the Contract Time allotted, 3 Working Days for the Agency to conduct a Walk-through and the potential loss of up to ten working days due to adverse weather conditions such as wind, rain, snow, sleet, etc.

The Contractor shall include in the Schedule inclusive in the Contract Time allotted 10 Working Days for generation of the Punchlist. The Contractor shall Work diligently to complete all Punchlist items within 20 Working Days after officially being provided the Punchlist by the Engineer.

If the Contractor modifies or changes the Schedule, for Change Order Work or otherwise, the Engineer shall be notified in writing with an explanation.

Comments made by the Engineer on the Schedule during review will not relieve the Contractor from compliance with requirements of the Contract. The Engineer may request that the Contractor and major Subcontractors (defined herein as being any Subcontractor or Supplier with 5% or more of the value of the Contract) participate in review of any Schedule submission. The Schedule revisions shall be submitted within 10 Working Days after the Engineer’s review.

The Schedule shall show work to be done by the Agency personnel, such as but not limited to, submittal reviews (separate tasks for each), sewer televising, water main connections, water testing, and operational performance tests as separate tasks. The Schedule shall show appropriate time allowances for Work performed by other agencies.

If completion of any part of the Work, delivery of equipment or materials, or provision of the Contractor submittals is behind schedule and will impact the completion date of the Work, the Contractor shall submit a written recovery plan acceptable to the Engineer for completing the Work by the current Contract completion date.

The Contractor shall not be entitled to any extension in Contract Time, or recovery for any delay incurred because of extensions in an early completion date, until all Contract float is used, performance of the Work extends beyond the corresponding Contract Time, and a recovery plan is submitted demonstrating that the delay cannot be mitigated or offset through actions such as rescheduling Work.

Misrepresentation of actual Work durations in order to suppress available float time shall be cause for rejection of the Schedule and any revisions or updates.

The Schedule shall include procurement related activities, which lead to the delivery of permanent materials to the Site in a timely manner. Procurement activities include activities such as preparation of Shop Drawings and Working Drawings, review and acceptance of Shop Drawings and Working Drawings, materials fabrication, materials delivery, etc., as appropriate.
The Schedule shall be reasonably balanced over the construction duration. Upon receipt, the Engineer will review the Schedule and provide comments, as appropriate, for revision by the Contractor.

Each Schedule activity shall be assigned a budget. Separate Bid items shall be separate activities. The Schedule shall specify costs for each phase of the Contract. The cost value of all Schedule activities shall equal the Contract values shown in the Bid both individually and in total and include Change Orders.

If the Engineer questions the logic of the Schedule, the Engineer may at any time request and Contractor shall provide a Schedule narrative that describes the approach to the Work and the rationale used to develop the Schedule relationships and logic. If Engineer determines meeting(s) with the Contractor’s CPM scheduler is/are warranted to review the schedule, updates, values, relationships, logic, or anything related to the Project schedule, Contractor shall make available its CPM scheduler to participate in such meeting(s) at no additional cost to Agency.

When specified in the Contract Documents, the specified Plant Establishment Period is included in the stipulated Contract Time and will begin with the acceptance of the installation of the re-vegetation plan in accordance with the Special Provisions.

A Schedule showing the project duration longer than the specified contract duration will not be acceptable and will be grounds for the Agency’s determination of default by Contractor.

The Schedule will show the Contractor’s plan to support and maintain the project for the entire contractual time span of the project. Should the Contractor propose a project duration shorter than contract duration, a complete Schedule must be submitted, reflecting the shorter duration, in complete accordance with all schedule requirements of Section 6-1, Construction Schedule and Commencement Of The Work. The Engineer may choose to accept the Contractor’s proposal of a project duration shorter than the duration specified; provided the Agency is satisfied the shortened Schedule is reasonable and the Agency and all other entities, public and private, which interface with the project are able to support the provisions of the shortened Schedule. The Agency’s acceptance of shortened project duration will be confirmed through the execution of a contract change order revising the project duration and implementing all contractual requirements including liquidated damages in accordance with the revised duration.

The Schedule is subject to the review of the Engineer. The Engineer’s determination that the Schedule proposed by the Contractor complies with the requirements of these General Provisions may be a condition precedent to issuance of the Notice to Proceed by the Engineer. If the Engineer determines that the Schedule does not meet the requirements of these specifications the Contractor shall correct the Schedule to meet these specifications and resubmit it to the Engineer. Failure of the Contractor to obtain the Engineer’s determination that
the initial Schedule or resubmitted Schedule(s) proposed by the Contractor complies with the requirements of these supplemental provisions within thirty (30) working days after the date of the preconstruction meeting shall be grounds for termination of the contract per Section 6-4, Default by the Contractor. Days used by the Engineer to review the initial Schedule will not be included in the working days for the Project.

The original Schedule will be reviewed by the Engineer and returned to the Contractor with comments within twenty (20) working days of submittal.

Schedule updates will be reviewed by the Engineer and returned to the Contractor with comments within five (5) working days of submittal. If the Contractor submits a Schedule with more than 10% changes the Engineer will review and return the Schedule with comments within ten (10) days of submittals. If required by the Engineer, the Contractor will resubmit a Schedule addressing any comments by the Engineer within 5 working days. The resubmitted Schedule will be reviewed by the Engineer and returned to the Contractor with comments within five (5) working days of resubmittal. This process and time requirements will continue as such until an acceptable Schedule is submitted or the Engineer declares the Contractor in Default.

The Notice to Proceed may not be issued by the Engineer if the changes of the comments are not submitted as required hereinbefore and marked “No Exceptions Taken” or “Make Corrections Noted” by the Engineer.

If at any time during the contract the Engineer makes the determination that the Contractor is not performing the work in compliance with the approved Schedule, the Engineer may require the Contractor to resubmit an updated Schedule for review by the Engineer in compliance with the requirements stated herein.

The Contractor, at the sole discretion of the Engineer, may be considered as being in default of the contract under the provisions set forth in Section 6-4, Default by the Contractor, if the Engineer’s comments are not submitted as required hereinbefore and subsequently Schedule marked “No Exceptions Taken” by the Engineer.

Progress payments that are due under the contract are contingent upon the submittal of a Schedule or updated Schedule that is acceptable to the Engineer. The Agency may refuse to recommend the whole or part of any progress payment if, in the Engineer’s opinion, the Contractor’s failure, or refusal to provide the required Schedule information precludes a proper evaluation of the Contractor’s ability to complete Project within the Contract Time.

All costs for producing, editing, adjusting and updating the construction schedule shall be paid as the lump sum item for “Project Schedule”, in the absence of that line item all such costs shall be included in the various items of work and there shall be no additional costs to the Agency.
If there is a line item for separate payment of the Schedule payment for the compliance with this section shall be paid as follows:

1. 30% upon acceptance of the original Schedule.
2. Subsequent payments shall be equal in percentage to approved payments to date for all contract items in relation to the overall contract price.

Failure of the Contractor to timely provide the Construction Schedule, to provide proper schedule updates as required by the Contract Documents, and/or to secure the necessary approvals by the Engineer shall constitute a waiver by the Contractor of any and all claims for delay or extended overhead for any reason.

6-1.3 Simplified Construction Schedule for Contracts Less Than $500,000 In Value

Provided Contractor first obtains the approval of the Engineer, Contractor may submit a simplified Construction Schedule that meets the following requirements:

1. Provide a fully developed horizontal bar-chart type schedule.
2. Provide a separate time bar for each significant construction activity.
3. Provide a continuous vertical line to identify the first Working Day of each week.
4. Within each time bar, indicate estimated completion percentage in 10% increments. As Work progresses, place a contrasting mark in each bar to indicate actual completion.
5. Indicate graphically sequences necessary for completion of related portions of the Work.
6. Be of sufficient size to show data for the entire Contract Time.

The Schedule shall show a breakdown of Work into activities and relationships to the extent required to effectively manage the Work. The Schedule shall show the division of the Work into activities and specify the progression from the Notice to Proceed (NTP) to the end of the Contract Time.

The Schedule shall include appropriate time allowances and constraints for submittals, requests for information and responses thereto, items of interface with Work performed by others, and specified construction, start-up and performance tests.

Schedule updates shall be provided within 5 days of the Engineer’s written approval of changes to the scope of work or critical path items.

The Contractor shall provide complete Schedule updates or Schedule confirmations once a month for the duration of the project that are subject to the Engineer’s review and approval under same conditions and requirements as the original Schedule.
If the Contractor modifies or changes the Schedule, for Change Order Work or otherwise, the Engineer shall be notified in writing with an explanation.

Comments made by the Engineer on the Schedule during review will not relieve the Contractor from compliance with requirements of the Contract. The Engineer may request that the Contractor and major Subcontractors (defined herein as being any Subcontractor or Supplier with 5% or more of the value of the Contract) participate in review of any Schedule submission. The Schedule revisions shall be submitted within 10 Working Days after the Engineer’s review.

If completion of any part of the Work, delivery of equipment or materials, or provision of the Contractor submittals is behind schedule and will impact the completion date of the Work, the Contractor shall submit a written recovery plan acceptable to the Engineer for completing the Work by the current Contract completion date.

If at any time during the contract the Engineer makes the determination that the Contractor is not performing the work in compliance with the approved Schedule, the Engineer may require the Contractor to resubmit an updated Schedule for review by the Engineer in compliance with the requirements stated herein.

The Contractor, at the sole discretion of the Engineer, may be considered as being in default of the contract under the provisions set forth in Section 6-4, Default by the Contractor, if the Engineer’s comments are not submitted as required hereinbefore and subsequently Schedule marked “No Exceptions Taken” by the Engineer.

Progress payments that are due under the contract are contingent upon the submittal of a Schedule or updated Schedule that is acceptable to the Engineer. The Agency may refuse to recommend the whole or part of any progress payment if, in the Engineer’s opinion, the Contractor’s failure, or refusal to provide the required Schedule information precludes a proper evaluation of the Contractor’s ability to complete Project within the Contract Time.

Failure of the Contractor to timely provide the Construction Schedule, to provide proper schedule updates as required by the Contract Documents, and/or to secure the necessary approvals by the Engineer shall constitute a waiver by the Contractor of any and all claims for delay or extended overhead for any reason.

6-1.4 Commencement of Work. Unless specified otherwise, Contractor shall start construction within 5 Working Days after the issuance of the NTP and diligently prosecute the Work to completion within the Contract Time. Contractor may not start any construction activity at the site until the Pre-construction Meeting is held and the NTP has been issued by the Agency. Contract time shall start on the first day work is commenced and in no case later than 5 days after the date NTP is issued.
6-1.5 **Pre-Construction Meeting.** The Agency will schedule a Pre-Construction Meeting after the award and execution of the Contract and prior to the start of construction. The Contractor (Principal and Project Superintendent) and any subcontractor responsible for 5 percent or more of the Work shall attend and be prepared to provide or discuss the following information:

1. Contact names and numbers
2. Construction schedule, moratoriums and special events (if any)
3. Pre-NTP submittals as required
4. NTP issuance
5. Critical elements of the work
6. Project safety and emergency procedures
7. Water quality control
8. Utility coordination
9. Required permits
10. Coordination with other agencies
11. Subcontractors
12. Submittals and potential substitutions
13. Schedule of values
14. Payment process
15. Survey requirements
16. Materials and delivery schedule
17. All other items identified in the Contract Documents

6-1.5 **VIRTUAL PROJECT MANAGER (VPM).** The Contractor shall submit daily progress reports to the Engineer via the internet utilizing the web site address [www.virtual-pm.com](http://www.virtual-pm.com) managed by the City. This website, “Virtual Project Manager (VPM)” will be used exclusively by the job site foreman to record daily progress; submit and receive responses for RFI’s, transmittals, submittals, additions/deletions, request for change orders, and all other project related documents and formal communications for review by the Engineer/Inspector/Construction Manager. Use of VPM requires a digital camera, computer, and internet access provided by the contractor. Submittal of hard copies of the above items can be in addition to, but not in lieu of, uploading said items to VPM. The date and time logged in by VPM for all items above shall be deemed the official time and/or date they were received.

An account logon to access VPM will be provided to the contractor by the City at no cost to the Contractor. The contractor may also request one VPM training session prior to the pre-construction meeting with a minimum 2 week advance notice. One training session shall be provided by the City, at City offices, free of charge for persons involved with the project. Any additional training sessions requested, or training sessions resulting from the Contractor failing to appear at a scheduled training session, shall be at the Contractor’s cost. Failure to attend and/or schedule training or use the VPM system shall not be cause for delay. All costs including but not limited to time, attending training, computer equipment, computer software, internet
access, digital cameras, etc necessary for the Contractor to use VPM shall be considered incidental to the work and no separate payment shall be made therefore.

6-2 PROSECUTION OF THE WORK. To minimize public inconvenience and possible hazard and to restore street and other work areas to their original condition and state of usefulness as soon as practicable, the Contractor shall diligently prosecute the Work without interruption to completion for each specific location and for the project as a whole. If the Engineer determines that the Contractor is failing to prosecute the Work to the proper extent, the Contractor shall, upon orders from the Engineer, immediately take steps to remedy the situation. All costs of prosecuting the Work as specified herein shall be included in the Contract Price. Should the Contractor fail to take the necessary steps to fully accomplish said purposes, after orders of the Engineer, the Engineer may suspend the Work in whole or part, until the Contractor takes said steps.

If the Work is suspended directly or indirectly as a result of Contractor’s failure to adequately prosecute the work, failure to devote sufficient forces to prosecute the work in the opinion of the Engineer, repeated deficiencies in construction or corrective work, failure to implement project safety measures, etc., all expenses and losses incurred by the Contractor during such suspensions shall be borne by the Contractor. If the Contractor fails to properly provide for public safety, traffic, and protection of the Work during periods of suspension, the Agency may elect to do so, and deduct the cost thereof from monies due the Contractor. Such actions will not relieve the Contractor from liability.

6-3 SUSPENSION OF THE WORK

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

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

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

The Contractor shall be entitled to an extension of time and compensation in accordance with 6-6.
6-4 DEFAULT BY THE CONTRACTOR

6.4.1 General. The Contractor shall be in substantial default prior to the acceptance of the Work if the Contractor:

1. Becomes insolvent, assigns its assets for the benefit of its creditors, is unable to pay its debts as they become due, or is otherwise financially unable to complete the Work, or
2. Abandons the Work by failing to report to the Work site, or
3. Fails to diligently prosecute the Work to completion in accordance with the approved schedule, or
4. Disregards written instructions from the Engineer or materially violates provisions of the Contract Documents, or
5. Fails to prosecute the Work according to the schedule approved by the Engineer, or
6. Disregards laws or regulations of any public body having jurisdiction, or
7. Commits continuous or repeated violations of regulatory or statutory safety requirements, or
8. Repeatedly fails to construct Project work in accord with the Contract Documents in a good and workmanlike fashion, necessitating corrective and/or repair work.

Notices, and other written communications regarding default between the Contractor, the Agency, and the Surety shall be transmitted in accordance with 2-12.

6.4.2 Notice to Cure. The Agency will issue a written notice to cure the default to the Contractor and its Surety. The Contractor shall commence satisfactory corrective actions within five (5) Working Days after receipt. Failure to cure the noticed default shall be a substantial breach of contract and substantial default by the Contractor.

6.4.3 Notice of Termination for Default. If the Contractor fails to commence satisfactory corrective action within five (5) Working Days after receipt of the notice to cure, or to diligently continue satisfactory and timely correction of the default thereafter, then the Agency will recommend to the Board that the Contractor be found in default of the Contract and upon such finding by the Board:

a) Will terminate the Contractor's right to perform under the Contract by issuing a written notice of termination for default to the Contractor and its Surety,
b) May use any materials, equipment, tools or other facilities furnished by the Contractor to secure and maintain the Work site, and
c) May furnish labor, equipment, and materials the Agency deems necessary to secure and maintain the Work site.

The Contractor shall be entitled to no further payment until the remaining portion of the Work has been completed. The Contractor will be paid the actual amount due based on Contract Unit
Prices or lump sum Bid and the quantity of the Work completed at the time of default, less damages caused to the Agency by the default of the Contractor.

Costs incurred by the Agency in performing the Contractor’s work, plus a markup of 15% on those costs for overhead, shall be deducted from monies due or to become due to the Contractor. The Contractor shall pay to the Agency any amount by which those costs and markup exceed the unpaid balance of the Contract Price plus overhead costs incurred.

**6-4.4 Responsibilities of the Surety.** Upon receipt of the written notice of termination for default, the Surety shall immediately assume all rights, obligations and liabilities of the Contractor under the Contract. If the Surety fails to protect and maintain the Work site, the Agency may do so, and may recover all costs incurred. The Surety shall notify the Agency that it is assuming all rights, obligations and liabilities of the Contractor under the Contract and all money that is due, or would become due, to the Contractor shall be payable to the Surety as the Work progresses, subject to the terms of the Contract.

Within 15 Working Days of receipt of the written notice of termination for default, the Surety shall submit to the Agency a written plan detailing the course of action it intends to take to remedy the default. The Agency will review the plan and notify the Surety if the plan is satisfactory. If the Surety fails to submit a satisfactory plan, or if the Surety fails to maintain progress according to the plan accepted by the Agency, the Agency may, upon 48 hours written notice, exclude the Surety from the premises, take possession of all material and equipment, and complete the Work in any way the Agency deems to be expedient. The cost of completing the Work by the Agency shall be charged against the Surety and may be deducted from any monies due, or which would become due, the Surety. If the amounts due under the Contract are insufficient for completion, the Surety shall pay to the Agency, within 30 days after the Agency submits an invoice, all costs in excess of the remaining Contract Price.

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

**6-4.5 Payment.** The Surety will be paid for completion of the Work in accordance with 9-3 less the value of damages caused to the Agency by acts of the Contractor.

**6-5 TERMINATION OF THE CONTRACT FOR CONVENIENCE.** The Agency may terminate the Contract in whole or, from time to time, in part, if it becomes impossible or impracticable to proceed, because of conditions or events beyond the control of the Agency e.g., if the Agency Council does not appropriate sufficient monies to fund the Contract.

The Agency will issue a written notice of termination for convenience in accordance with 2-12, “SPECIAL NOTICES.” Upon receipt, the Contractor shall immediately proceed as follows:
1. Stop Work immediately or in accordance with the Notice of Termination.
2. Notify Subcontractors and suppliers to immediately cease their work and place no further subcontracts for materials, services, or facilities, except as necessary to complete any authorized continued portion of the Contract.
3. Terminate all Subcontracts to the extent that they relate to the Work terminated.
4. With approval by the Engineer, settle all outstanding obligations arising from the termination of subcontracts; the approval of which will be final for purposes of this section.
5. As directed by the Engineer, transfer the title and deliver to the Agency, completed or partially completed drawings, plans, calculations, specifications and any other documents and records that, if the Contract had been completed, would be required to be furnished to the Agency.
7. Take all necessary steps and actions to minimize all costs to the Agency as a result of the termination.
8. Take any action that may be necessary, or that the Engineer may direct, for the protection and preservation of the property related to this contract that is in the possession of the Contractor and in which the Agency has or may acquire an interest.

The Contractor will be paid without duplication for:

1. Work completed in accordance with the Contract Documents prior to the effective date of termination for convenience;
2. Reasonable costs incurred in settlement of terminated contracts with Subcontractors, suppliers and others; and
3. Reasonable expenses directly attributable to termination.

The Contractor shall submit a final termination settlement proposal to the Agency no later than 90 days from the effective date of termination, unless extended, in writing, by the Agency upon written request by the Contractor.

If the Contractor fails to submit a proposal, the Agency may determine the amount, if any, due the Contractor as a result of the termination. The Agency will pay the Contractor the amount it determines to be reasonable. If the Contractor disagrees with the amount determined by the Agency as being reasonable, the Contractor shall provide notice to the Agency within 30 days of receipt of payment. Any amount due shall be as later determined by the parties in a mediation, or, if the parties are unable to reach an agreement at mediation, as fixed in a court of law.

All settlements related to termination of the contract in accordance with this section will be subject to the approval of the Agency Board before ultimately becoming final.

**6-5.1 Termination Settlement.** After termination, the Contractor shall submit a final termination settlement proposal to the Engineer in the form and with the certification prescribed by the
Engineer. The Contractor shall submit the proposal promptly, but no later than 6 months from the effective date of termination, unless extended, in writing, by the Engineer upon written request of the Contractor within this 6 month period.

If the Engineer determines that the facts justify it, a termination settlement proposal may be received and acted on after 6 months or any extension. If the Contractor fails to submit the proposal within the time allowed, the Agency may, in good faith, determine, on the basis of information available, the fair and reasonable amount, if any, due the Contractor as a result of the termination and pay the amount determined. If the Contractor does not agree that the amount determined by the parties in a mediation, or, if the parties are unable to reach an agreement at mediation, as fixed in a court of law.

6-5.2 Payment to the Contractor Due to Termination. Subject to 6-5.1, “Termination Settlement” the Contractor and the Engineer may agree upon the whole or any part of the amount to be paid because of the termination. The amount may include a reasonable allowance for profit on work done. The agreed amount may not exceed the total dollar amount authorized by the Agency as reduced by (1) the amount of payments previously made; and (2) the Contract Price of work not terminated. The contract shall be amended, and the Contractor paid the agreed amount. Subsection 6-5.3, “Failure to Agree on Payment,” shall not limit, restrict, or affect the amount that may be agreed upon to be paid in accordance with this subsection.

6-5.3 Failure to Agree on Payment. If the Contractor and the Agency fail to agree on the whole amount to be paid because of the termination of Work, the Agency will pay the Contractor the fair and reasonable amounts determined in good faith by the Agency as follows, but without duplication of any amounts agreed on in accordance with 6-5.2, “Payment to Contractor Due to Termination:”

The Contract Price for completed services accepted by the Agency not previously paid or adjusted for any saving of freight and other charges. The total of:

1. The costs incurred in the performance of the Work terminated, including initial costs and preparatory expense allocable thereto, but excluding any costs attributable to services paid or to be paid in accordance with 6-5.6, “Failure to Agree on Payment”;
2. The fair and reasonable cost of settling and paying termination settlement proposals under terminated subcontracts that are properly chargeable to the terminated portion of the Contract if not included in subdivision “a”, above;
3. A sum, as provided in subdivision “a”, above, determined by the Engineer to be fair and reasonable under the circumstances; however, if it appears that the Contractor would have sustained a loss on the entire contract, had it been completed, the Agency will allow no profit and shall reduce the settlement to reflect the indicated rate of loss.
4. The reasonable costs of settlement of the Work terminated, including:
a. Accounting, legal, clerical, and other expenses reasonably necessary for the preparation of termination of settlement proposals and supporting data;

b. The termination and settlement of subcontracts (excluding the amounts of such settlements); and

c. Storage, transportation, and other costs incurred, reasonably necessary for the preservation, protection, or disposition of property in which the Agency has or may acquire an interest.

6-5.4 Determination of Amount Due the Contractor. In arriving at the amount due the Contractor in accordance with this section, there shall be deducted:

1. The fair value of property destroyed, lost, stolen, or damaged that has become undeliverable to the Agency except to the extent the Agency expressly assumed the risk of loss;

2. All un-liquidated advance or other payments to the Contractor under the terminated portion of this contract;

3. Any claim which the Agency has against the Contractor under this contract; and

4. The agreed price for or the proceeds of sale of materials, supplies, or other things acquired by the Contractor or sold under the provisions of this section and not recovered by or credited to the Agency.

6-5.5 Partial Termination. If the termination is partial, the Contractor may file a proposal with the Engineer for an equitable adjustment of the price(s) of the continued portion of the Contract. The Agency will make any equitable adjustment agreed upon. Any proposal by the Contractor for an equitable adjustment under this section shall be requested within 90 days from the effective date of termination, unless extended, in writing, by the Engineer.

6-5.6 Partial Termination Payments. The Agency may, under the terms and conditions it prescribes, make partial payments and payments against costs incurred by the Contractor for the terminated portion of the Contract if the Engineer believes the total of these payments will not exceed the amount to which the Contractor will be entitled.

If the total payments exceed amounts finally determined to be due, the Contractor shall repay the excess to the Agency upon demand, together with interest. Interest shall be at a rate of 6% per annum compounded daily and shall be computed for the period from the date the excess payment is received by the Contractor to the date the excess is repaid. Interest shall not be charged on any excess payment due to a reduction in the Contractor’s termination settlement proposal because of retention or disposition, or a later date determined by the Engineer because of the circumstances.

6-5.7 Records and Documents Relating to Termination. Unless otherwise provided in the Contract or by statute, the Contractor shall maintain all records and documents relating to the terminated portion of this contract for 3 years after final settlement. This includes all books and
other evidence bearing on the Contractor’s costs, expenses, and settlement under this contract. The Contractor shall make these records and documents available to the Agency, at the Contractor's office, at all reasonable times, without any direct charge. If approved by the Engineer, photographs, microphotographs, and other authentic reproductions may be maintained instead of original records and documents.

6-5.8 Rights of The Agency Preserved. Where the Contract has been terminated by the Agency in accordance with 6-5, “Termination of Contract” the termination will not affect any rights or remedies of the Agency against the Contractor then existing or which may thereafter accrue. Any retention or payment of monies paid to the Contractor by the Agency shall not release the Contractor from liability.

6-6 DELAYS AND EXTENSIONS OF TIME

6-6.1 General. If delays are caused by unforeseen events beyond the control of the Contractor, such delays will entitle the Contractor to an extension of the Contract time as provided herein, but the Contractor will not be entitled to damages or additional payment due to such delays, except as otherwise specified in 6-6.3. Such unforeseen events may include: war, government regulations, labor disputes, strikes, fires, floods, adverse weather or elements necessitating cessation of work beyond the ten working days included in the contract duration, inability to obtain materials, labor or equipment, required Extra Work, or other specific events as may be further described in the Special Provisions.

No extension of time will be granted for a delay caused by the Contractor's inability to obtain materials unless the Contractor furnishes to the Engineer documentary proof. The proof must be provided in a timely manner in accordance with the sequence of the Contractor's operations and the approved construction schedule. Failure to order materials in a timely manner will not afford the Contractor any extension of contract time.

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

If delays beyond the Contractor's control are caused solely by action or inaction by the Agency, such delays will entitle the Contractor to an extension of time per 6-6.2.

6-6.2 Damages Caused By Act Of Nature. As provided in §7105 of the California Public Contract Code, if this contract is not financed by revenue bonds, the Contractor shall not be responsible for the cost of repairing or restoring damage to the Project when damage was proximately caused by an act of God, in excess of 5% of the Contract Price if:
1. The Project damaged was built and protected in accordance with the Contract requirements, and
2. There are no insurance requirements in the Contract for the damages.

**6-6.3 Extension of Time.** Extensions of time, when granted, will be based upon the effect of delays to the Work. They will not be granted for non-controlling delays to minor portions of the Work unless it can be shown that such delays did or will delay the progress of the Work.

The Agency will not grant a claim for extension in Contract Time unless Contractor can demonstrate through a Critical Path Method (CPM) analysis of the Schedule’s critical path(s) that:

1. The increases in the time to perform or complete the Work, or specified part of the Work, beyond the corresponding Contract Time arise from unforeseeable causes beyond Contractor’s control and without fault or negligence on the part of Contractor in whole or part, and
2. Such causes in fact lead to delays in performance or completion of the Work, or specified part in question, beyond the corresponding Contract Time, despite Contractor’s reasonable and diligent actions to guard against those effects.

The Schedule analysis must use delay sub networks i.e., fragnets to show the impact of the Work that is the basis of the Claim on specific impacted critical path Schedule activities. Fragnet is a group of schedule network activities representing a delay or change event.

Where the Contractor or subcontractors are prevented from completing any part of the Work within the Contract Time (or milestones) due to delay to a "critical path" activity beyond Contractor’s control, an extension of the Contract Time (or Contract milestones) in an amount equal to the time lost on the critical path of the Project due to such delay will be the Contractor’s sole and exclusive remedy for such delay.

**6-6.4 Excusable Delays.** To the extent any of the following events results in an actual delay in the Work affecting Work activities on the critical path, such will constitute an Excusable Delay, to the extent not set forth below:

1. The Agency’s failure or inability to make available any portion or the entire Site in accordance with the requirements of the Schedule.
2. The Agency’s failure or inability to obtain necessary zoning changes, variances, code changes, permits or approvals from any governmental authority, or failure to obtain any street or alley vacations required for the performance of the Work, except to the extent due to Contractor’s fault or neglect as determined by the Engineer.
3. Delays resulting from the acts or omissions of Separate Contractors, except to the extent Separate Contractors perform their work properly and in accordance with the Schedule.
4. Delays resulting from Force Majeure.
5. Differing, unusual or concealed site conditions that could not reasonably have been anticipated by Contractor in preparing the Schedule.
6. Delays resulting from the existence or discovery of hazardous materials or waste on the Site not brought to the Site by Contractor or its subcontractors.
7. Delays resulting from changes in Applicable Laws occurring after the date of execution of the Contract;
8. Delays occurring due to the Agency’s acts or omissions and those within the Agency’s control.
9. Delays resulting from the Agency’s mandated suspensions of the Work.

All other delays not specifically identified will be considered an Inexcusable Delay.

6-6.5 Payment for Delays. Pursuant to Section 7102 of the Public Contract Code, the Contractor will be compensated for damages incurred due to delays for which the Agency is responsible. Such actual costs will be determined by the Engineer. The Agency will not be liable for damages which the Contractor could have avoided by any reasonable means, such as judicious handling of forces, equipment, or plant, decisions on means and methods, etc. The determination of what damages the Contractor could have avoided will be made by the Engineer.

6-6.6 Written Notice and Report. If the Contractor desires an extension of time or payment for a delay as specified in 6-6.3, it shall file with the Engineer a written request and report of cause within one (1) day after the act, event or circumstance that is the beginning of the delay. Contractor must submit its request for payment or extension with all appropriate back up information within 20 days from the act, event or circumstance that is the beginning of the delay and before the specified completion date. Failure by the Contractor to submit these items within the times specified will constitute a waiver of the extension of time and payment for delay and will be ground for refusal by the Agency to consider such request.

The Contractor shall provide written notice to the Engineer within ONE (1) hour of the beginning of any period that the Contractor has placed any workers or equipment on standby for any reason that the Contractor has determined to be caused by the Agency or by any organization that the Agency may otherwise be obligated by. The Contractor shall provide continuing daily written notice to the Engineer, each working day, throughout the duration of such period of delay. The initial and continuing written notices shall include the classification of each workman and supervisor and the make and model of each piece of equipment placed on standby, the cumulative duration of the standby, the Contractor’s opinion of the cause of the delay and a cogent explanation of why the Contractor could not avoid the delay by reasonable means. The notices shall include the following certification relative to the California False Claims Act, Government Code Sections 12650-12655.

“The undersigned certifies that the above statements are made in full cognizance of the California False Claims Act, Government Code sections 12650-12655. The undersigned further understands
and agrees that this potential claim, unless resolved, must be restated as a claim in response to
the Agency’s proposed final estimate in order for it to be further considered.”

By: ________________________________  Title: ________________________________

Date: ______________________________

Company Name: ________________________________

Should the Contractor fail to timely provide the notice(s) required by this section, Contractor will
have waived any and all claims for delay attributable to standby and agrees that no delay has
occurred and that it will not submit any claim(s) therefore.

6-6.7 Contract Time Extension and Schedule Analysis. A claim for extension in Contract Time
will not be granted unless the Contractor can demonstrate through a Critical Path Method (CPM)
analysis of the Schedule’s critical path(s) that the increases in the time to perform or complete
the Work, or specified part of the Work, beyond the corresponding Contract Time arise from
unforeseeable causes beyond the control and without the fault or negligence of the Contractor,
and that such causes in fact lead to performance or completion of the Work, or specified part in
question, beyond the corresponding Contract Time, despite the Contractor’s reasonable and
diligent actions to guard against those effects.

The Schedule analysis shall use delay sub networks (“fragnets”) to show the impact of the Work
that is the basis of the Claim on specific impacted critical path Schedule activities. Fragnet is a
group of schedule network activities representing a delay or change event.

Where the Contractor is prevented from completing any part of the Work within the Contract
Time (or milestones) due to delay to a “critical path” activity beyond the control of both the
Agency and the Contractor, an extension of the Contract Time (or Contract milestones) in an
amount equal to the time lost on the critical path of the Project due to such delay shall be the
Contractor’s sole and exclusive remedy for such delay; Contractor will not be entitled to any claim
for extended conditions, home office overhead, or any direct or indirect costs associated with
such delay.

6-6.8 Event of Force Majeure (Event). Any party to this contract may be excused for any delay
or failure to perform its duties and obligations except for obligations to pay money, caused by
and to the extent that such failure or delay is caused by an Event.

If an Event causes a delay or failure in performance of only a portion of the obligations of a Party,
then only that portion of performance which was delayed or prevented by such cause shall be
deemed excused. Performance of all other obligations of a Party shall not be excused by an
Event. Any delay or failure to perform shall only excuse the Party for a period no longer than the
delay or failure in performance caused by such Event. An extension of the Contract Time (or Contract milestones) in an amount equal to the time lost on the critical path of the Project due to such delay shall be the Contractor’s sole and exclusive remedy for such delay; Contractor will not be entitled to any claim for extended conditions, home office overhead, or any direct or indirect costs associated with such delay. The Contractor shall not be entitled to damages or additional payment for any delay caused by an Event beyond the time extension.

6-7 TIME OF COMPLETION.

6-7.1 General. All time limits stated in the Contract Documents are of the essence. The Contractor shall diligently and continuously prosecute the work to completion within <insert # of working days> working days after the date of commencement of work as specified in the Notice to Proceed. Unless otherwise specified in the Contract Documents, the time of completion of the Contract shall be expressed in working days.

6-7.2 Contract Time Accounting. The Engineer will make a daily determination of each working day to be charged against the Contract time. These determinations will be discussed and the Contractor will be furnished a periodic statement showing the allowable number of working days of Contract time, as adjusted, at the beginning of the reporting period. The statement will also indicate the number of working days charged during the reporting period and the number of working days of Contract time remaining. If the Contractor does not agree with the statement, it shall file a written protest within 5 days after receipt, setting forth specific facts to substantiate the protest. Otherwise, the statement will be deemed to have been accepted and any right to dispute the statement will be waived.

6-8 COMPLETION, ACCEPTANCE, AND WARRANTY

6-8.1 Completion. Upon completion of the project the Contractor shall submit a written assertion that the Work has been completed and request that the Agency conduct a Walk through. If, in the Engineer’s judgment, the Work has been completed in accordance with the Contract Documents, the Engineer will set forth in writing the date the Work was completed, usually following the walk through and completion of punch list items. This date of completion will be the effective date of the Agency’s Acceptance when the Contractor is relieved from responsibility to protect and maintain the Work and to which liquidated damages will be computed if applicable; subject to later formal acceptance of the Project by the City Council or governing board of Agency.

6-8.1.1 Requirements Preparatory To Requesting a Walk-through. Walk-through is the procedure used by the Agency to generate a Punch list prior to Acceptance.

The following items shall be required prior to requesting a walk-through:
1. Remove temporary facilities from the Site.
2. Thoroughly clean the Site.
3. Provide completed and signed Redlines in conformance with requirements stated herein.
4. Provide all material and equipment maintenance and operation instructions and/or manuals.
5. Provide all tools that are a permanent part of equipment installed in the Project.
6. Provide and properly identify all keys; construction and permanent.
7. Provide all final Special Inspection reports required by this contract and applicable codes and regulations.
8. Provide all items that this contract requires to be supplied as extra stock. All items shall be wrapped, sealed, or placed in a container as necessary to allow for storage by the Agency for future use. The amount specified in this contract shall be verified by the Agency and the Contractor.
9. Ensure all certified prevailing wage rate documents and all other documents required by this contract and applicable codes and regulations have been submitted.
10. Provide the spare parts for the proposed irrigation system as specified in the Special Provisions (if applicable).
11. Ensure all salvaged materials have been delivered and accepted by the Agency or entity designated to receive them.
12. See other specification sections for additional requirements.

6-8.1.2 Walk-through and Punch list Procedure. The following procedure outlines the steps to be taken upon the Contractor’s assertion that the Project is complete:

1. When the Contractor considers that the Work and Services are complete, the Contractor shall in writing notify the Agency that the Project is complete and request that the Agency perform a walk-through for generation of a Punch list. The Contractor shall notify the Agency at least 7 days in advance of the time the walk-through is to be performed.
2. The Agency will determine if the Contractor is ready for a walk-through by verifying whether the Contractor has provided or completed all items as required by 6-8.2, “Defective Work,” whether the Contractor has obtained the applicable certifications, and by evaluating completeness by inspecting the Project and the specified Work required by the Contract Documents.
3. If the Work includes underground sewer conduit installations, the inspection will include televising in accordance with 306-1.4.8, “Televising Sewer Mains and Storm Drains.”
4. The Agency will facilitate a walk-through.
5. The Contractor shall make available at the Site for walk-through attendees the plans and specifications and the technical data such as submittals and equipment manuals.
6. The Agency will generate the punch list within 15 Working Days from the date of the walk-through and submit it to the Contractor. The Agency will not provide a preliminary punch list.
7. If The Agency begins to generate a Punch list and finds the Project is not substantially complete or ready for Acceptance as defined herein, the Agency will terminate the walk-through and notify the Contractor in writing.
8. If, at any time during the Agency’s evaluation of the corrective Work required by the Punch list, the Agency discovers that additional corrective Work is required, the Agency may include that corrective Work in the Punch list. The Contractor shall be solely responsible for the Site until the Project is completely operational, all Punch list items have been corrected, all operation and maintenance manuals have been accepted by the Agency, and the Engineer identifies in writing that the work has been completed as of a specific date.

9. The Agency will meet with the Contractor until all Punch list items are corrected. If the Contractor takes longer than 30 Working Days to complete the corrective Work, the Project shall be subject to re-evaluation.

10. During the 30-day stop notice/lien period that commences on the date the NOC is recorded, the Contractor shall submit to the Agency the retention billing. After the Agency receives the retention billing, the Agency will mail to the Contractor a "Release of Claims" form, which shall be completed by the Contractor and returned to the Agency before the retention will be released.

11. Upon Acceptance by the Engineer, the Contractor shall assemble and deliver to the Agency all records, documents, warranties, material certifications, bonds, guarantees, maintenance and service agreements, and maintenance and operating manuals. Written warranties, except manufacturer’s standard printed warranties, shall be on the Contractor’s and the Contractor’s agents, material suppliers, installers, or manufacturer’s letterhead, addressed to the Contractor. Warranties shall be submitted in the format described in this section, modified as approved by the Agency to suit the conditions pertaining to the warranty.

12. See other specification sections for additional requirements.

The cost of the Contractor’s participation in the punch-list process shall be included in the various items of work and there shall be no additional costs to the Agency.

6-8.2 Defective Work. If the Agency finds the Work, or any part of the Work, to be defective, whether or not manufactured, fabricated, installed, completed or overlooked and accepted by the Engineer, the Contractor must, in accordance with the Agency’s written instructions and within the specified time limits, either correct the Defective Work, or, if it has been rejected by the Engineer, remove it from the Site and replace it with non-defective and conforming Work.

1. If, upon notice, the Contractor fails to immediately correct the defective work, or the Contractor fails to correct the defective work in a manner conforming to the Contract Documents, the Engineer may order the Contractor to stop all or part of the Project. The Agency’s right to stop the work does not give rise to any duty on the Agency’s part to stop work for the Contractor’s benefit or the benefit of any other party. The Contractor shall bear all direct and indirect costs and damages that result from the Agency’s stop work notice.

2. At the sole discretion of the Engineer, defective work may be accepted in lieu of requiring the Contractor to correct or remove and replace the defective work. However, the Contractor must bear all direct and indirect costs of the defective work, and compensate Agency for the
diminished value to the Project, as determined by the Engineer. If the Engineer’s acceptance of defective work occurs prior to final payment, the Engineer will issue a Change Order incorporating the necessary revisions in the Contract Documents with respect to the defective work and indicating the appropriate decrease in the Contract Price.

3. If the Contractor fails to correct, remove, or replace defective work within 5 Working Days from the date of a written notice from the Engineer, the Engineer may proceed with any correction of defective work undertaken in accordance with this section, including but not limited to contacting subcontractor(s) directly to implement repairs or hiring a repair contractor to complete repairs. Contractor shall be responsible for the cost of any such repairs. The Agency may take corrective action at any time in the event of an emergency or if the Engineer deems it necessary. If the Contractor fails to correct the defective work in accordance with the Contract Documents or fails to comply with any other provision of the Contract Documents for more than 5 working days from the date of written notice, Agency may (but is not required to) remedy the defective work or non-compliance with the Contract Documents without further notice to Contractor.

4. When Agency undertakes remedial action under this section, Agency may exclude Contractor from all or parts of the Site; take possession of all or parts of the Work; suspend Contractor’s Work or Services; and incorporate into the Project all materials and equipment stored at the Site or for which the Agency has paid but Contractor has stored elsewhere.

5. The Agency will not allow an extension of the Contract Time or milestones because of any delay in the performance of the work attributable to the Agency’s undertaking remedial action to correct defective work.

6. If Contractor completes the Project or portions of the Project prior to NOC, Contractor must preserve equipment by developing and implementing a preventive maintenance program in compliance with manufacturer's recommendations.

7. Contractor must repair or replace the traffic signal and lighting system equipment within 48 hours after notification of defects by the Engineer.

8. Contractor shall reimburse the Agency for any claims, costs, losses, and damages incurred by the Agency in remedying any deficiency e.g., all costs of repair or replacement of Defective Work and all costs of repair of any other Work on the Project destroyed or damaged by correction, removal, or replacement of Contractor’s defective work.

6-8.3 Acceptance. Acceptance will occur after all of the requirements contained in the Contract Documents have been fulfilled. If, in the Engineer's judgment, the Contractor has fully performed the Contract; the Engineer will recommend to the City Council or Governing Board of Agency that the Contractor's performance of the Contract be accepted.
**6-8.4 Warranty.** The Work shall be warranted by the Contractor against defective materials and workmanship for a period of 1 year from the date the project was deemed complete by the Engineer.

The warranty period for specific items covered under manufacturers' or suppliers' warranties shall commence on the date they are placed into service at the direction of or as approved by the Engineer in writing.

All warranties, express or implied, from subcontractors, manufacturers, or suppliers, of any tier, for the materials furnished and work performed shall be assigned, in writing, to the Agency, and such warranties shall be delivered to the Engineer prior to acceptance of the Contractor's performance of the Contract.

The Contractor shall replace or repair defective materials and workmanship in a manner satisfactory to the Engineer, after notice to do so from the Engineer, and within the time specified in the notice. If the Contractor fails to make such replacement or repairs within the time specified in the notice, the Agency may perform the replacement or repairs at the Contractor's expense. If the Contractor fails to reimburse the Agency for the actual costs, the Contractor's Surety shall be liable for the cost thereof.

The Contractor warranties the Work against defective workmanship and materials additionally as specified below:

a) Two (2) year materials and labor warranty for fiber optic cable.

b) Three (3) year materials and labor warranty for LED signal and signal equipment.

c) Five (5) year materials and labor warranty for luminaires.

The Contractor must involve the manufacturer in the installation and startup as needed to secure any extended manufacturer warranties required.

Nothing in this contract agreement is intended to limit any manufacturer’s warranty which provides the Agency with greater warranty rights than set forth in this section or the Contract Documents.

These specifications are not intended to constitute a period of limitations or waiver of any other rights or remedies the Agency may have regarding Contractor’s obligations under the Contract Documents or federal or state law.

Warranty shall include all components. The form of the warranty must be approved by the Engineer.
The warranty documentation must conform to the following requirements:

1. Written warranties, except manufacturer's standard printed warranties, must be on yours and your agents', material suppliers', installers', or manufacturers' own letterhead, addressed to and for the Agency's benefit. Submit warranties in the format described in this section, modified as approved by Engineer to suit the conditions pertaining to the warranty.

2. Obtain warranties, executed in triplicate by responsible Subcontractors and Suppliers, within 10 Working Days after completion of the applicable item of Work. Except for items put into use with the Agency's permission with date mutually agreed upon in writing, ensure the beginning time of warranty is the Project Completion date designated by Engineer.

3. Verify that documents are in proper form, contain full information, and are notarized.

4. Verify that warranties are signed by both Contractor and the appropriate agent.

5. Retain warranties until the time specified for submittal to the Engineer.

6. Provide warranties to the Agency with a neatly typed table of contents, identifying each warranty with the number and title of the applicable specification section requiring the warranty and the name of the product or Work item.

7. Separate each warranty with index tab sheets keyed to the table of contents listing. Provide complete information using separate typed sheets as necessary. The information must include a list of Subcontractors and Supplier with name, address, and telephone number of responsible principal.

Any work or equipment repaired or replaced under warranty shall be rewaranteed for the same period of time as the original warranty beginning on the day of acceptance of the replaced work or equipment by the Agency.

**6-9 LIQUIDATED DAMAGES.** Failure of the Contractor to complete the Work within the time allowed will result in damages being sustained by the Agency. Such damages are, and will continue to be, impracticable and extremely difficult to determine. The Contractor shall pay to the Agency, or have withheld from monies due it, the sum of $<insert calculated amount here> for each consecutive calendar day in excess of the time specified for completion of the Work plus additional days approved by the Engineer.

Execution of the Contract shall constitute agreement by the Agency and Contractor that amount specified as liquidated damages per day is the minimum value of the costs and actual damage caused by the failure of the Contractor to complete the Work within the allotted time. Such sum is liquidated damages and shall not be construed as a penalty, and may be deducted from payments due the Contractor if such delay occurs.

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

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

The full, unimpeded use of the existing roadway and right-of-way, except in the immediate vicinity of an actual work operation, by the general public, including patrons, residents, their guests, and service people of the properties shall be permitted by the Contractor at all times.

6-11 RIGHT TO AUDIT. The Agency shall have the right to review and audit, and the reasonable right of access to your and all Subcontractor’s premises to review and audit your compliance with the provisions of the Contract. This right includes the right to inspect and photocopy same, and to retain copies, outside of your premises, of any and all records with appropriate safeguards, if such retention is deemed necessary by the Agency in its sole discretion. The Agency will keep this information in strictest confidence.

The Contractor must include the Agency’s Right to Audit in the Subcontracts and ensure that these specifications are binding upon all Subcontractors.

The Agency’s Right includes the right to examine any and all books, records, documents and any other evidence of procedures and practices that the Agency determines is necessary to discover and verify that you are in compliance with all requirements under the Contract.

If there is a claim for additional compensation or for changes in Work, the Agency’s Right to Audit includes the right to examine and copy books, records, documents, bid preparation materials, and any and all other evidence and accounting procedures and practices that the Agency determines is necessary to discover and verify all direct and indirect costs, of whatever nature, which are claimed to have been incurred, anticipated to be incurred, or for which a claim for additional compensation or for changes in the Work have been submitted.

You must maintain complete and accurate records in accordance with generally accepted accounting practices in the construction industry. Make available to the Engineer for review and audit all Project related accounting records and documents, and any other financial data. Upon the Engineer’s request, you must submit exact duplicates of originals of all requested records to the Engineer.
6-11.1 Compliance Required Before Mediation and Litigation. As a condition precedent to proceeding with mandatory mediation and further litigation under 3-6, “DISPUTE RESOLUTION PROCESS” you must comply with the audit specifications within 60 days of the Engineer’s notice to review and audit compliance. See 2-12, “SPECIAL NOTICES.”

6-12 CLAIMS FOR DAMAGES. Should the Contractor suffer injury or damage to person or property because of any act or omission of the Agency or the Agency's employees, agents or others for whose acts the Agency is legally liable, such claim shall be made by the Contractor in writing to the Agency within a reasonable time, not to exceed thirty (30) days, after the first observance of such injury or damage. Failure to submit the written claim within in this time requirement shall constitute a waiver of any such claim.
SECTION 7 - RESPONSIBILITIES OF THE CONTRACTOR

7-1 THE CONTRACTOR'S EQUIPMENT AND FACILITIES

7-1.1 General. The Contractor shall furnish and maintain in good condition all equipment and facilities as required for the proper execution and inspection of the Work.

The Contractor shall provide and maintain enclosed toilets for the use of employees engaged in the Work. These accommodations shall be maintained in a neat and sanitary condition, and regularly pumped out.

7-1.2 Temporary Utility Services. The Contractor shall make all arrangements necessary for the provision of temporary utility services necessary for its own use during performance of the Work. The Contractor shall not draw water from any fire hydrant (except to extinguish a fire), without obtaining a permit from the water utility owner and the Agency.

All costs associated with procuring and use of temporary utility services shall be considered incidental to the items of work that they are associated with and there shall be no additional costs to the Agency.

The use of utilities from sources other than utility companies is strictly prohibited without prior written approval from the Engineer and the owner from which the utilities will be drawn. The Contractor shall also provide a written release from the property owner absolving the Agency from any and all responsibility in connection with storage of materials or equipment on said property. The Agency must approve the form and content of any release.

The Contractor shall contact Eastern Municipal Water District to obtain a construction water meter and to determine all terms, costs, conditions and regulations imposed on the Contractor for use thereof. The Contractor shall pay all costs associated with procuring and providing water for construction.

7-1.3 Contractor's Yard. The Contractor shall be solely responsible for yard site procurement, security, and liability. The yard shall be fenced, lighted and locked. A guard dog shall not utilized at the yard.

Stockpile of material and equipment storage locations shall be selected by the Contractor subject to approval by the Engineer. When any material or equipment is to be stored outside the highway or street right-of-way or other Agency property, the Contractor shall first obtain a written permit from the property owner on whose property the storage is to be made.

The Contractor shall file with the Engineer said permit or a certified true copy thereof, together with a written release from the property owner absolving the Agency from any and all
responsibility in connection with storage of materials or equipment on said property. The Agency must approve the form and content of any release.

The Contractor shall leave all storage areas in a neat clean condition, satisfactory to the Engineer and in accordance with the provisions of storage permits set by owner.

Full compensation for complying with the requirements of this Provision shall be considered as included in the Contract price paid for various items of work and there shall be no additional costs to the Agency.

7-1.4 Crushing and Screening Operations. Unless otherwise specified in the Special Provisions, the establishment and operation of portable screens and crushers will not be allowed on or adjacent to the Work site.

7-2 LABOR

7-2.1 General. Unless otherwise provided in the Contract Documents, the Contractor shall provide and pay for all labor and services necessary for the proper execution and completion of the Work.

The Contractor shall at all times enforce strict discipline and good order among the Contractor’s employees, including, but not limited to, appropriate public behavior and decorum, and shall not employ on the Project any unfit person or anyone not skilled in the task assigned them. The Engineer shall have the final determination as to any employees’ qualification to perform their duties. The Engineer may bar any employee of the Contractor from the project for behavior that is inappropriate, unsafe or detrimental to the Project.

Each machine or unit of equipment shall be operated by an experienced operator skilled in handling the particular make of machine or unit of equipment in use, at a speed or rate of production in conformance with the manufacturer’s recommendation.

The mention of any specific duty or liability imposed upon the Contractor shall not be construed as a limitation or restriction of any general liability or duty imposed upon the Contractor by this Contract. Such references to specific duties and liabilities are made for the purpose of explanation.

7-2.2 Labor Nondiscrimination. Attention is directed to the following Notice that is required by Chapter 5 of Division 4 of Title 2, California Code of Regulations.

NOTICE OF NONDISCRIMINATION PROGRAM
The provisions of California Government Code Section 12990 is incorporated into the Contract Documents and the Contractor shall comply with all of its provisions.

The Contractor may obtain a copy of the Code at http://www.leginfo.ca.gov/cgi-bin/displaycode?section=gov&group=12001-13000&file=12990

In accordance with CA Government Code 12990, Labor Code section 1735 and other applicable provisions of law, the Contractor and its subcontractors shall not discriminate against any employee or applicant for employment because of race, color, religion, sex, national origin, age, political affiliation, marital status, or handicap on this Work. The Contractor will take affirmative action to insure that employees are treated during employment or training without regard to their race, color, religion, sex, national origin, age, political affiliation, marital status, or handicap.

7-2.3 - Employment Eligibility; Contractor. By executing this Contract, Contractor verifies that it fully complies with all Applicable Law respecting the employment of undocumented aliens, including, but not limited to, the Immigration Reform and Control Act of 1986, as may be amended from time to time. Such requirements and restrictions include, but are not limited to, examination and retention of documentation confirming the identity and immigration status of each employee of the Contractor. Contractor also verifies that it has not committed a violation of any such law within the five (5) years immediately preceding the date of execution of this Contract, and shall not violate any such law at any time during the term of the Contract. Contractor shall avoid any violation of any such law during the term of this Contract by participating in an electronic verification of work authorization program operated by the United States Department of Homeland Security, by participating in an equivalent federal work authorization program operated by the United States Department of Homeland Security to verify information of newly hired employees, or by some other legally acceptable method. Contractor shall maintain records of each such verification, and shall make them available to the Agency or its representatives for inspection and copy at any time during normal business hours. The Agency shall not be responsible for any costs or expenses related to Contractor’s compliance with the requirements provided for in this Section.

7-2.4 Prevailing wages, records and reporting. The provisions of the California Labor Code is incorporated into the Contract Documents and the Contractor shall comply with all its provisions.

The Contractor shall pay prevailing wages, keep records and provide reporting as required by the State of California Labor Code and, <delete FDBA if no federal funds are involved>the Federal Davis-Bacon Act. If the Project is Federally-funded, the Contractor and any subcontractors shall not pay less than the higher of the state prevailing wage rate or or the Davis-Bacon wage rates determined by the United States Department of Labor.

<insert federal requirements depending on program fund source.>
Pursuant to Section 1775 of the Labor Code, the Contractor and any Subcontractors, shall, as a penalty to the Agency, forfeit the prescribed amounts (up to $200 as of January 1, 2016) per calendar day, or portion thereof, for each worker paid less than the prevailing wage rates.

The Contractor shall provide certified payroll documents to the Engineer for all labor provided on the Project no later than 10 working days after the payday they represent. The Agency may withhold progress payments, Change Order payments and/or retention payments until complete certified payroll documents are submitted.

The Contractor shall correct all errors in the certified payroll documents or errors in pay to labor within 5 working days upon determination of an error by the Engineer or DIR. The Agency may withhold 10% of any amount due up to $10,000 (or any amount allowable under California law) until all such errors are corrected.

The Contractor shall post a copy of the applicable prevailing wage rates at the work site that is readily accessible to all labor personnel at any time during the Project. The Agency may withhold any payments due until the rates are posted and kept in this manner.

No contractor or subcontractor may be listed on a bid proposal for a public works project (submitted on or after March 1, 2015) unless registered with the Department of Industrial Relations pursuant to Labor Code section 1725.5. Further, any contractor or subcontractor who has been found or determined to be in violation by the Labor Commissioner as described in Labor Code section 1771.1 shall not be eligible to bid on the Project or to perform work as a subcontractor on the Project. Any contract with an unregistered contractor or subcontractor is subject to cancellation.

No contractor or subcontractor may be awarded a contract for public work on a public works project (awarded on or after April 1, 2015) unless registered with the Department of Industrial Relations pursuant to Labor Code section 1725.5.

This project is subject to compliance monitoring and enforcement by the Department of Industrial Relations. Contractor and all subcontractors must provide Certified Payroll Records to Agency and submit them online in the DIR’s eCPR system database.

Pursuant to Section 1810 of the Labor Code, 8 hours of labor shall constitute a legal day's work. Pursuant to Section 1813 of the Labor Code, the Contractor and any Subcontractors shall pay to the Agency as a penalty the prescribed amount ($25 as of January 1, 2016) per calendar day for each worker required or permitted to work more than 8 hours in any 1 calendar day and 40 hours in any 1 calendar week without being compensated in accordance with Section 1815.

As a condition of payment the Contractor and subcontractors shall comply with all other requirements of the California Labor Code.
See Appendix 3 for additional requirements and forms. See also DIR Certified Payroll reporting requirements available from the DIR website at http://www.dri.ca.gov/Public-Works/Certified-Payroll-Reporting.html.

The Contractor shall defend, indemnify and hold the Agency, its elected officials, officers, employees and agents free and harmless from any claims, liabilities, costs, penalties or interest arising out of any failure or allege failure to comply with all labor related laws.

7-2.5. – Employment of Apprentices. The Contractor’s attention is directed to the provisions of sections 1777.5, 1777.6, and 1777.7 of the Labor Code concerning employment of apprentices by the Contractor or any subcontractor. The Contractor shall obtain a certificate of apprenticeship before employing any apprentice pursuant to sections 1777.5, 1777.6, and 1777.7 of the Labor Code. Information relative to apprenticeship standards, wage schedules, and other requirements may be obtained from the Director of Industrial Relations, the Administrator of Apprenticeships, San Francisco, California, or from the Division of Apprenticeship Standards and its branch offices.

7-2.6 Payment. All costs associated with compliance with section 7-2 LABOR shall be borne by the Contractor and there shall be no additional costs to the Agency. Contractor’s compliance with all parts of section 7-2 LABOR and its incorporated or referenced parts is a condition precedent to any payment due.

7-3 LIABILITY INSURANCE

7-3.1 General. The Contractor shall obtain, and at all times during performance of the Work of Contract, maintain all of the insurance described herein. Surety companies and insurance companies shall familiarize themselves with all of the conditions and provisions of the Contract Documents, and they waive the right of special notification of any change or modification of the Contract Documents or of decreased or increased work or of the cancellation of the Contract, or of any other acts by the Agency or any other additionally insured, under the terms of the Contract. Notwithstanding the provisions of any other contract or agreement, the failure of any surety company or insurance company to receive notification of any of the aforesaid changes shall in no way relieve the surety company or insurance company of its obligations under the Contract.

7-3.2 Workers’ Compensation Insurance. Contractor shall provide during the life of this Contract, Workers’ Compensation Insurance as required by the State of California, with Statutory Limits and Employers’ Liability insurance, in the amount of, at least, one million dollars ($1,000,000.00) per person per accident for bodily injury or disease. Contractor shall provide Agency with a certificate of Employer’s Liability Insurance. Such insurance shall comply with the provisions of the Contract Documents. The policy shall be endorsed, if applicable, to provide a
Borrowed Servant/Alternate Employer Endorsement shall contain a Waiver of Subrogation in favor of the Agency for all work performed by the Contractor, its employee, agents and subcontractors.

7-3.3 Commercial General Liability Insurance. Contractor shall procure and maintain during the life of this Contract and for such other period as may be required herein, at its sole expense, “occurrence” form Commercial General Liability insurance coverage, at least as broad as the most current ISO CAL Form 00 01 including but not limited to, premises liability, contractual liability, products/completed operations, personal and advertising injury, independent contractors, Completed Operations/Products (for ten [10] years after final completion) and Blanket Contractual, which may arise from or out of Contractor’s operations, use, and management of the Site, or the performance of its obligations hereunder. The policy shall not contain any exclusion contrary to the Contract Documents including but not limited to endorsements or provisions limiting coverage for (1) contractual liability (including but not limited to ISO CG 24 26 or 21 29); or (2) cross-liability for claims or suits against one insured against another. Policy limits shall not be less than $2,000,000 per occurrence for bodily injury, personal injury and property damage and general aggregate limit of not less than Four Million Dollars ($4,000,000) (or current limit, if greater) providing at least all of the following minimum coverage (with deductibles or self-insured retentions not to exceed $25,000). If Commercial General Liability Insurance or other form with a general aggregate limit is used, either the general aggregate limit shall apply separately to this project/location or the general aggregate limit shall be twice the required occurrence limit. Defense costs shall be paid in addition to the limits with the Agency and others covered having the right to select legal counsel.

The limits set forth herein shall apply separately to each insured against whom claims are made or suits are brought, except with respect to the limits of liability.

The limits set forth herein shall not be construed to relieve the Contractor from liability in excess of such coverage, nor shall it limit Contractor’s indemnification obligations to the Agency and others, and shall not preclude the Agency from taking such other actions available to the Agency under other provisions of the Contract Documents or law.

Contractor shall make certain that any and all subcontractors hired by Contractor are insured in accordance with the Contract Documents. If any subcontractor’s coverage does not comply with the foregoing provisions, Contractor shall indemnify and hold the Agency, it’s employees, elected officials, private consultants and volunteers harmless from any damage, loss, cost, or expense, including attorneys’ fees, incurred by the aforementioned as a result thereof.

All general liability policies provided pursuant to the provisions of this Article shall comply with all the provisions of the Contract Documents.

All general liability policies shall be written to apply to all bodily injury, including death, property damage, personal injury, owned and non-owned equipment, blanket contractual liability,
completed operations liability, explosion, collapse, under-ground excavation, removal of lateral support, and other covered loss, however occasioned, occurring during the policy term, and shall specifically insure the performance by Contractor of that part of the indemnification contained in these Special Provisions relating to liability for injury to or death of persons and damage to property. If the coverage contains one or more aggregate limits, a minimum of 50% of any such aggregate limit must remain available at all times; if over 50% of any aggregate limit has been paid or reserved, the Agency may require additional coverage to be purchased by Contractor to restore the required limits. Contractor may combine primary, umbrella, and as broad as possible excess liability coverage to achieve the total limits indicated above. Any umbrella or excess liability policy shall include the additional insured endorsement described in the Contract Documents.

7-3.4 Automobile Liability Insurance. Contractor shall take out and maintain at all times during the term of this Contract a comprehensive “occurrence” form Automobile Liability Insurance at least as broad as ISO CA 00 01 (Any Auto) in the amount of, at least, two million dollars ($2,000,000) (or current limit carried, if higher) combined single limit for bodily injury and property damage, providing at least all of the following coverage (with deductibles or self-insured retentions not to exceed $25,000). Such insurance shall provide coverage for bodily injury and property damage including coverage for owned, non-owned and hired vehicles, in a form and with insurance companies acceptable to the Agency. Such insurance shall comply with the provisions of the Contract Documents.

7-3.5 Builder’s Risk (“All Risk”). When the Project work includes construction of a structure in whole or part, it is the Contractor’s responsibility to maintain or cause to be maintained Builder’s Risk (“All Risk”) extended coverage insurance on all work, material, equipment, appliances, tools, and structures that are or will become part of the Work and subject to loss or damage by fire, and vandalism and malicious mischief, in an amount to cover 100% of the replacement cost. The Agency accepts no responsibility for the Work until the Work is formally accepted by the Agency. The Contractor shall provide a Course of Construction certificate evidencing this coverage before commencing performance of the Work. Such coverage shall name the Agency as a loss payee as its interest may appear.

The named insureds shall be Contractor, all Subcontractors of any tier (excluding those solely responsible for design work), suppliers, and Agency, its elected and appointed officers, agents, officials, employees, consultants and volunteers, as their interests may appear. Contractor shall not be required to maintain property insurance for any portion of the Work following acceptance by the City Council or Governing Board of the Agency.

Policy shall be provided for replacement value on an “all risk” basis. There shall be no coinsurance penalty provision in any such policy. Policy must include: (1) coverage for any ensuing loss from faulty workmanship, nonconforming work, omission or deficiency in design or specifications; (2) coverage against machinery accidents and operational testing; (3) coverage for removal of debris,
and insuring the buildings, structures, machinery, equipment, materials, facilities, fixtures and all 
other properties constituting a part of the Project; (4) transit coverage, including ocean marine 
coverage (unless insured by the supplier), with sub-limits sufficient to insure the full replacement 
value of any key equipment item; and (5) coverage with sub-limits sufficient to insure the full 
replacement value of any property or equipment stored either on or off the Site. Such insurance 
shall be on a form acceptable to Agency to ensure adequacy and sublimit.

In addition, the policy shall meet the following requirements:

1) Insurance policies shall be so conditioned as to cover the performance of any extra work 
   performed under the Contract.
2) Coverage shall include all materials stored on site and in transit.
3) Coverage shall include Contractor’s tools and equipment.
4) Insurance shall include boiler, machinery and material hoist coverage.

Such insurance, certificates and endorsements shall comply with all provisions of the Contract 
Documents.

7-3.6 Form and Proof of Carriage of Insurance. Any insurance carrier providing insurance 
coverage required by the Contract Documents shall be admitted to and authorized to do business 
in the State of California unless waived, in writing, by the Agency’s Risk Manager. Carrier(s) shall 
have an A.M. Best rating of not less than an A:VII, unless the Agency agrees in writing to accept 
a different rating. Insurance deductibles or self-insured retentions must be declared by the 
Contractor, and such deductibles and retentions shall have the prior written consent from the 
Agency. At the election of the Agency the Contractor shall either 1) reduce or eliminate such 
deductibles or self-insured retentions, or 2) procure a bond which guarantees payment of losses 
and related investigations, claims administration, and defense costs and expenses. If umbrella 
or excess liability coverage is used to meet any required limit(s) specified herein, the Contractor 
shall provide a “follow form” endorsement satisfactory to the Agency indicating that such 
coverage is subject to the same terms and conditions as the underlying liability policy.

Contractor shall cause its insurance carrier(s) to furnish the Agency with either 1) a properly 
executed original Certificates(s) of Insurance and certified original copies of amending Endorsements 
effecting coverage as required herein, or 2) if requested to do so in writing by the 
Agency’s Risk Manager, provide original certified copies of policies including all Endorsements 
and all attachments thereto, showing such insurance is in full force and effect. All certificates and 
endorsements are to be received and approved by the Agency before work commences.

The Agency, its elected officials, officers, employees, agents, representatives, consultants, 
contract employees and volunteers shall be named as Additional Insureds on Contractor’s All Risk 
policy and on Contractor’s and its subcontractors’ policies of Commercial General Liability and 
Automobile Liability insurance using, for Contractor’s policy/ies of Commercial General Liability 
insurance, ISO CG forms 00 01, 20 10, and 20 37 (or endorsements providing the exact same
coverage), and, for subcontractors’ policies of Commercial General Liability insurance, ISO CG form 20 38 (or endorsements providing the exact same coverage).

All of the following endorsements are required to be made a part of each of the above described policies:

1. “City of Menifee and its elected officials, officers, employees, agents, representatives, consultants, contract employees and volunteers are hereby added as additional insures but only as respects work done by, for, or on behalf of the named insures."

2. Contractor must procure and maintain in full force and effect during the term of this Contract the following types of insurance with the following minimum coverage limits: $2,000,000 per occurrence and $4,000,000 aggregate for Commercial General Liability; $2,000,000 for Business Automobile Liability; $1,000,000 for Workers’ Compensation; Completed Value of the Project for Builder’s Risk; $1,000,000 per occurrence and $2,000,000 aggregate for Professional Liability; $1,000,000 per occurrence and $2,000,000 aggregate for Contractors’ Pollution Legal Liability;

3. If the contractor maintains higher limits than the minimums shown above, the City requires and shall be entitled to coverage for the higher limits maintained by the contractor. Any available insurance proceeds in excess of the specific minimum limits of insurance and coverage shall be available to the City.

4. "This policy shall be considered primary insurance as respects any other valid and collectible insurance the City of Menifee and all other additionally insured may possess, including self-insured retention, the City of Menifee and all other additionally insured may possess, and any other insurance the City of Menifee and all other additionally insured do possess shall be considered excess insurance only."

5. "This insurance shall act for each insured, and additional insured, as though a separate policy had been written for each. This, however, will not act to increase the limit of liability of the insuring company."

6. “All and each additionally insured shall have the right to select their own defense counsel.”

7. “Thirty (30) days prior written notice of cancellation shall be given to the Agency in the event of cancellation and/or reduction in coverage of any nature. Such notice shall be sent to:

Jonathan G. Smith,  City Engineer
City Hall
29714 Haun Rd, Menifee
California 92586
8. All policies of insurance shall contain a provision under which the insurance carrier waives its rights of subrogation with respect to the Agency and the other parties names as additional insurees.

9. Contractor hereby agrees to waive rights of subrogation which any insurer of Contractor may acquire from Contractor by virtue of the payment of any loss. Contractor agrees to obtain any endorsement that may be necessary to affect this waiver of subrogation. The Workers’ Compensation policy shall be endorsed with a waiver of subrogation in favor of the Entity for all work performed by the Contractor, its employees, agents and subcontractors

10. If an excess or umbrella liability policy is used to meet limit requirements, the insurance must provide coverage at least as broad as specified for the underlying coverages. Any such coverage provided under an excess or umbrella liability policy must include a “drop down provision” providing primary coverage above a maximum $25,000 self-insured retention for liability not covered by primary but covered by the umbrella. Coverage must be provided on a “pay on behalf” basis, with defense costs payable in addition to policy limits. There must be no cross-liability exclusion precluding coverage for claims or suits by one insured against another. Coverage must be applicable to City for injury to employees of Contractor, its subcontractors or others performing work to satisfy Contractor’s obligations under this Contract. The scope of coverage provided is subject to approval of City following receipt of proof of insurance as required herein. Limits are subject to review, but in no event may be less than $2,000,000 per occurrence and aggregate.

11. The existence of the required insurance coverage under this Contract will not be deemed to satisfy or limit Contractor’s indemnity obligations under this Contract. Contractor acknowledges that the insurance coverage and policy limits set forth in this Contract constitute the minimum coverage and policy limits required. Any insurance proceeds available to Agency in excess of the limits and coverage required by this Contract, and which is applicable to a given loss, must be made available to Agency to compensate it for such losses.

Certificates of Insurance on AIA Document G705 (1978) or other Agency-approved form, shall be submitted to the Engineer prior to commencement of the Work. The Contractor shall provide one copy of each required Certificate of Insurance for each copy of the Agreement. The Contractor shall furnish copies of separate certificates and endorsements for each Subcontractor. The Contractor agrees to furnish promptly to the Agency originals of any endorsements issued after execution of the Contract amending the Contractor’s coverage or limits. The Contractor further agrees that, upon receipt of any notice of cancellation or alteration, the Contractor shall procure, within five (5) days, other policies of insurance similar in all respects to the policy or policies about to be canceled or altered. If the Contractor fails to provide acceptable policies of insurance, the Agency may obtain such insurance at the cost and expense of Contractor.
Notwithstanding the minimum limits set forth in this Contract for any type of insurance coverage, all available insurance proceeds in excess of the specified minimum limits of coverage shall be available to the parties required to be named as Additional Insureds hereunder.

Contractor and its insurance carriers shall provide a Waiver of Subrogation in favor of those parties.

The Certificates(s) and policies of insurance shall contain or shall be endorsed to contain the covenant of the insurance carrier(s) that it shall provide no less than thirty (30) days written notice be given to the Agency prior to any material modification or cancellation of such insurance. In the event of a material modification or cancellation of coverage, the Agency may terminate the Contract or stop the Work in accordance with the Contract Documents, unless the Agency receives, prior to such effective date, another properly executed original Certificate of Insurance and original copies of endorsements or certified original policies, including all endorsements and attachments thereto evidencing coverage’s set forth herein and the insurance required herein is in full force and effect.

Contractor shall not take possession, or use the Site, or commence operations under this Contract until the Agency has been furnished original Certificate(s) of Insurance and certified original copies of endorsements or policies of insurance including all endorsements and any and all other attachments as required in this section. The original endorsements for each policy and the Certificate of Insurance shall be signed by an individual authorized by the insurance carrier to do so on its behalf.

Certificate(s) of Insurance, policies and endorsements shall so covenant and shall be construed as primary, and the Agency’s insurance and/or deductibles and/or self-insured retentions or self-insured programs shall not be construed as contributory. The Contractor shall provide endorsement(s) to this effect, using ISO CG form 20 01 or endorsement(s) providing the exact same coverage, at the Agency’s request.

The Agency reserves the right to adjust the monetary limits of insurance coverage during the term of this Contract including any extension thereof if in the Agency’s reasonable judgment, the amount or type of insurance carried by the Contractor becomes inadequate.

Contractor shall require all tiers of sub-contractors working under this Contract to provide the insurance required under this Article 29 unless otherwise agreed to in writing by Agency.

7-3.7 Investigation and Cooperation. Contractor agrees to assist in every manner possible in the reporting and investigation of any accident and, upon request, to cooperate with all interested insurance carriers in the handling of any claim by securing and giving evidence and obtaining the attendance of witnesses as required for the resolution of any claim or lawsuit.
7-3.8 Limitations. Nothing contained in these insurance requirements is to be construed as limiting the type, quality or quantity of insurance that the Contractor should maintain, or the extent of the Contractor’s responsibility or liability for payment of damages resulting for the Contractor’s operations under the Contract. The carrying of the insurance specified herein shall not be construed to be a limitation of liability on the part of the Contractor or as a matter of law.

7-3.9 Payment. All costs for compliance with section 7-3 LIABILITY INSURANCE shall be borne by the Contractor and there shall be no additional costs to the Agency.

7-4 WORKERS COMPENSATION INSURANCE.

7-4.1 General. The Contractor shall obtain, and at all times during performance of the Work or Contract maintain, workers’ compensation insurance for all of the employees engaged in Work under this Contract, on or at the Site, and, in case any of sublet Work, the Contractor shall require the subcontractor similarly to provide workers’ compensation insurance for all the latter’s employees as prescribed by State law. Any class of employee or employees not covered by a subcontractor’s insurance shall be covered by the Contractor’s insurance. In case any class of employees engaged in work under this Contract, on or at the Site, is not protected under the Workers’ Compensation Statutes, the Contractor shall provide or shall cause a subcontractor to provide, adequate insurance coverage for the protection of such employees not otherwise protected. The Contractor is required to secure payment of compensation to his employees in accordance with the provisions of section 3700 of the Labor Code. The Contractor shall file with the Agency certificates of his insurance protecting workers. Company or companies providing insurance coverage shall be acceptable to the Agency, if in the form and coverage as set forth in the Section 7-3. Endorsement No. 7 listed above is the only endorsement required to be made a part of the Workers Compensation and Employers' Liability policy.

7-4.2 Payment. All costs for compliance with section 7-4 WORKERS COMPENSATION INSURANCE shall be borne by the Contractor and there shall be no additional costs to the Agency.

7-5 PERMITS. The Contractor shall obtain and pay for all costs incurred for permits necessitated by its operations such as, but not limited to, those permits required for encroachment in the public right of way, building, construction, excavation, plumbing, electrical, mechanical, night work, overload, blasting, and demolition.

7-5.1 Licenses. The contractor and subcontractors shall obtain and pay costs incurred for all licenses as required by their operations, including municipal business license(s).

7-5.2 Agency Permits. The Contractor must obtain and pay for all business taxes, permits, and fees required for constructing the Project and licenses and inspections necessary for the proper execution and completion of the Work unless specified otherwise in the Contract Documents.
The contractor shall obtain and pay costs incurred for all Permits from adjoining agencies such as but not limited to Caltrans for encroachment or traffic control permits, MTS for work adjacent to rail lines necessitated by his operations, Cal-OSHA, etc., (if required).

The Environmental Quality Act of 1970 (Chapter 1433, Stats. 1970), as amended, may be applicable to permits, licenses, and other authorizations, which the Contractor must obtain from agencies in connection with performing the Work of the Contract. The Contractor shall comply with the provisions of said statutes in obtaining such permits, licenses, and other authorizations and they shall be obtained in sufficient time to prevent delays to the Work.

7-5.3 Railroads. The Contractor, at the Contractor’s sole cost and expense, is required to comply with the terms of, and obtain, the Right of Entry Permit from any rail entity for this project. This includes but is not limited to permit fees, insurance and bonding requirements, deposits, and all other terms per the Right of Entry Permit.

The Contractor shall cooperate with the Riverside County Transportation Commission (RCTC), and any other entity that has jurisdiction with regards to any rail line, herein after collectively referred to as Railroad. It is understood the Railroad shall have absolute authority and right to cause the Contractor’s work on Railroad Property to cease.

Unless a Right of Entry permit is included with the construction documents the Contractor, at the Contractor’s sole cost and expense, is required to comply with the terms of, and obtain, the Right of Entry Permit from RCTC for this project. This includes but is not limited to permit fees, insurance and bonding requirements, deposits, and all other terms per the Right of Entry Permit Application found in the Appendix or as otherwise defined by RCTC. Additional information may be available at www.rctc.org

The Contractor shall notify RCTC in writing at least ten (10) working days prior to commencement of work on Railroad Right of Way at:

(Enter the appropriate contact information, as determined, in consultation with RCTC; REMOVE THIS TEXT BEFORE PRINTING THE SPECIFICATIONS)

Riverside County Transportation Commission
P.O. Box 12008
Riverside, CA 92502
(951) 787-7141

The details of construction, including proposed method of setup to perform the work, shall be submitted to the railroad for approval and shall not be undertaken without approval from the Railroad.
All persons entering into the railroad right of way are required to attend a preconstruction Railroad Safety Training course conducted by, or otherwise approved, by RCTC. No additional compensation to Contractor will be allowed for attendance at a Railroad Safety Training course.

(EDIT AS REQUIRED FOR THE SUBJECT PROJECT; REMOVE THIS TEXT BEFORE PRINTING THE SPECIFICATIONS).

Railway flaggers will be required on this Project. The presence of equipment, materials, or manpower will not be allowed within 25 feet of the centerline of any track without the presence of railway flaggers. The Contractor shall be responsible to coordinate with RCTC to schedule flaggers. Costs for railway flaggers shall be the responsibility of the Contractor and shall be subtracted from the deposit made to RCTC.

7-5.4 Payment. Except as specified herein or provided for elsewhere in these Special Provisions as being included in specific contract items of work, compliance with the provisions of Section 7-5, shall be considered as included in the various contract items of work to which such regulations are applicable and no additional compensation shall be made therefore. Further, the enforcement of any requirements of the permits mentioned above during the performance of the Work shall not be the basis for any additional compensation.

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

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

The Engineer may deduct the value of superintendence (value shall be determined by the reasonable cost of provide and a superintendent, transportation and communication) from amounts due to the Contractor for any partial or complete failure to provide superintendence to the Project.

7-6.1 Project Meetings. Your representatives e.g., field supervisor, superintendent, and project manager, must attend weekly and other scheduled construction meetings as required by the Engineer. If any of your staff cannot attend, you must notify the Engineer a minimum of 24 hours
in advance, prior to the start of the scheduled meeting. If you do not provide the required notification, you must pay for the costs of the Agency’s staff, Consultants, or both that attend. You will be charged a minimum of 2 hours of the Engineer’s time plus the time of the Agency’s other employees or representatives that attend the meeting at full cost recover rates.

7-7 COOPERATION AND COLLATERAL WORK. The Engineer may award contract extensions for delays caused by utilities or third parties at the sole discretion of the Engineer. No additional compensation will be made for such delays. If the Contractor receives damages from a third party for delays to the project by third parties the Agency will not grant a time extension to the project.

7-8 WORK SITE MAINTENANCE

7-8.1 General. Throughout all phases of construction, including suspension of the Work, and until acceptance of the Project by the Engineer the Contractor shall keep the Work site clean and free from rubbish and debris. Rubbish and debris collected on the Work site shall only be stored in roll-off, enclosed containers prior to disposal. Stockpiles of such will not be allowed.

When required by the Special Provisions, the Contractor shall provide a self-loading motorized street sweeper equipped with a functional water spray system. The sweeper shall clean all paved areas within and adjacent to the work site and all paved haul routes at least once each working day.

The Contractor shall ensure there is no spillage along haul routes. Any such spillage shall be removed immediately and the area cleaned. The Contractor's haul routes shall also be kept free from dirt, rubbish, and unnecessary obstruction resulting from the Contractor’s operations.

Disposal of all rubbish and surplus materials shall be off the Project Site, at the Contractor’s own expense, and in accordance with all federal, state and local codes, regulations and ordinances governing locations and methods of disposal.

Should the Contractor fail to keep the Work site free from rubbish and debris, the Engineer may suspend the Work until the condition is corrected, or cause the work to be done by others and deduct all costs for such work from amounts due to the Contractor. No additional compensation or time will be allowed as a result of such suspension.

After completion of all other work on the Project and before making application for final acceptance of the Work, the Contractor shall clean the Work Site of the Contractor’s operations, including all areas under the control of the Agency that have been used by the Contractor in connection with the Work on the Project, removing all debris, surplus material, equipment and all temporary construction for facilities of whatever nature, unless otherwise approved by the
Agency. Final acceptance of the Work by the Agency will be withheld until the Contractor has satisfactorily complied with the foregoing requirements for final clean-up on the Work Site.

All costs for general worksite maintenance shall be included in the various items of work costs and there shall be no additional costs to the Agency.

**7-8.2 Air Pollution Control.** The Contractor shall not discharge smoke, dust, equipment exhaust, or any other air contaminants into the atmosphere in such quantity as will violate any Federal, State, or local regulations. The Contractor shall also abate dust nuisance by cleaning, sweeping and spraying with water, or other means as necessary.

The Contractor shall use low sulphur fuel (0.5% by weight) for construction equipment, shall phase and schedule construction activities to avoid high ozone days, and shall maintain equipment engines in proper tune.

The Contractor shall not, in connection with the Work, discharge any smoke, dust or other contaminants into the atmosphere or discharge any fluids or materials into any lake, river, stream, or channel as will violate the requirements or regulations of the Corps of Engineers, Department of Fish & Game or any other legally constituted authority. The Contractor shall control accumulation of waste materials and rubbish and dispose of waste materials and rubbish off-site on (at least) weekly intervals. Burning of materials is not permitted.

**7-8.3 Noise Control.** Noise generated from the Contractor's operations shall be controlled as specified in the Special Provisions. The contractor shall not make any noise at or near the Project before or after the allowed and approved work times.

**7-8.4 Storage of Equipment and Materials**

**7-8.4.1 General.** Materials and equipment shall be removed from the Work site as soon as they are no longer necessary. Before inspection by the Engineer for acceptance, the Work site shall be cleared of equipment, unused materials, and rubbish so as to present a satisfactory clean and neat appearance.

Excess excavated material shall be removed from the Work site immediately unless otherwise specified in the Special Provisions.

Forms and form lumber shall be removed from the Work site as soon as practicable after stripping.

**7-8.4.2 Storage in Public Streets.** Construction materials and equipment shall not be stored in streets, roads, or highways for more than 5 days after unloading unless otherwise specified in the Special Provisions or approved in writing by the Engineer. All materials or equipment not
installed or used in construction within 5 days after unloading shall be stored at a location approved by the Engineer.

Excavated material, except that which is to be used as backfill in the adjacent trench, shall not be stored in public streets unless otherwise specified in the Special Provisions or approved in writing by the Engineer. Immediately after placing backfill, all excess excavated material shall be removed.

7-8.4.3 Storage on Private Property. The Contractor and all Subcontractors shall minimize the effects of construction operations upon private properties adjacent to the Work. Prior to storing equipment or material on private property, the Contractor shall provide copies of all letters of permission or written agreements executed by affected property owners for the purpose of granting trespass rights to enter upon, stockpile or store Contractor’s supplies and equipment. The Contractor shall, as a penalty to the City, forfeit $100 per day as a fine for each affected parcel as determined in the sole discretion of the Engineer for failure to provide copies of such documentation to the Engineer prior to storing equipment or material on private property. Said fine or fines will be deducted from the Contractor’s subsequent monthly progress payment. The Contractor is solely responsible to initiate contact and negotiate agreement with property owners if the Contractor should desire to use private property for storage or other purposes.

Materials or equipment placed on private property without owner's consent or in breach of owner/contractor agreement shall constitute ground for immediate issuance of a stop work notice to the Contractor. The Contractor shall then be required to suspend all operations until affected property is cleaned up and restored to original condition.

Additional contract days will not be granted due to stop work action against Contractor. **Stop Work action(s) shall not be the basis for any additional compensation.**

7-8.5 Sanitary Sewers.

7-8.5.1 General. The flow of sewage shall not be interrupted. Should the Contractor disrupt the operation of existing sanitary sewer facilities, or should disruption be necessary for performance of the Work, the Contractor shall bypass the sewage flow around the Work. Sewage shall be conveyed in closed conduits and disposed of in a sanitary sewer system. Sewage shall not be permitted to flow in trenches nor be covered by backfill.

Whenever sewage bypass and pumping is required by the Plans or Specifications, or the Contractor so elects to perform, the Contractor shall submit a working drawing detailing its proposed plan of sewage bypass and pumping.
7-8.5.2 Sewage Bypass and Pumping Plan. The plan shall indicate the locations and capacities of all pumps, sumps, suction and discharge lines. Equipment and piping shall be sized to handle the peak flow of, the section of sewer line to be bypassed and pumped. Bypass piping, when crossing areas subject to traffic loads, shall be constructed in trenches with adequate cover and otherwise protected from damage due to traffic. Lay-flat hose or aluminum piping with an adequate casing and/or traffic plates may be allowed if so approved by the Engineer. Bypass pump suction and discharge lines that extend into manholes shall be rigid hose or hard pipe. Lay flat hose will not be allowed to extend into manholes. The Contractor shall provide a backup bypass pumping system in case of malfunction. The backup bypass system shall provide 100 percent standby capability, and be in place and ready for immediate use. Each standby pump shall be a complete unit with its own suction and discharge piping. In addition to the backup system, the Contractor shall furnish and operate vacuum trucks when required by the Plans or Special Provisions.

7-8.5.3 Spill Prevention and Emergency Response Plan. The Contractor shall prepare and submit a spill prevention and emergency response plan. The plan shall address implementation of measures to prevent sewage spills, procedures for spill control and containment, notifications, emergency response, cleanup, and spill and damage reporting.

The plan shall account for all storm drain systems and water courses within the vicinity of the Work which could be affected by a sewage spill. Catch basins that could receive spilled sewage shall be identified. Unless otherwise specified in the Special Provisions, these catch basins shall be sealed prior to operating the bypass and pumping system. The Contractor shall remove all material used to seal the catch basins when the bypass and pumping system operations are complete.

The Contractor shall be fully responsible for containing any sewage spillage, preventing any sewage from reaching a watercourse, recovery and legal disposal of any spilled sewage, any fines or penalties associated with the sewage spill imposed upon by the Agency and/or the Contractor by jurisdictional regulatory agencies, and any other expenses or liabilities related to the sewage spill.

7-8.5.4 Payment. All costs associated with the development and implementation of the sewer bypass system and Spill Prevention and Emergency Response Plan shall be paid in accordance with the line item “Sewer Bypass”, if the is no line item then all costs shall be included in the various relevant line items and there shall be no additional costs to the Agency.

7-8.6 Water Pollution Control. The Project requires storm water pollution control measures.

7-8.6.1 General. This Project shall conform to the requirements of the Area-Wide Urban Runoff Management Program for the Riverside County Flood Control District (RCFCD), the County of Riverside, and the Incorporated Cities of the Santa Ana Region Order No. R8-2010-0033 issued
by the Santa Ana Regional Water Board. This Permit, hereinafter referred to as the “MS4 Permit” regulates all municipal activities. In conjunction with the MS4 Permit, all activities associated with construction must also comply with the Statewide General Permit for Storm Water Discharges Associated with Construction and Land Disturbance Activities, Order No. 2009-0009-DWQ, (NPDES No. CAS000002) herein referred to as the General Construction Activity Permit, or latest version. The Project shall also conform to the City’s local code of ordinances for Storm Water/Urban Runoff, the City’s Local Implementation Plan (LIP) and the Riverside County’s Drainage Area Management Plan (DAMP).

The Contractor shall become fully informed of and comply with the applicable provisions of the above referenced Permits and federal, state and local regulations that govern the Contractor’s operations and storm water discharges from both the Project site and areas of disturbance outside the Project limits during construction. Unless arrangements for disturbance of areas outside the Project limits are made by the City and made part of the contract, it is expressly agreed that the City assumes no responsibility to the Contractor or property owner whatsoever with respect to any arrangements made between the Contractor and property owner to allow disturbance of areas outside the Project limits.

7-8.6.2 Best Management Practices (BMP’s). It is possible that storm, surface, and possible ground or other waters will be encountered at various times and locations during the Work. Such waters may interfere with the Contractor’s operation and may cause damage to adjacent or downstream private and/or public property by flooding, lateral erosion, sedimentation, or pollution if not properly controlled by the Contractor. The Contractor assumes all said risks and acknowledges that the Contractor’s bid was prepared accordingly.

The Contractor shall conduct operations in such a manner that storm or other waters may proceed without obstruction along existing street and drainage courses. Drainage of water from existing or proposed catch basins shall be maintained at all times. Diversion of water for short reaches to protect construction in progress will be permitted in areas and in a manner whereby public or private properties are not damaged, or in the opinion of the Engineer, are not subject to the probability of damage. The Contractor shall maintain and provide drainage control throughout and adjacent to the Project Site at all times during the construction contract.

The work includes but is not limited to:

a) The exercise of care and the execution of every reasonable precaution by the CONTRACTOR as required by the conditions of the site, weather and construction activities involved;

b) The prevention, control and abatement of waterborne silts, sediments, earth materials, inorganics, chemicals, construction materials, trash, and debris in order
that pollution of the existing onsite and downstream watercourses is prevented or minimized.

c) The implementation or construction of various devices, facilities, or features shown on the Plans;

d) The implementation or construction of any devices, facilities, or programs as required conditions of any regulatory agency permits for the Project. The work therefore includes, but is not limited to, the construction and/or installation of temporary devices such as hay (straw) bales; silt fences; gravel bags; erosion control netting, fabric, blankets, or mats; silt or sediment basins; dikes or berms; swales, linings; ponds; diversion structures, pipes, and related facilities.

e) Cleaning, repairing, silt and sediment removal, maintenance and the removal of devices.

Unless other more restrictive requirements are specified elsewhere in the General Conditions or these Special Provisions, or as a requirement of regulatory or other agency permits, the following minimum provisions shall be met:

a) Equipment and workers for emergency work shall be made available at all times during the rainy season. All necessary materials shall be stockpiled on site at convenient locations to facilitate rapid construction of temporary devices when rain is imminent.

b) Devices shown on the Plans shall not be moved or modified without the approval of the Engineer.

c) The Contractor shall restore all erosion control devices to working order to the satisfaction of the Engineer after each runoff-producing rainfall.

d) The Contractor shall install additional erosion control measures as may be required by the Engineer due to uncompleted grading operations or unforeseen circumstances which may arise.

e) The Contractor shall be responsible and shall take necessary precautions to prevent public trespass onto areas when impounded waters create a hazardous condition.

f) During the rainy season and when rainfall is probable, graded areas around the project perimeter must drain away from the face of slope at the conclusion of each working day.
g) All removable protective devices shown shall be in place at the end of each working day when the five-day rain probability forecast exceeds 40 percent.

Compliance with the requirements of this section shall in no way relieve the Contractor from its responsibility to comply with the other provisions of the contract and in particular its responsibility for damage and for preservation of property.

Failure to take said measures satisfactory to the Engineer or regulatory agencies having jurisdiction will subject Contractor to orders to cease operations. Any losses to Contractor associated therewith shall be at Contractor’s sole expense.

7-8.6.3 Storm Water Pollution Prevention Plan (SWPPP). If the City does not provide a SWPPP and when so specified or if so required by a jurisdictional regulatory agency, the Contractor shall prepare and submit per 2-5.3 a SWPPP in conformance to the requirements specified by the jurisdictional regulatory agency. The Notice of Intent will be filed by the City. The SWPPP shall be prepared by a qualified QSD.

The Contractor shall provide a Qualified Storm Water Practitioner (QSP) and a Qualified Storm Water Developer (QSD), including, but not limited to, all necessary tools, equipment, testing devices, materials, facilities, and resources to perform all testing, reporting, sampling, laboratory analysis, storm water pollution prevention plan creation/modification necessary to comply with all applicable laws, standards, and requirements relating to storm water compliance to the satisfaction of the Engineer.

The QSD and QSP shall not be a direct employee of the Contractor, construction sub-contractor, and/or material supplier, but shall be an independent consultant firm solely hired for QSD/QSP and storm water compliance responsibilities on this project. If the QSD/QSP is an employee of an Engineering firm or similar entity that offers multiple non-construction related services (ex: survey) a waiver or modification to the requirements in this paragraph may be authorized with a formal written request from the Contractor and formal written approval by the Engineer prior to construction activities commencing. Non-approval of this waiver shall not be cause for delay or extension of working days.

A submittal for the QSD/QSP shall be required within 15 days of the award of the construction contract and shall at a minimum include the qualifications of the specific individual(s) performing these services and proof of their QSD/QSP certifications to the satisfaction of the Engineer. The approval of this submittal shall be required prior to start of any construction related activities. Disapproval or resubmittal of the QSD/QSP qualifications shall not be cause for delay or extension of working days.

The Contractor shall be solely responsible for preparing (if one is not provided), amending, finalizing and maintaining all requirements in the Storm Water Pollution Prevention Plan.
(SWPPP) including but not limited to all reporting, testing, Rain Event Action Plan preparation/implementation, and SWPPP plan modifications by a qualified QSP/QSD’s in conformance with all applicable stormwater laws and regulations.

The Contractor shall maintain all storm water related documents in triplicate. Two (2) copies of all documents shall be given to the Engineer. The Contractor shall ensure one copy of all storm water documents are maintained on site and made available upon demand by the Engineer, other City Staff, or any other agency or entity pertaining to the enforcement of storm water regulations.

The Contractor shall reimburse the City for any fines levied against it from governing agencies arising from non-compliance.

No work having potential to cause water pollution, as determined by the Engineer, shall be performed until the SWPPP has been returned with “no exception taken” by the Engineer.

Within 15 days after the award of the contract, the Contractor shall submit 3 copies of the SWPPP to the Engineer. If revisions are required, as determined by the Engineer, the Contractor shall revise and resubmit the SWPPP within 15 days of receipt of the Engineers comments. Upon completion of the SWPPP submittal review process, additional copies of the SWPPP, addressing all comments, shall be submitted to the Engineer. Rejection or required resubmittals of the SWPPP shall not be cause for delay or extension of working days. However, in order to allow construction activities to proceed, the Engineer, at his/her sole discretion may conditionally allow limited construction activities to proceed while minor SWPPP revisions are being completed.

The SWPPP shall incorporate control measures in the following categories:

Soil stabilization practices;
Sediment control practices;
Sediment tracking control practices;
Wind erosion control practices; and
Non-storm water management and waste management and disposal control practices.

Specific objectives and minimum requirements for each category of control measures are contained in the Handbook.

The Contractor shall consider the objectives and minimum requirements presented in the Handbook for each of the above categories. When minimum requirements are listed for any category, the Contractor shall incorporate into the SWPPP and implement on the project, one or more of the listed minimum controls required in order to meet the pollution control objectives for the category. In addition, the Contractor shall consider other control measures
presented in the Handbook and shall incorporate into the SWPPP and implement on the project the control measures necessary to meet the objectives of the SWPPP. The Contractor shall document the selection process on conformance with the procedure specified in the Handbook.

The SWPPP shall include, but no limited to, the following items as described in the Handbook and Permit:

Source Identification;
Erosion and Sediment Controls;
Non-Storm Water Management;
Waste Management and Disposal;
Maintenance, Inspection and Repair;
Training;
List of Contractors and Subcontractors;
Preparer;
Copy of the BMP Consideration Checklist;
SWPPP Checklist;
Water Pollution Control Drawings.

The Contractor shall amend the SWPPP, graphically and in narrative form, whenever there is a change in construction activities or operations which may affect the discharge of significant quantities of pollutants to surface waters, ground waters, municipal storm drain system or when deemed necessary by the Engineer. The SWPPP shall be amended if the SWPPP is in violation of any condition of the Permit, or has not effectively achieved the objective of reducing pollutants in storm water discharges. Amendments shall show additional control measures or revised operations, including those in areas not shown in the initially approved SWPPP, which are required on the project to control water pollution effectively. Amendments to the SWPPP shall be submitted for review by the Engineer in the same manner specified for the initially approved SWPPP. Approved amendments shall be dated and logged in the SWPPP. Upon approval of the amendment, the Contractor shall implement the additional control measures or revised operations.

By June 15 of each year, the Contractor shall submit an annual certification to the Engineer stating conformance with the requirements governing the Permit. If the project is in non-compliance at any time, the Contractor shall make a written report to the Engineer within 3 days of identification of non-compliance.

SWPPP IMPLEMENTATION

Upon approval of the SWPPP, the Contractor shall be responsible throughout the duration of the project for installing, constructing, inspecting and maintaining the control measures.
included in the SWPPP and any amendments thereto and for removing and disposing of temporary control measures. Unless otherwise directed by the Engineer or specified in these Special Provisions, the Contractor’s responsibility for SWPPP implementation shall continue throughout any temporary suspension of work.

The Contractor shall implement, year-round and throughout the duration of the project, control measures included in the SWPPP for sediment tracking, wind erosion, non-storm water management and waste management and disposal.

The Engineer may order the suspension of construction operations which create water pollution if the Contractor fails to conform to the provisions of this section as determined by the Engineer.

MAINTENANCE

To ensure the proper implementation and functioning of control measures, the Contractor shall regularly inspect and maintain the construction site for the control measures identified in the SWPPP. The Contractor shall identify corrective actions and time needed to address any deficient measures or reinitiate any measures that have been discontinued.

The construction site inspection checklist provided in the Handbook shall be used to ensure that the necessary measures are being properly implemented, and to ensure that the control measures are functioning adequately. One copy of each site inspection record shall be submitted to the Engineer.

If the Contractor or the Engineer identifies a deficiency in the deployment or functioning of an identified control measure, the deficiency shall be corrected immediately. The correction of deficiencies shall be at no additional cost to the Agency.

7-8.6.4 Payment. Payment for implementation storm water pollution prevention BMPs and any SWPPP costs (if required) shall be paid for as a lump sum item for “Water Quality Control”. If there is no item for water quality control the cost for all such work, permits and submittals shall be included in various line items and there shall be no additional costs to the Agency.

7-8.7 Dewatering. Dewatering shall be performed in conformance with all applicable local, state and Federal laws and permits issued by jurisdictional regulatory agencies. The Contractor shall obtain and pay for all permits necessary for treatment and disposal. Dewatering shall be performed by the Contractor when specifically required by the Plans or Specifications or could have reasonably been assumed to be required at time of bid and as necessary for construction of the Work. Accumulated water shall be treated prior to disposal if so specified in the Contract.
Documents or required by a permit. The Contractor shall submit a working drawing and related supporting information detailing its proposed plan and methodology of dewatering and treatment and disposal of accumulated water.

The plan shall identify the location, type and size of dewatering devices and related equipment, the size and type of materials composing the collection system, the size and type of equipment to be used to retain and, if required, treat accumulated water, and the proposed disposal locations. If the proposed disposal location is a sanitary sewer, the Contractor shall submit to the Engineer written evidence of permission from the owner. If the proposed disposal location is a storm drain system or receiving body of water, the Contractor shall submit written evidence of permission from the owner of the storm drain system and, if not obtained by the Agency, original signed permits from jurisdictional regulatory agencies or written evidence that such permits are not required.

Payment for all costs involved for dewatering (if required) shall be paid for as a lump sum item for “Dewatering”. If there is no item for dewatering the cost for all such work, permits and submittals shall be included in the relevant line items or work and there shall be no additional costs to the Agency.

7-8.8 Environmental protection. The Contractor shall comply with all applicable standards, orders, or requirements of the Environmental Protection Agency regulations (40 CFR, Part 15).

7-8.9 Flood disaster protection act of 1973. The Contractor shall comply with all applicable standards, orders, or requirements of the Flood Disaster Protection Act of 1973 (42 USC 4001 et seq, as amended).

7-8.10 Illness and Injury Prevention Program. The Contractor shall comply with all the mandates of Senate Bill 198 and specifically shall have a written Injury Prevention Program on file with the Agency in accordance with all applicable standards, orders, or requirements of California Labor Code, Section 6401.7. This Program shall be on file at time of Award of Contract.

7-8.11 Graffiti Control. The Contractor shall maintain all site improvements, including any temporary facilities, equipment or other materials in a graffiti free condition throughout the construction period, until acceptance of the project by the Agency. The Contractor shall remove graffiti encountered on the job site within twenty-four (24) hours. The Contractor may cover graffiti only in a manner approved by the Engineer if allowed.

7-8.12 Noise Abatement and Control. The Contractor shall comply with the provisions of the state and local Noise Abatement and Control regulations. In the event of conflict, the most stringent requirement shall apply. If the Contractor chooses to conduct work activities during times when a Noise Permit is required, the Contractor shall apply for, obtain, and pay for the Noise Permit at no additional cost to Agency.
Each internal combustion engine, used for any purpose on the job or related to the job, shall be equipped with a muffler of a type recommended by the manufacturer. No internal combustion engine shall be operated on the project without said muffler.

The Contractor shall coordinate their activities in such a way that minimizes the disturbance with the any adjacent or nearby schools, businesses, hospitals and residences. The Contractor shall attend any coordination meetings with any schools, businesses, hospitals, HOA’s or community groups.

7-8.13 Project Appearance. The Contractor shall maintain a neat appearance to the work. In any area visible to the public, the following shall apply:

a. Broken concrete, asphalt and debris developed during clearing and grubbing shall be disposed of concurrently with its removal. Stockpiling will not be allowed without prior written approval of the Engineer.

b. The Contractor shall furnish trash bins for all debris from construction. All debris shall be placed in trash bins daily. Forms and false-work that are to be re-used shall be stacked neatly concurrently with their removal. Forms and false-work that are not to be re-used shall be disposed of concurrently with their removal.

7-8.14 Vermin Control. At the time of acceptance, structures entirely constructed under the Contract shall be free of rodents, insects, vermin and pests. Necessary extermination work shall be arranged and paid for by the Contractor as part of the Work within the Contract time, and shall be performed by a licensed exterminator in accordance with requirements of governing authorities. The Contractor shall be liable for injury to persons or property and responsible for the elimination of offensive odors resulting from extermination odors.

7-8.15 Payment. Payment for the Work Site Maintenance is included in the relevant bid items unless separate a bid item has been provided. If a separate pay line item is made for one or more of the Work Site Maintenance items all of the costs associated with the remainder of the Work Site Maintenance items shall be included in the relevant line items of work and there shall be no additional costs to the Agency.

7-9 PROTECTION AND RESTORATION OF EXISTING IMPROVEMENTS. The Contractor shall be responsible for the protection of public and private property that is not a part of the Work and shall exercise due caution to avoid damage to such property.

The Contractor shall repair or replace all existing improvements within the right-of-way which are not designated for removal (e.g., curbs, sidewalks, driveways, fences, walls, signs, utility installations, pavement, structures, etc.) which are damaged or removed as a result of the
Contractor’s operations. When a portion of a sprinkler system within the right-of-way must be removed, the remaining lines shall be capped. Repairs and replacements shall be equal or better to existing improvements and shall match them in kind, manufacturer, model, finish and dimension.

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

All costs to the Contractor for protecting, removing, and restoring existing improvements shall be included in the Bid.

Contractor shall replace/repair any property or private improvements, which are damaged or removed as a result of its operations to current standards and to the satisfaction of the Agency Engineer in an as good or better condition.

Contractor will take measures to minimize inconvenience to the Agency, including but not limited to:

a. Advance notification of the impending work and the estimated duration of the work.

b. Care in access to and from the building by the Contractor's equipment, materials and/or personnel.

c. Repair, restoration and/or replacement of damaged or affected private property and private improvements within 7 days of the completion of the adjacent work.

d. Agency reserves the right to repair damages to the Agency’s facilities caused by the Contractor’s operations. All costs for such repair shall be paid for by the Contractor. Agency may deduct all such costs from any amounts due to the Contractor.

e. Contractor is responsible for coordinating with property owners for access to work on their private property.

f. Loop detectors must be replaced within 3 Working Days of completion of underground work.

g. Maintenance of street and traffic signal systems that are damaged, temporarily removed or relocated shall be done in conformance with 307-2.

h. Replacement with sod for damaged lawns matching the type of the existing lawn. Install and maintain the sod per manufacturer’s recommendations for no less than 30 days.
i. Trees and shrubbery that are not to be removed shall be protected from damage or injury. If damaged or removed due to Contractor's operations, they shall be restored or replaced in the original condition, size and location. If they are not able to be replaced in size and kind the Contractor shall pay the owner the value of the damaged item, or the difference in retail value the between the original item and the replacement not including removal, replacement, profit and overhead.

For work under this section that is deemed an emergency by the Engineer that affects the safety of persons or property, the Contractor must act immediately to prevent threatened damage, injury or loss.

The cost of protecting, removing and restoring of items necessary to complete this work shall be included in the line item for “Protection and Restoration of Existing Improvements”. If there is no bid item, the Contractor shall include all costs of Protection and Restoration of Existing Improvements in the relevant line items of work; there shall be no additional cost to the Agency.

7-9.1 Video & Photo Documentation of Existing Conditions. The Contractor must digitally record video and take photographs of the project site and adjacent improvements in a manner and quality that clearly depicts the existing condition of the project site and adjacent improvements immediately prior to the start of work (minimum 1080p video and 4MP photo). The Contractor shall submit the video and photos in digital format and jpg on media as approved by the agency and/or uploaded to VPM before the commencement of work. Contractor shall also take regular photographs and video throughout the progress of the contract work to depict the quality and progress of construction. Contractor shall take multiple photographs and video that clearly depicts each condition that Contractor contends constitutes a changed condition, extra work, cause of delay, contract change and/or disputed work which shall be submitted to Engineer with the required notice and a written description for each changed condition, extra work, cause of delay, contract change and/or disputed work. Failure to record and submit to the Engineer each changed condition, extra work, cause of delay, contract change and/or disputed work with photographs and video will constitute a waiver of a claim for compensation for that item.

7-9.1.1 Payment. Payment for video and photo documentation is included in the Bid item for "Video & Photo Documentation." If there is no Bid item the Contractor shall include all costs for Video and Photo Documentation in the relevant line items of work; there shall be no additional costs to the Agency.

7-9.2 Placements and Removal of Markouts. Markouts refer to the temporary marking or painting of the ground, pavement, or sidewalk by the facility or utility owner or its representative for the Contractor’s convenience. Do not place Markouts in the public right-of-way more than
30 days prior to the commencement of work. Remove Markouts from all surfaces in the public right-of-way, including decorative surfaces, before the completion of the Work.

7-10 PUBLIC CONVENIENCE AND SAFETY

7-10.1 Traffic and Pedestrian Control

7-10.1.1 General. The Contractor's operations shall cause no unnecessary inconvenience to the public or businesses in the vicinity of the Work. The Contractor shall have no greater length or quantity of Work under construction than can be properly prosecuted with a minimum of inconvenience to the public and other contractors engaged in adjacent or related work.

The Contractor shall provide continuous and unobstructed access to the adjacent properties unless otherwise specified in the Special Provisions or approved by Engineer. Work requiring traffic lane closures shall only be performed between the hours specified in the Special Provisions or shown on the traffic control plan. Traffic shall be permitted to pass through the Work site, unless otherwise specified in the Special Provisions or shown on the traffic control plan.

The contractor shall provide and maintain a twelve-foot wide lane for through traffic in each direction at all times.

Upon completion of each day's work, the contractor shall be responsible for leaving the work area free of hazards and shall provide all necessary temporary signs, warning devices and barricades. Access is to be provided for all adjacent residences and businesses at all times.

Construction activity shall be limited to the hours of 7:00 a.m. through 5:00 p.m., Monday through Friday, unless otherwise specifically approved by the Engineer.

Construction activity may be restricted for specific time periods to minimize impacts to peak hour traffic, school drop-off/pick-up, special events, etc., at the direction of the Engineer.

Contractor shall notify residents, business owners/occupants and school officials a minimum of 1 week in advance of construction adjacent to their properties.

Contractor shall notify all transit providers a minimum of 1 week in advance of construction affecting bus stops.

Construction operations shall be conducted in such a manner as to cause as little inconvenience as possible to adjacent property owners.
7-10.1.2 Vehicular Access. Vehicular access to residential driveways shall be maintained to the property line except when necessary construction precludes such access. If backfill has been completed to the extent that safe access may be provided and the street is opened to local traffic, the Contractor shall immediately clear the street and driveways and provide and maintain access.

Access to adjacent property owners shall be maintained at all times.

Emergency vehicle access shall be maintained at all times.

The Contractor shall schedule the work so as to prevent damage by all traffic, including but not limited to, mail delivery and trash pickup. The Contractor shall not schedule work so as to conflict with trash pickup. The Contractor shall obtain the trash pickup schedule and provide its schedule and any modifications thereto to the trash pickup entity.

All traffic control devices shall be placed as to not obstruct visibility at driveways, and shall be removed from view or covered when not in use.

Contractor shall maintain a minimum turning radius of 25’ at corners of work zones.

The designated driving lanes shall be kept in a smooth and drivable condition at all times.

All travel lanes shall be a minimum of 12 feet wide, 14 feet if adjacent to bike lanes, unless otherwise specifically approved by the Engineer.

All travel lanes shall have a minimum of 5 feet of clearance from open trenches and a minimum of 2 feet of clearance from vertical obstructions. Open trenches with less than 5 feet of clearance shall be protected by K-Rail barriers and temporary crash cushions per the latest standard plans and specifications, and to the satisfaction of the Engineer.

Contractor shall post “Uneven Lanes” (W8-11) signs for pavement surface disruptions of ½ inch or greater. Pavement disruptions of 1 inch or greater shall have beveled edges of 4:1 (horizontal to vertical).

Flashing arrow boards shall be used for all full lane closures or as otherwise required by the Engineer. Flash rates and patterns shall conform to the latest standard specifications. Silent type arrow boards shall be used in residential areas.

For extended lane closures the contractor shall place “LANE CLOSED” (C30 (CA)) signs at 300’ intervals in urbanized areas (or one sign per City block) and at 500’ intervals for areas with limited access.
For extended work areas in commercial districts, the contractor shall place “BUSINESSES OPEN DURING CONSTRUCTION” signs (Black on White background) at intervals of 150’ (or two per City block). More frequent sign placement may be required at the direction of the Engineer.

If parking is allowed in the advance warning area, advance warning signs shall be mounted on high level devices.

Contractor shall post tow-away/no parking signs seventy-two (72) hours in advance, with the day of the week, date and work hours noted, and shall bag parking meters (where applicable).

**7-10.1.3 Pedestrian Access.** Pedestrian access shall be maintained unless otherwise approved by the Engineer.

Contractor shall comply with the latest requirements of the American Disability Act (ADA) Accessibility Guidelines and the California Accessibility Guidelines to maintain safe pedestrian access, including access for all persons with disability, through work areas. Typical measures include, but are not limited to, use of flagmen to stop traffic, construction of temporary sidewalks and access ramps, creation of secure pathways that provide buffers from open trenches, equipment and traffic, and use of advanced warning signs with directional arrows leading pedestrians to alternative, nearby crossing locations.

**7-10.1.4 Traffic & Pedestrian Control Plan (TCP).** The Contractor shall submit and receive an approved TCP prior to the commencement of work.

All traffic control plans must coincide with the project phasing and schedule. The total length of the traffic control zone shall include buffer spaces, advance signing, striping transitions, and the Work site.

The sheets of the TCP shall display the title, phase identification, name of the firm preparing the TCP, name and stamp of the Registered Traffic or Civil Engineer, approval block for each jurisdictional agency, north arrow, sheet number, and number of sheets comprising the TCP. General notes and symbol definitions shall be included when required. Adequate dimensioning shall be provided to allow for proper field installation.

The TCP shall be drawn to a 1 inch = 40 feet scale on common size sheets, either 8-1/2 inches x 11 inches, 8-1/2 inches x 14 inches, 11 inches x 17 inches, or 2-foot x 3-foot plan sheets as dictated by the length of the Work.

The TCP must conform to the Contract Documents and all referenced materials and regulations.

The TCP must address ADA access in, through and around the worksite in conformance with federal ADA regulations.
7-10.1.5 Public Notice. The Contractor shall prepare Public Notification fliers in English and Spanish. Fliers shall notify residents and businesses of the Work and include information describing the Work, how it may affect them and contact information of City and Contractor personnel responsible for the Work. The Engineer will provide the contact information for the City to be included on the flier at the pre-construction meeting. Contractor shall submit draft versions of the flier in English and Spanish to the Engineer for review and approval prior to starting the Work. Contractor shall distribute fliers as appropriate to provide advance notification of the Work to residents and businesses adjacent to or affected by the Work.

Seventy-two hours prior to the start of any construction in the public right-of-way that affects vehicular traffic and/or parking or pedestrian routes, the Contractor shall give written notification of the impending disruption. For a full street closure, all residences and/or businesses on the affected street or alley shall be notified. For partial street closures, or curb, sidewalk or driveway repairs, the residences and/or businesses directly affected by the work shall be notified.

The notification shall be hand delivered and shall state the date and time the work will begin and its anticipated duration. The notification shall list two telephone numbers that may be called to obtain additional information. One number shall be the Contractor’s permanent office or field office and the other number shall be a 24-hour number answered by someone who is knowledgeable about the project. At least one of the phone numbers shall be in the (951) area code. An answering machine shall not be connected to either number. The notification shall also give a brief description of the work and simple instructions to the home or business owner on what they need to do to facilitate the construction.

For residences, the notification shall be pre-cut in a manner that enables it to be affixed to a doorknob without adhesives. It shall be a minimum size of 3-1/2 inches by 8-1/2 inches and shall be brightly colored with contrasting printing. The material shall be equivalent in strength and durability to 65 lb. card stock. The printing on the notice shall be no smaller than 12 point.

In addition to the notifications, the Contractor shall post no parking signs 48 hours in advance of the work being performed. The no parking signs shall state the date and time of parking restriction for a duration not to exceed the time necessary to complete the work at that location. Failure of the contractor to meet the posted date requires re-posting of the no parking signs 48 hours in advance of the rescheduled work.

Full compensation for the Public Notification shall include all necessary labor, equipment, materials, and all other related costs for preparation, copying, and distribution shall be considered as included in the lump sum price for “Traffic and Pedestrian Control” and there shall be no additional costs to the Agency.
7-10.1.6 Work Area Traffic & Pedestrian Control. No work shall occur in the right-of-way without a traffic and pedestrian control plan approved by the Engineer. Work shall not commence prior to the Engineer’s approval of the Traffic Control Plan(s).

Installation of all traffic control shall be the responsibility of the contractor and shall conform to the most recent edition of the following standards, plans and specifications:

1. California Manual on Uniform Traffic Control Devices (CAMUTCD)
2. Provided Traffic Control Plans (if any)
3. State of California Department of Transportation (Caltrans) Standard Plans
4. State of California Department of Transportation (Caltrans) Standard Specifications
5. Standard Specifications for Public Works Construction (“Greenbook”), including all current supplements
6. Contract Documents

Traffic control plans shall be submitted to the Engineer a minimum of 20 days in advance of construction to allow for review.

Approval of the traffic control plan does not constitute an official Permit to begin construction.

A copy of all traffic requirements and traffic control plans approved by the Engineer must be kept on the job site for review by the Engineer’s representative and police/safety personnel.

All temporary striping and pavement markings shall conform to the latest standard plans and specifications.

Traffic signals shall remain fully actuated at all times. Requests to have a traffic signal placed on “All-Way Red Flash” shall be submitted to the Engineer a minimum of 72 hours in advance.

Requests for changes to traffic signal timing to facilitate traffic control through an intersection, or in the event detector loops need to be cut in order to complete construction, shall be coordinated with the Engineer a minimum of 1 week in advance.

Requests to perform construction or set up traffic control outside of the stated work hours must be pre-approved by the Engineer as an amendment to the approved traffic control plan.

The Contractor shall maintain all traffic control devices in “like new” condition at all times that they are in use.

All conflicting signs shall be covered during construction in a manner that prevents them from being discerned in daylight or at night.
Warning (W) series signs used in work zones shall be Black on Orange background consistent with the latest standard plans and specifications, including size, shape and retro-reflectivity.

All warning and construction signs shall be mounted on Type II or III barricades per the latest standard plans and specifications. Alternative mounting locations shall be pre-approved by the Engineer prior to construction and shown on the approved traffic control plan.

Overnight traffic control must be pre-approved by the Engineer and shall include the use of flashing beacons mounted on Type II or III barricades per the latest standard plans and specifications.

All cones, tubular delineators and other approved channelizing devices shall be a minimum height of 36” and have retro-reflective sleeves per the latest standard plans.

Where flaggers are required to facilitate traffic control they shall be properly equipped with a “STOP/SLOW” paddle per the latest standard plans and specifications. Flaggers are required to maintain two-way radio communications at all times.

Flaggers shall be present to assist pedestrians through work areas and to provide ingress/egress at private driveways.

Flaggers shall be used at intersections where the traffic signal has been placed on “All-Way Red Flash” if construction results in obstruction to driver line of sight, or as deemed necessary by the Engineer or his representative to ensure public safety.

Flaggers shall be present to assist with the merging of construction trucks and heavy equipment into and out of traffic. “Trucks Entering/Exiting” (C44 (CA)) signs may be required for frequent movements, at the direction of the Engineer.

Contractor shall remove all conflicting striping and pavement markings by “waterblasting”. Alternative methods must be pre-approved by the Engineer. The Contractor shall immediately remove any debris as the result of this operation.

Pavement that is damaged due to the removal of striping, pavement markings and pavement markers shall be immediately repaired to the satisfaction of the Engineer.

Within 24 hours of completing the work, the contractor shall promptly restore the road back to satisfactory condition, which includes but is not limited to, paving, striping, markings, signing, and loop detection.
CalTrans Standard Specifications (current edition) and any supplemental provisions. Traffic control devices shall be installed in conformance with the current edition of the "Manual of Traffic Control Devices" as published by CalTrans. Where reference is made to the "State", it shall be understood that reference is to the Agency.

Contractor shall set up temporary traffic control at the beginning of each workday and promptly remove at the end of each day to allow for normal traffic operations after work hours. Requests to maintain temporary traffic control after hours must be pre-approved by the Engineer and approved on a TCP.

All traffic & pedestrian control must take into account and provide for ADA access in conformance with federal regulations.

7-10.1.7 Maintenance of Traffic Control Devices. The Contractor shall be responsible for maintenance of any and all traffic control devices (signs, delineators, barricades, etc.) that are required by the Traffic Control Plan. The Contractor shall ensure that all devices are maintained in the property location during holiday, overnight, and on weekends. Should it become necessary to use other forces to maintain the traffic control devices, the Contractor will be billed at the overtime rate for two (2) men and a vehicle (minimum, two (2) hours per call).

7-10.1.8 Payment. All costs for compliance with section 7-10.1 through 7-10.1.7 shall be included in the line item, “Traffic and Pedestrian Control”. If there is no line item then all costs associated with this work shall be included in the relevant line items; there shall be no additional costs to the Agency.

7-10.2 Hours of Operation. Construction work is to be performed only during the hours between 7:00 am to 5:00 pm, Monday through Friday, unless special permission has been obtained from the Engineer. Unless otherwise authorized by the Engineer, the contractor will not be allowed to work during special events at the vicinity of the project location(s).

7-10.3 Haul Routes. Unless otherwise specified in the Special Provisions, haul routes shall be determined by the Contractor.

7-10.4 Safety

7-10.4.1 Work Site Safety

7-10.4.1.1 General. The Contractor shall provide safety measures as necessary to protect the public and workers within, or in the vicinity of, the Work site. The Contractor shall ensure that its operations will not create safety hazards.
The Contractor shall provide safety equipment, material, and assistance to Agency personnel so that they may properly inspect all phases of the Work.

When asbestos is being removed, the requirements of the CCR Title 8, Div. 1, Chapter 4, Subchapter 4 and Subchapter 7 shall be implemented.

7-10.4.1.2 Work Site Safety Official. The Contractor shall designate in writing a "Project Safety Official" who shall be at the Work site at all times, and who shall be thoroughly familiar with the Contractor's Injury and Illness Prevention Program (IIPP), Code of Safe Practices (CSP) and all TCP's. The Project Safety Official shall be available at all times to abate any potential safety hazards and shall have the authority and responsibility to shut down an unsafe operation, if necessary.

7-10.4.2 Safety Orders

7-10.4.2.1 General. The Contractor shall have at the Work site, copies or suitable extracts of Construction Safety Orders, Tunnel Safety Orders, and General Industry Safety Orders issued by the State Division of Industrial Safety.

Prior to beginning any excavation 5 feet in depth or greater, the Contractor shall submit to the Engineer, the name of the "Competent Person" as defined in CCR, Title 8, Section 1504. The "Competent Person" shall be present at the Work site as required by Cal-OSHA.

7-10.4.2.2 Shoring Plan. Before excavating any trench 5 feet (1.5m) or more in depth, the Contractor shall submit a detailed working drawing (shoring plan) showing the design of the shoring, bracing, sloping, or other provisions used for the workers' protection. If the shoring plan varies from the shoring system standards, the shoring plan shall be prepared by a registered Structural or Civil Engineer. The shoring plan shall accommodate existing underground utilities. No excavation shall start until the Engineer has accepted the shoring plan and the Contractor has obtained a permit from the State Division of Industrial Safety. A copy of this permit shall be submitted to the Engineer. If the Contractor fails to submit a shoring plan or fails to comply with an accepted shoring plan, the Contractor shall suspend work at the affected location(s). Such suspended work shall not be the basis of a claim for Extra Work and the Contractor shall not receive additional compensation or contract time.

7-10.4.2.3 Payment. Payment for shoring shall be paid in accordance with the line item(s) for “Shoring”. If there is no such line item said costs shall be included in the relevant bid line item and there shall be no additional costs to the Agency. Payment for compliance with the provisions of the safety orders and all other laws, ordinances, and regulations shall be included in the relevant bid line item; there shall be no additional costs to the Agency.
7-10.4.3 **Use of Explosives.** Explosives may be used only when authorized in writing by the Engineer, or as otherwise specified in the Special Provisions.

Explosives shall be handled, used, and stored in accordance with all applicable regulations.

Prior to blasting, the Contactor shall comply with the following requirements:

a) The jurisdictional law enforcement agency shall be notified 24 hours in advance of blasting.

b) The jurisdictional fire department shall be notified 24 hours in advance of blasting.

c) Blasting activities and schedule milestones shall be included in the Contractor's construction schedule.

For a Private Contract, specific permission shall be obtained from the Agency in writing, prior to any blasting operations in addition to the above requirements.

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

7-10.4.4 **Hazardous Substances.** An MSDS as described in CCR, Title 8, Section 5194, shall be maintained at the Work site for all hazardous material used by the Contractor.

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

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

7-10.4.5 **Confined Spaces**

7-10.4.5.1 **Confined Space Entry Program (CSEP).** The Contractor shall be responsible for implementing, administering and maintaining a CSEP in accordance with CCR, Title 8, Sections 5156, 5157 and 5158.

Prior to the start of the Work, the Contractor shall prepare and submit a CSEP. The CSEP shall address all potential physical and environmental hazards and contain procedures for safe entry into confined spaces such as the following:

a) Training of personnel.

b) Purging and cleaning the space of materials and residue.

c) Potential isolation and control of energy and material inflow.
d) Controlled access to the space.
e) Atmospheric testing of the space.
f) Ventilation of the space.
g) Special hazards consideration.
h) Personal protective equipment.
i) Rescue plan provisions.

The submittal shall include the names of the Contractor's personnel, including each Subcontractor's personnel, assigned to the Work that will have CSEP responsibilities, their CSEP training, and their specific assignment and responsibility in carrying out the CSEP.

7-10.4.5.2 Permit-Required Confined Spaces. Entry into permit-required confined spaces as defined in CCR, Title 8, Section 5157 may be required as a part of the Work. Manholes, tanks, vaults, pipelines, excavations, or other enclosed or partially enclosed spaces shall be considered permit-required confined spaces until the pre-entry procedures demonstrate otherwise. The Contractor shall implement a permit-required CSEP prior to performing any work in a permit-required confined space. A copy of the permit shall be available at all times for review by the Contractor and the Engineer at the Work site.

7-10.4.5.3 Payment. Payment for the CSEP shall be included in the Bid items for which the CSEP is required.

7-10.5 Security and Protective Devices

7-10.5.1 General. Security and protective devices shall consist of fencing, steel plates, or other devices as specified in the Special Provisions to protect open excavations.

7-10.5.2 Security Fencing. The Contractor shall completely fence open excavations. Security fencing shall conform to 304-3.5. Security fencing shall remain in place unless workers are present and construction operations are in progress during which time the Contractor shall provide equivalent security.

7-10.5.3 Steel Plate Covers. The Contractor shall:

1. Protect transverse or longitudinal cuts, voids, trenches, holes, and excavations in the right-of-way that cannot be properly completed within 1 Working Day by adequately designed barricades and structural steel plates (plates) that will support legal vehicle loads in such a way as to preserve unobstructed traffic flow.
2. Secure approval, in advance, from the Engineer concerning the use of any bridging proposed on the Work.
3. Shore the trench adequately to support the bridging and traffic loads.
5. Plates shall be installed in accordance with section 306-4.1.

Alternative installation method may be submitted for the Engineer’s review and approval.

The Contractor is responsible for maintenance of the plates, shoring, and asphalt concrete ramps or any other approved device used to secure the plates. The Contractor must immediately mobilize necessary personnel and equipment after being notified by anyone of a repair needed e.g., plate movement, noise, anchors, and asphalt ramps. Failure to respond to the emergency request within 2 hours will be grounds for the Agency to cause the necessary repairs and adjustments. All costs for any action by or on behalf of the Agency to secure, adjust or repair trench plates shall be borne by the Contractor and be deducted from any amounts due to Contractor. Failure to comply is a default and breach of contract may result in automatic grounds for suspension of permit, Contract, or both.

Payment for Steel Plate Covers is included in the relevant Bid items; there shall be no additional costs to the Agency.

7-10.6 Storage of Equipment and Materials in Public Streets. The Contractor must submit a TCP indicated the location and protection of equipment or materials to be stored in the public right-of-way to the Engineer for consideration. The Contractor shall not store equipment or materials in the right-of-way without a prior approved TCP authorizing the storage.

7-10.7 Street Closures, Detours, Barricades. No street will be closed to traffic absent prior approval by the Agency. If the Contractor wishes to close a street to traffic, it must submit a TCP to the Engineer for consideration a minimum of 30 days in advance of construction indicating the closure location, detours, phasing and duration. No closures shall occur without an approved TCP. If approved, the contractor shall notify both the Police and Fire Departments a minimum of 1 week in advance of the closure, and immediately after re-opening of the street.

7-10.8 Parking Restrictions. The contractor is responsible for posting "no parking" signs on any section of street where such a prohibition is necessary to allow the work to be accomplished. The number of "no parking" signs required to provide adequate notice will be determined by the contractor and approved by the Engineer. Generally, signs shall be not greater than fifty (50) feet apart and face oncoming traffic. Such signs shall also give specific information as to the dates and times when parking is prohibited, and shall be posted three (3) calendar days before the effective date. If weather or other circumstances prevent work from being finished before expiration of the posted parking ban, new signs with revised "no parking" information shall be posted at least forty-eight (48) hours before any tow-aways by the Police Department are requested. It is the contractor’s responsibility to contact the Police Department and arrange for tow-aways and such
arrangements shall be made no later than the day before tow-aways will be needed on any section of street. The signs shall be clean and free of graffiti and readable from 50 feet.

The 'NO PARKING' sign shall be printed in black or red letters on a white background, and shall contain information and be laid out as follows:

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NO PARKING
TOW-AWAY ZONE
6:00 AM - 5:00 PM
FROM
DAY
TO
DAY
FOR
CONSTRUCTION OF STREET MAINTENANCE

Violators will be Cited and Vehicles Towed
Away at Owners Expense
per
CVC22651L & CVC22654D
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Posting of 'NO PARKING' signs on trees, utility poles, fire hydrants or other streetscape features will not be allowed. The signs shall be immediately removed upon completion of the work that disallows parking.

For convenience to the contractor in complying with the provisions of this section, the following non-emergency telephone numbers are listed:

- Fire Department (951) 940-6900
- Police Department (951) 210-1000
- Public Works Department (Attn: Don Sharp) (951) 672-6777

If the above telephone numbers are changed, the contractor is not relieved of responsibility for notifying the various departments.

The Contractor shall document the day, date and time that the signs are installed because the No Parking restriction cannot be enforced until the signs have been in place 48 hours.
The above described printed notices and signs shall be submitted to the Engineer for review and approval prior to the pre-construction meeting and at least 7 calendar days before the start of any work.

The Contractor shall make every reasonable effort to arrange with the owners of illegally parking vehicles to remove their vehicles from the street before summoning the police to tow away vehicles.

In addition to the above requirements, the Contractor shall notify the Post Office, Police Department, Fire Department, Water Utility, ambulance service, Dial-a-Ride, school district transportation manager, street sweeping service, trash collection service, and affected utilities, hospitals, schools and governmental agencies a minimum of 2 full calendar days prior to the start of work.

During overlay operations, the Contractor’s schedule for overlay application shall provide residents and business owners whose streets are to be overlaid with sufficient paved parking within an 800 foot distance from their homes or businesses.

7-10.9 Safety Orders. The Contractor shall be solely and completely responsible for conditions on the job site, including safety of all persons (including employees) and property during performance of the work. This requirement shall apply continuously and is not limited to normal working hours. Safety provisions shall conform to U.S. Department of Labor, the California Occupational Safety and Health Act (OSHA), and all other applicable Federal, State, County, and City laws, ordinances, codes, the requirements set forth below, and any regulations that may be detailed in other parts of these documents. Where any of these are in conflict, the more stringent requirement shall be followed. The Contractor’s failure to thoroughly familiarize himself with the aforementioned safety provisions shall not relieve them from compliance with the obligations and penalties.

The Contractor shall develop and maintain for the duration of this contract, a safety program that will effectively incorporate and implement all required safety provisions. The Contractor shall appoint an employee who is qualified and authorized to supervise and enforce compliance with the safety program.

The duty of the Agency and its consultants is to conduct construction review of the Contractor’s performance and shall not include a review or approval of adequacy of the Contractor’s safety supervisor, the safety program, or any safety measures taken in, on, or near the construction site.

If death or serious injuries or serious damages are caused, the accident shall be reported immediately by telephone or messenger to the Engineer or other representative. In addition, the Contractor must promptly report in writing to the Engineer all accidents whatsoever arising out
of or in connection with, the performance of the work whether on, or adjacent to the site, giving full details and statements of witnesses.

7-10.10 Public Safety During Non-Working Hours. Notwithstanding the Contractor’s primary responsibility for safety on the job site when the Contractor is not present, the Engineer after attempting to contact the Contractor, may direct Agency or other forces to perform any functions he may deem necessary to ensure public safety at or in the vicinity of the job site. If such procedure is implemented, the Contractor will bear all expenses incurred by the Agency and all such costs may be deducted from any amounts due to the Contractor.

The Engineer’s judgment in all cases of whether additional measures need to be to make the site safe shall be final. However, this does not alleviate the Contractor’s responsibility and liability to maintain a safe worksite at all times.

If the Agency takes action in these matters on behalf of the Contractor, the Contractor shall hold the Agency and all its contractors and consultants harmless and indemnify each in accordance with the Contract Documents whether any of them were negligent or not.

7-10.11 Hazardous Substances. If the Contractor encounters material in demolition or work that he has reason to believe may be hazardous waste, as defined by Section 25117 of the Health and Safety Code, he shall immediately so notify the Engineer in writing. Demolition in the immediate area of the suspected hazardous material shall be suspended until the Engineer authorizes it to be resumed. If such suspension delays the current controlling operation, the Contractor will be granted an extension of time as provided in Section 5-5 "Delays" of the Standard Specifications.

The Agency reserves the right to use other forces for exploratory work to identify and determine the extent of such material and for removing hazardous material from such area.

Except as expressly set forth in this Section, the Contractor shall not cause or permit any Hazardous Material to be used, stored, transported, generated or disposed of in or about the Project Site by the Contractor, Subcontractors, or their respective employees, agents or sub-subcontractors. The Agency acknowledges that the Contractor may need to use, store, generate or transport certain Hazardous Materials on the Project Site in the course of construction and the Agency consents to such use, storage, generation or transportation provided that the Contractor strictly complies with the requirements of this Section. In no event shall any Hazardous Material be incorporated into any of the Work.

The Contractor agrees to deliver to the Agency prior to the issuance of a Notice to Proceed a list ("Hazardous Materials List") identifying each type of Hazardous Material to be used, stored, generated or transported on the Project Site and setting forth for each type of Hazardous Material, the nature of use, the extent of use, storage, generation and transportation, and any and all governmental approvals or permits required in connection with the use, storage,
generation, transportation and disposal of such Hazardous Materials. If the Contractor or any Subcontractor proposes to use any material listed on the Federal/OSHA Director's List of Hazardous Materials in the performance of any of the Work, the Contractor shall also deliver to the Agency, prior to commencing Work, a copy of the Material Safety Data Sheets in the form provided by the Agency with the award forms. The Agency shall have the right to withhold the Agency's consent to the use, storage, transportation, generation or disposal of any Hazardous Material on the Project Site. The Contractor shall deliver to the Agency an updated Hazardous Materials List (i) before any Hazardous Material not described in the latest Hazardous Material List is brought onto the Project Site (ii) on or before the date the Contractor obtains any additional permits or approvals relating to the use, storage, transportation, generation or disposal of any Hazardous Materials or (iii) on or before the date the Contractor intensifies the use, storage, generation or transportation of any Hazardous Material. The Contractor shall maintain and deliver to the Agency copies of any and all permits for all of its operations, including, without limitation those relating to the use, storage, generation, transportation or disposal of Hazardous Materials. The Contractor shall maintain and, upon the Agency's request, deliver copies of any and all manifests and other records relating to the transportation and/or disposal of any Hazardous Material.

Use, storage, transportation, generation and disposal of any and all Hazardous Materials by the Contractor, any Subcontractor or their respective employees, agents or subcontractors shall at all times be in compliance with all Hazardous Materials Laws (including, without limitation, any notices or warnings required by Proposition 65 regulations) and with the highest standards and the best practices and procedures applicable to the use, storage, transportation and disposal of such Hazardous Materials. The Contractor shall not store any quantity of any Hazardous Material on the Project Site that is greater than the quantity reasonably necessary for day-to-day operations. The Contractor shall promptly dispose of any waste Hazardous Materials. Any disposal of Hazardous Materials shall be at government approved disposal sites off of the Project Site. The Contractor shall be responsible for providing any and all notices required to be given with respect to any Hazardous Material and for disclosing the use, storage, transportation and generation to all of the Contractor's employees, agents, Subcontractors, licensees and invitees. The Contractor shall be strictly liable for the use, storage, transportation, generation and disposal of all Hazardous Materials by its employees, agents, Subcontractors, licensees and invitees.

If the Contractor knows or has reasonable cause to believe that the release of any Hazardous Material has occurred or will occur on the Project Site, the Contractor shall immediately disclose the release to the Agency in writing, whether or not the Contractor considers the release to be material and whether or not such release is required to be reported to any governmental entity. If any release of Hazardous Materials is required to be disclosed to any governmental entity, the Contractor shall notify the Agency of such requirement and shall provide such written disclosure as may be required to any such governmental entity or entities pursuant to applicable law.
If the presence of any Hazardous Material on the Project Site caused or permitted by the Contractor, any subcontractor or their respective employees, agents, or subcontractors results in any contamination of the Project Site, the Contractor shall promptly take all actions at the Contractor’s sole expense as are necessary to return the Project Site to the condition existing prior to the introduction of any such Hazardous Material to the Project Site, provided that the Agency’s approval of such action shall first be obtained. The Contractor shall be responsible for any and all damages suffered by the Agency as the result of such contamination, including, without limitation, any diminution in value of the Project Site, costs of investigation, remediation, and any claims by other tenants for costs or expenses caused by the contamination and any investigation and remediation.

As used herein, the term "Hazardous Material" means any hazardous, toxic or infectious substance, material, or waste which is, or becomes, regulated by any local governmental entity, the State of California, or the United States Government under any law, regulation, or ordinance regulating or controlling any Hazardous Material (the "Hazardous Materials Laws"). The term "Hazardous Material" includes, without limitation, any material or substance which is (i) defined as a "hazardous waste," "extremely hazardous waste" or "restricted hazardous waste" under Sections 25115, 25117 or 25122.7, or listed pursuant to Section 25140, of the California Health and Safety Code, Division 20, Chapter 6.5 (Hazardous Waste Control Law), (ii) defined as a "hazardous substance" under Section 25316 of the California Health and Safety Code, Division 2, Chapter 6.8 (Carpenter-Presley-Tanner Hazardous Substance Account Act), (iii) defined as a "hazardous material," "hazardous substance" or "hazardous waste" under Section 25501 of the California Health and Safety Code, Division 20, Chapter 6.95 (Hazardous Substances), (v) defined as a "regulated medical waste" under 40 C.F.R. § 259.10(a) or § 259.30, (v) petroleum or petroleum product, (vi) asbestos, (vii) listed under Article 9 and defined as hazardous or extremely hazardous pursuant to Article 11 of Title 22 of the California Administrative Code, Division 4, Chapter 20, (viii) designated as a "hazardous substance" pursuant to Section 311 of the Federal Water Pollution Control Act (33 U.S.C. Section 1317), (ix) defined as a "hazardous waste" pursuant to Section 1004 of the Federal Resource Conservation and Recovery Act, 42 U.S.C. Section 6901, et seq. (42 U.S.C. Section 6903), or (x) defined as a "hazardous substance" pursuant to Section 101 of the Comprehensive Environmental Response Compensation and Liability Act, 42 U.S.C. Section 9601 et seq. (42 U.S.C. Section 9601).

7-10.12 Temporary Project Signs

7-10.12.1 Street Name Signs. During any work that disturbs or requires the removal of a street name sign provide and maintain temporary street name signs at each intersection until the permanent street name signs have been placed.

Construct and place temporary street name signs to the following requirements:

1. 5” high black lettering on 8”x 32” white blades.
2. The bottom of the blades must be at least 7’ above ground line and mounted on white 4"x 4" posts.
3. Posts must be placed radial to mid-point of curb returns, 15’ in from the future face of curb.

7-10.12.2 Project Identification Sign. Project Identification Signs will be provided by the Contractor as required herein, or on the plans.

7-10.12.3 Payment. All costs for providing and maintaining these signs in good condition throughout the project shall be included in the cost for the line item “Traffic Control.” If there is no such line item then the costs for this signing will be included in the most relevant line items; there shall be no additional costs to the Agency.

7-11 PATENTS, TRADEMARKS, AND COPYRIGHTS. Contractor shall pay, at no additional cost to the Agency, all applicable royalties and license fees on any and all matters arising in connection with the Work. Contractor shall defend all suits or claims for infringement of patent, trademark, and copyrights against the Agency and any other Indemnified Parties, and must save the Agency and any other Indemnified Parties harmless from loss on account thereof for any and all matters arising in connection with the Work on the Project, such costs to be paid at no additional cost to the Agency, except with respect to any particular design process or the product of a particular manufacturer or manufacturers specified and required by the Agency, other than pursuant to Contractor’s recommendation or suggestion; provided however, if Contractor has reason to believe that the design, process or product so specified is an infringement of a patent, Contractor will be responsible for any loss resulting unless Contractor has provided the Engineer with prompt written notice of its belief regarding infringement, and the Engineer has nevertheless elected to go forward with such design, process, or product so specified.

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

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

Any advertisement referring to the Agency as a user of a product, material, or service by Contractor or any Subcontractor and Supplier is expressly prohibited without the Agency’s prior written approval.

7-13 LAWS TO BE OBSERVED. The Contractor shall keep itself fully informed of State and national laws and County and municipal ordinances and regulations which in any manner affect those employed in the Work or the materials used in the Work or in any way affect the conduct of the Work. The Contractor shall at all times observe and comply with such laws, ordinances, and regulations.
The Contract shall be governed by the law of the State of California applicable to contracts to be performed wholly within the State of California.

Rules of law shall prevail over any provision contained in any of the Bid and Contract Documents which may be in conflict thereto or inconsistent therewith.

The Contractor shall conform to and abide by all local, State and Federal building, sanitary, health and safety laws, rules, and regulations, including all City ordinances and regulations. To the best knowledge and belief of the parties, the Bid and Contract Documents contain no provision that is contrary to Federal or State law or any ruling or any regulations of a Federal or State agency. Should, however, any provisions of the Bid and Contract Documents at any time during its term be in conflict with any such law, ruling or regulation, and such provisions of the Bid and Contract Documents are thus held inoperative, the remaining provisions of the Bid and Contract Documents shall, nevertheless, remain in full force and effect.

Whenever the provisions of any chapter of the Bid and Contract Documents may conflict with any agreement or regulation of any kind in force among members of any trade association, union or council which regulates or distinguishes what work shall or shall not be included in the work of any particular trade, the Contractor shall make all necessary arrangements to reconcile any such conflict without recourse to the Agency.

7-13.1 Environmental & Safety Laws. Following is not an exhaustive list of the laws that may govern. It is a partial list of some specific laws that the Contractor must be aware of and comply with. They are listed here for convenience.


2. Clean Air Act of 1970, e.g., §306 (42 U.S.C. 7606), Executive Order 11738, prohibiting contracting with Clean Air Act violators; and §§608 and 609 (42 U.S.C. 7671g, 7671h) as amended November 15, 1990, prohibiting the intentional release of chlorofluorocarbons into the environment when performing Work.


5. California Title 8, §5208 and §1529, and Title 40 CFR Part 61.

7. Senate Bill 198 and specifically must have a written Injury Prevention Program on file with the Agency in accordance with all applicable standards, orders, or requirements of California Labor Code, §6401.7. This Program must be submitted to the Engineer at the Pre-construction Meeting.


9. Clean Water Act (CWA) - The Federal Water Pollution Control Act enacted in 1972 by Public Law 92-500 and amended by the Water Quality Act of 1987. The Clean Water Act prohibits the discharge of pollutants to Waters of the United States unless said discharge is in accordance with an NPDES permit. The 1987 amendments include guidelines for regulating municipal, industrial, and construction storm water discharges under the NPDES program.


7-13.2 Americans with Disabilities

1. The Contractor must warrant and certify that all Project Plans and Specifications, requests for information, submittals, shop drawings, and construction work prepared by Contractor in accordance with the Contract Documents meet all current requirements of the California Building Code, California Code of Regulations, Title 24 (Title 24) and the Americans with Disabilities Act (ADA) and the ADA Standards for Accessible Design. Contractor shall submit to Agency the Contractor/Design-Build Certification for Title 24/ADA Compliance.

2. The Contractor must comply with all portions of the ADA and Title 24. For specific services and public accommodations, Contractor may contact the Office of the Americans with Disabilities Act, Civil Rights Division, U.S. Department of Justice, P.O. Box 66118, Washington, D.C. 20035-6118; phone number (202) 514-0301.)

3. The Contractor is responsible for administering its own ADA and Title 24 program. The Contractor must ensure that these ADA requirements are included in the Subcontracts.

4. The Contractor must pay all claims, costs, losses and damages incurred by the Agency in undertaking remedial action to correct violations of ADA or Title 24. To effectuate remedial action, the Agency will issue a Change Order incorporating the necessary revisions in the Construction Documents. The Agency will be entitled to an appropriate decrease in the Contract Price, and, if the Parties are unable to agree as to the amount thereof, the Agency may unilaterally issue the Change Order.
5. Code Implementation:

   a) The 2010 Americans with Disabilities Act (ADA) regulations took effect on April 15, 2011.

   b) The 2010 ADA Standards for Accessible Design will take effect on April 15, 2012. Designers may choose either the 1991 ADAAG or the 2010 ADA Standards if the project is to be designed before the adoption date but all new construction and alteration projects must comply with the 2010 ADA Standards if construction is to start on or after April 15, 2012.


6. The Contractor must certify to the Agency that it will comply with the ADA by adhering to all of the provisions of the ADA listed within this section or otherwise identified within the Contract Documents or applicable to the contract work.

7. The Contractor must not discriminate against qualified persons with disabilities in any aspects of employment, including recruitment, hiring, promotions, conditions and privileges of employment, training, compensation, benefits, discipline, layoffs, and termination of employment.

8. No qualified individual with a disability may be excluded on the basis of disability, from participation in, or be denied the benefits of services, programs, or activities by the Contractor or Subcontractors providing services for the Agency.

9. The Contractor must post a statement addressing the requirements of the ADA in a prominent place at the worksite.

10. The Contractor must require in each Subcontract that the Subcontractor abide by these provisions. The Contractor and Subcontractors are individually responsible for your own ADA employment programs.

7-13.3 Apprentices on Public Works. You must abide by the requirements of §§1777.5, 1777.6, and 1777.7 of the State of California Labor Code concerning the employment of apprentices by contractors and subcontractors performing public works contracts.

7-14 Antitrust Claims. Section 7103.5 of the Public Contract Code provides:
"In entering into a public works contract or a subcontract to supply goods, services, or materials pursuant to a public works contract, the contractor or subcontractor offers and agrees to assign to the awarding body all rights, title, and interest in and to all causes of action it may have under Section 4 of the Clayton Act (15 U.S.C. Sec 15) or Cartwright Act (Chapter 2 [commencing with Section 16700] of Part 2 of Division 7 of the Business and Professions Code), arising from purchases of goods, services, or materials pursuant to the public works contract or subcontract. The assignment shall be made and become effective at the time the awarding body tenders final payment to the contractor, without further acknowledgment by the parties."

7-15 HOLD HARMLESS AND INDEMNIFICATION. To the fullest extent permitted by law, the Contractor shall protect, indemnify, defend (with counsel selected and satisfactory to the party being held harmless and indemnified) and hold harmless the Agency, the Successor Agency, (if any), and all private consultants and for each their elected officials, appointees, officers, agents, employees, contract employees, consultants, heirs and assigns from and against any and all types of liability, causes of action, claims, damages, demands, losses, expenses (including, but not limited to all attorneys' fees and legal costs), arising out of or resulting from, either directly or indirectly:

(1) the performance of their work;

(2) the Work until the Project is accepted as final by the Agency Board;

(3) the breach of the covenants or the obligations of the Contractor under the Contract, including but not limited to,

   a) violations of or a failure to comply with any safety order, rule, code or regulation,
   b) defective or non-compliant work, or
   c) any and all liens, stop notices, charges of every type, nature or kind which may be at any time filed or claimed against the Project or any portion thereof, or the Agency as a consequence of acts of the Contractor, his Subcontractors, material suppliers or others for which they are responsible, provided that the Agency is not in default of its payment obligations under the Contract;

(4) any equal opportunity, unemployment, withholding, social security, workers' compensation or other employee benefit claims with respect to the Contractor or any Subcontractor arising out of the Work; or

(5) violation of any local, State or Federal law, regulation or code by Contractor or any Subcontractor.

Except as expressly limited below, the indemnification by the Contractor of the indemnified parties under this section shall apply regardless of any concurrent or contributory active and/or
passive negligent act or omission of any indemnified party; provided, however, that the Contractor should not be obligated to indemnify a party for liability arising from the sole negligence or willful misconduct of the indemnified party. Such obligation shall not be construed to negate, abridge or otherwise reduce any other right or obligation of indemnity which would otherwise exist as to any party or person described in this section. Such indemnification and hold harmless shall include all defense-related fees and costs associated with the defense of each and every held harmless and indemnified party, by counsel selected by each and every held harmless and indemnified party. Contractor’s indemnification obligations as set forth in this section shall not terminate on completion of the Work, but shall survive in perpetuity.

In any and all claims against the Agency, the Successor Agency, (if any), and all private consultants and for each their elected officials, appointees, officers, agents, employees, contract employees, consultants, heirs and assigns by any employee of the Contractor, any Subcontractor, any supplier of the Contractor or Subcontractors, anyone directly or indirectly employed by any of them or anyone for whose acts any of them may be liable, the indemnification obligation under this section shall not be limited in any way by any limitation on the amount or type of damages, compensation or benefits payable by or for the Contractor or any Subcontractor or any supplier of either of them under workers' or workmen's compensation acts, disability benefit acts or other employee benefit acts.

The provisions in this section shall survive the termination or expiration of the Contract until such time as action against any indemnified party on account of the matter covered by the indemnity is barred by the applicable statute of limitations, and shall not be limited in any way by the amount of insurance obtained by any indemnified party.

7-16 COMMUNITY LIAISON. Contractor shall appoint a community liaison throughout the Contract Time.

The community liaison must closely coordinate the Work with the businesses, institutions and residents impacted by the Project. Example duties of the community liaison include notification to the businesses, institutions and residents of the commencement of construction activities not less than 5 Working Days in advance, coordination of access for vehicular and pedestrian traffic to businesses, institutions and residences impacted by the Project, response to community questions and complaints related to your activities, reporting of liaison activities at all Project progress meetings scheduled by the Engineer, attendance to the Project Pre-construction Meeting, and attendance at 2 community meetings.

7-16.1 Public Notice by Contractor. Furnish and distribute public notices in the form of door hangers using the Agency’s approved format to all occupants along streets where construction work is to be performed at least 1 week before starting the Work. For all work on private property, contact each owner individually a minimum of 15 days prior to the Work. If the Work
has been delayed, re-notify residents of the new work schedule. Notices shall be printed in both English and Spanish in the same pamphlet.

7-17 CONFLICT OF INTEREST. The Contractor shall establish and make known to your employees appropriate safeguards to prohibit employees from using their positions for a purpose that is, or gives the appearance of being, motivated by desire for private gain for themselves or others, particularly those with whom they have family, business, or other relationships. Project personnel must not accept gratuities or any other favors from Subcontractors or potential subcontractors.

The Contractor is subject to all federal, state, and local conflict of interest laws, regulations, and policies applicable to public contracts and procurement practices, e.g., California Government Code §§1090, et. seq. and 81000, et. seq. If, in performing the Work, Contractor or any of its employees make, or participate in, a “governmental decision” in accordance with title 2, §18701(a)(2) of the California Code of Regulations, or performs the same or substantially all the same duties for the Agency that would otherwise be performed by an Agency employee holding a position specified in the applicable department’s conflict of interest code, Contractor or any of its employees will be subject to a conflict of interest code requiring the completion of one or more statements of economic interests disclosing your relevant financial interests.

If required, statements of economic interests must be made on Fair Political Practices Commission Form 700 and filed with the Agency, Contractor or any of its employees must file a Form 700 (Assuming Office Statement) within 30 days of the Agency’s written determination that Contractor or any of its employees will be subject to a conflict of interest code. File a Form 700 (Annual Statement) on or before April 1, disclosing any financial interests held during the previous calendar year for which Contractor or any of its employees were subject to a conflict of interest code.

If the Agency requires Contractor or any of its employees to file a statement of economic interests as a result of the Work performed, Contractor or any of its employees will be considered a “Agency Official” subject to the provisions of the Agency Ethics Ordinance, including the prohibition against lobbying the Agency for 1 year following the expiration or termination of the Contract.

If the Contractor employed on the Project must not accept gratuities or any other favors from any Subcontractors or potential Subcontractors. The Contractor must not recommend or specify any product, supplier, or contractor with whom you have a direct or indirect financial or organizational interest or relationship that would violate conflict of interest laws, regulations, or policies.

If the Contractor violates any conflict of interest laws or any of these conflict of interest provisions, the violation will be grounds for immediate termination of this Contract. Further, the
violation subjects Contractor or any of its employees to liability to the Agency for all damages sustained as a result of the violation.
SECTION 8 - FACILITIES FOR AGENCY PERSONNEL

8-1 GENERAL. Facilities provided for Agency personnel shall be at suitable locations approved by the Engineer. Such facilities must be in a room, building, or trailer provided for this purpose with acceptable means for locking.

A Class "A" Field Office conforming to 8-2.1 shall be provided at any offsite plant facility furnishing pipe subject to Agency inspection during manufacture. Any other facilities for Agency personnel shall be provided only when required by the Specifications.

Offices and laboratories at plants may be used concurrently by inspection personnel of other agencies provided such use does not seriously conflict with Agency use. When facilities are shared in this manner, at least one locker provided with a hasp for a padlock must be available for the exclusive use of the Agency. Otherwise any facilities furnished are for the exclusive use of the Agency.

Facilities shall conform to the applicable codes, ordinances, and regulations of the local jurisdiction and of the State of California, and shall conform to current practice. The interior shall be paneled or suitably lined to provide a facility of good appearance.

The Contractor shall provide janitorial and other maintenance services in all types of facilities provided. Such services shall include the supply of the appropriate paper products and dispensers. Trash receptacles shall be provided and emptied by the Contractor at weekly intervals or sooner as required. The trash shall be removed from the Work site.

All costs to furnish, maintain, service, and remove the specified facilities at the Work site shall be included in the price in the Bid for such facilities. If no Bid item is provided in the Proposal, costs shall be included in other Bid items.

The first progress payment will not be approved until all facilities are in place and fully comply with the Specifications.

8-2 FIELD OFFICE FACILITIES

8-2.1 Class “A” Field Office. The office shall have a minimum floor space of 175 ft² (16m²), at least one door, and window area of not less than 22 ft² (2m²). All doors and windows shall be provided with screens.

Furniture shall be provided as follows: one plan table, one standard 5-foot (1.5m) long double-pedestal desk with a drawer suitable for holding files, 2 chairs, one drafting stool, and one plan rack.
Electric power shall be provided to include a minimum of 4 duplex convenience outlets. The office shall be illuminated at the tables and desk. An outdoor lighting fixture with a 300-watt bulb shall be installed.

Heating and air conditioning of sufficient capacity shall be provided at no expense to the Agency. The contractor shall provide drinking water within the office and integral sanitary facilities directly adjoining. Sanitary facilities shall include a toilet and washbasin with hot and cold running water.

Extended area, non-coin-operated telephone service shall be provided within the office area. The installation shall include sufficient extension cord to serve the plan table and desk.

The "Class A" Field Office shall be provided with the following additional items: one (1) standard five foot (5') double pedestal desk with two side chairs, one (1) electrostatic copier (Xerox Model Document Centre 545, or equal), one (1) FAX machine (Canon Model Faxphone B640 Bubble Jet Facsimile, or equal), computer printers (HP Officejet Pro) for each desk, speaker phones for each desk, one (1) 8 cubic feet refrigerator, one (1) microwave oven, one (1) plan rack, one (1) four drawer legal size file cabinet, three (3) 4'x8' folding tables, twelve (12) padded folding chairs, one (1) 4’x8’ white board, two 3’x4’ bulletin boards, and a water cooler with both hot and chilled water.

8-3 BATHHOUSE FACILITIES. When the Plans or Special Provisions require bathhouse facilities, the following shall be provided:

a) One lavatory with hot and cold water.
b) One toilet in a stall.
c) One 3-foot (1m) trough-type urinal.
d) One enclosed shower at least 3 feet x 3 feet (1m x 1m) with hot and cold water.
e) One bench, 6 feet (2m) long.
f) Soap dispensers.
g) Toilet paper holders.
h) Paper towel cabinet.
i) Wastepaper receptacle.

These facilities shall be serviced and provided with necessary sanitary supplies. These facilities shall be for the exclusive use of Agency personnel. However, a separate building need not be provided for this purpose if such facilities are located in a separate room in a building which includes other facilities.

8-4 REMOVAL OF FACILITIES. Field offices, laboratories, and bathhouse facilities at the Work site shall be removed upon completion of the Work. Buildings and equipment furnished by the
Contractor at the Work site under the provisions of this subsection shall remain the property of the Contractor.

8-5 BASIS OF PAYMENT. All costs incurred in furnishing, maintaining, servicing, and removing field offices laboratories, or bathhouse facilities required at the Work site shall be included in the Bid item for furnishing such facilities. If such facilities are required by the Plans and no Bid item is provided in the Proposal, the costs shall be included in other Bid items. Such costs incurred in connection with offices and laboratories at plants shall be borne by the plant owners.

Payment for Field Office will be made at the unit or lump sum price bid and shall include full compensation for installing, maintaining and removing the field office, relocating it as may be necessary to facilitate the Work, obtaining all permits, property rental, providing utilities including, but not limited to, high speed internet service, electrical, telephone, potable water and sanitary facilities, providing office supplies, cleaning service, and maintenance.

The field office shall be 100% complete prior to start of Work. Monthly progress payments to the Contractor will not be made until such time as the field office is provided, fully furnished, and supplied.
SECTION 9 - MEASUREMENT AND PAYMENT

9-1 MEASUREMENT OF QUANTITIES FOR UNIT PRICE WORK

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

Unless otherwise provided in the Special Provisions, volumetric quantities shall be the product of the mean area of vertical or horizontal sections and the intervening horizontal or vertical dimension.

Before proceeding with any work, the Contractor shall carefully check and verify all dimensions and quantities and shall immediately inform the Engineer of any discrepancy between the Bid and Contract Documents and actual conditions. No work shall be done in any area of such discrepancy until approval for same has been given in writing by the Engineer.

It is the Contractor’s sole responsibility to perform its own, independent, quantity take offs for final pay quantity bid items. All final pay quantities shall be verified and approved by the Engineer.

9-1.2 Methods of Measurement. Materials and items of work which are to be paid for on basis of measurement shall be measured in accordance with methods stipulated in the particular sections involved.

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

9-1.4 Units of Measurement. A metric ton or "tonne" is equal to 1,000 kilograms and the unit of liquid measure is a Liter (in U.S. Standard Measures, a pound is an avoirdupois pound, a ton is 2,000 pounds; and the unit of liquid measure is the gallon).

The system of measure for this Contract shall be the U.S. Standard Measures. Data provided by the Agency for final pay or other quantities are for information purposes only and shall not be grounds for disputing actual quantities of work performed and their payment.

9-2 LUMP SUM WORK. Items for which quantities are indicated "Lump Sum", "LS", or "Job", shall be paid for at the price indicated in the Bid. Such payment shall be full compensation for the items of work and all work appurtenant thereto.
When required by the Special Provisions or requested by the Engineer, the Contractor shall submit to the Engineer within 15 days after award of Contract, a detailed Schedule of Values to be used only as a basis for determining progress payments on a lump sum contract or designated lump sum Bid item. This schedule shall equal the lump sum Contract Price or Bid item price and shall be in such form and sufficiently detailed as to satisfy the Engineer that it correctly represents a reasonable apportionment of the lump sum.

9-3 PAYMENT

9-3.1 General. The quantities listed in the Proposal will not govern final payment. Payment to the Contractor will be made only actual quantities of Contract items constructed in accordance with the Contract Documents. Upon completion of the Work, if the actual quantities show either an increase or decrease from the quantities in the Proposal, the Contract Unit Prices will prevail except as otherwise stated herein.

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

The Contract Documents specify in several locations when the Agency may deduct costs for Agency actions. These deductions will be made on the next progress payment to the Contractor that is due, upon approval by the Engineer.

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

Warranty periods shall not be affected by any payment.

If, within the time fixed by law, a properly executed notice to stop payment is filed with the Agency, due to the Contractor’s failure to pay for labor or materials used in the Work, all money due for such labor or materials will be withheld from payment to the Contractor in accordance with applicable laws plus an additional 25-50 % of the stop payment notice amount to cover Agency’s anticipated costs and attorneys’ fees in connection with such payment dispute.

At the expiration of 35 days from the later of the date of recording of the Notice of Completion or the date of acceptance of the performance of the Contract by the City Council or Governing
Board of the Agency, or as prescribed by law, the amount deducted from the final estimate and retained by the Agency will be paid to the Contractor except such amounts as are required by law to be withheld pursuant to notices to stop payment received on the Project, or as may be authorized by the Contract Documents to be further retained.

Guarantee periods shall not be affected by any payment, but shall commence on the Date of Completion specified in the “Notice of Completion”

9-3.2 Partial and Final Payment. After award of the Contract the Engineer will establish a periodic day of the month for the purpose of making monthly progress payments. The Contractor may request in writing that such monthly submittal date be changed. The Engineer may approve such request when it is compatible with the Agency's payment procedure.

Each month the Engineer will make an approximate measurement of the work performed to the closure date and estimate its value based on contract unit prices as a basis for making monthly progress payments, and in accordance with 9-2. When the Work has been satisfactorily completed, the Engineer will determine the quantity of work performed and prepare the final estimate.

The Agency shall retain not less than five (5%) percent from each progress payment until acceptance project by the Board.

No progress payment made to the Contractor or its Sureties will constitute a waiver of accrued liquidated damages (if any).

Pursuant to Section 22300 of the Public Contract Code, the Contractor may substitute securities for any retention withheld by the Agency.

No payment shall be required to be made by the Agency when in the judgment of the Agency:

1. Work is defective or incomplete;
2. Third party claims are filed or the Agency has reasonable evidence indicating probable filing of such claims;
3. The Contractor fails to make payments in accordance with California law to Subcontractors, or for labor, materials or equipment;
4. The remaining work cannot be completed for the unpaid balance remaining in the Contract;
5. The Contractor has caused damage to the Agency or another in the course of executing the Work and has failed to make the aggrieved party whole;
6. The Agency has reasonable evidence that the Work will not be completed within the Contract Time and liquidated damages may exceed any amounts due or that remain in the Contract; or
7. The Agency has reasonable evidence of persistent failure of the Contractor to carry out the Work in accordance with the Bid and Contract Documents.

No payment made hereunder shall be construed to be an approval or acceptance of any defective Work or improper materials.

Neither the final payment nor the remaining retention shall become due until the Contractor submits to the Agency the following:
1. Completes, executes and submits all “Close-Out Documents”.
2. Consent of the sureties issuing the Bond for Faithful Performance and Contractor’s Payment Bond to final payment, and
3. If required by the Agency, other data or documentation establishing payment or satisfaction of all such obligations, such as receipts, releases and waivers of liens arising out of the Contract, to the extent and in such form as may be designated by the Agency. If any Subcontractor refuses to furnish a release or waiver required by the Agency, the Contractor may furnish a bond satisfactory to the Agency to indemnify the Agency against any such lien. If any such lien remains unsatisfied after all payments are made, the Contractor shall refund to the Agency all monies that the latter may be compelled to pay in discharging such lien, including all costs and reasonable attorneys' fees.
4. All complete and correct certified payroll documents. If the Contractor’s payroll is being reviewed by the Department of Industrial Relations then a release from the DIR is required.
5. All warranties and manuals.
6. All training has occurred to the satisfaction of the Engineer.
7. All other deliverables have been accepted by the Engineer.

Submission by the Contractor of an invoice or invoice coversheet marked “Final” (not “Retention Payment”) shall operate as a release by Contractor of the Agency, its officers, elected officials, officers, employees, volunteers, agents and private consultants of all claims and all liability to the Contractor for every act, omission or items furnished in connection with the Work by Agency, its officers, elected officials, officers, employees, volunteers, agents and private consultants relating to or arising out of the Work. Similarly, Contractor’s submission of the final invoice or invoice coversheet marked “Final” (not “Retention Payment”) shall operate as a waiver by Contractor of any claims for payment for extra work, changed conditions, delays, and other sums unless specifically identified and excepted from the scope of such waiver.

No payment, final or otherwise, shall operate to release the Contractor or the Contractor’s sureties from any obligations under the Bid, Contract, or Contract Documents, applicable law or in connection with the Contractor’s Faithful Performance and Payment Bonds. The release of the
Contractor’s Faithful Performance and Payment Bonds must be expressly authorized by the City Council or Governing Board of Agency.

9-3.3 Delivered Materials. When provided for in the Special Provisions, and subject to the limitation and conditions therein, the cost of materials and equipment delivered but not incorporated into the Work will be included in the progress estimate.

The cost of materials and equipment delivered but not incorporated into the Work will not be included in the cost of the relevant items of work and there shall be no additional costs to the Agency.

9-3.4 Mobilization/Demobilization. Mobilization and demobilization shall consist of preparatory work and operations, including, but not limited to, those necessary for the move-on and move-off operations of personnel, equipment, supplies, and incidentals to the project site, for the establishment of all offices, storage yards, buildings, hook-up and disconnects for utility services, and other facilities necessary for work on the Project, and for all other work and operations including the application for and acquiring of permits from other agencies, which must be performed or costs incurred prior to beginning work on the various items of work on the Project Site.

When applicable, Mobilization/Demobilization shall be paid for at the Contract lump sum price bid. The lump sum price for Mobilization/Demobilization shall include full compensation for furnishing all labor, materials, tools, equipment, and incidentals, overhead, taxes, fees and profit for doing all the work involved in mobilization and demobilization. When the Contract does not include a contract pay item for mobilization and demobilization full compensation for any necessary mobilization and demobilization required shall be considered as included in the relevant items of work; there will be no additional costs to the Agency.

Payments for Mobilization/Demobilization will be made in accordance with one of the following schedule(s) at the sole discretion of the Engineer:

(i) 60% after construction begins and 40% after acceptance of the completed project by the Engineer
(ii) A percentage of the bid item for mobilization will be paid at each progress payment equal to the percentage of the project completed. Determination of the percentage of project completed shall be made by dividing the total contract amount by the total amount invoiced to date as approved by the Engineer.

Higher percentages than those described above for payments of the mobilization bid item may be made at the sole and final discretion of the Engineer. This may be done if, in the exclusive opinion of the Engineer, certain materials, personnel, and/or other items of equipment are of an
unusual or highly specialized nature and the cost of the mobilization of these items is considered disproportionate to the mobilization costs of the rest of the project.

9-3.5 Field Orders. Field Order items of work may be paid for under this section provided that the dollar value of all such changes does not exceed $<write amount in digits> for each individual field order and the accumulative total of Field Orders does not exceed the Field Order Bid Item.

The Field Order bid item allowance is predetermined by the Agency, is included in all bids and is not subject to change by the Bidder.

Only the Engineer or Engineer’s pre-designated representative may order work to be paid under the Field Order line item.

The description of the scope of work on any Field Order may be general in nature but without exception shall include all other work necessary to complete the work generally described.

The amount indicated on any Field Order shall include all direct and indirect cost for all equipment, materials, labor, field and home office overhead, mark-ups, taxes, fees, effect on other items of work, all other work necessary to complete the Field Order work and profit. By executing the Field Order, Contractor agrees that no additional compensation or claims for items of Work listed in the Field Order will be allowed.

Payment for work under this bid item will only be made upon presentation of a properly executed Field Order attached to a monthly invoice and confirmed by the Engineer.

This bid item is considered incidental to the Contract and may be deleted partially or in its entirety.

The contractor is not entitled to any of the unused portion of this bid item.

This item is not subject to any provisions regarding the sharing of cost savings in these specifications or the contract.

9-3.6 Prompt Payment. Not later than ten (10) days after receipt of each progress payment, the Contractor or Subcontractor shall pay to any subcontractor the respective amounts allowed the Contractor on account of the work performed by the Subcontractor to the extent of each Subcontractor’s interest therein, unless the parties have agreed otherwise in writing. In cases of Subcontractor performance deficiencies, the Contractor shall make written notice of any withholding to the Subcontractor with a copy to the Engineer. Upon correction of the deficiency, the Contractor shall pay the Subcontractor the amount previously withheld not later than 14 days after payment by the Agency. Any violation of California Business and Professions Code, § 7108.5 concerning prompt payment to Subcontractors shall subject the violating Contractor or
Subcontractor to the penalties, sanction and other remedies of that section. This section shall not be construed to limit or impair any contractual, administrative, or judicial remedies otherwise available to the Contractor or Subcontractor in the event of a dispute involving late payment or nonpayment by the Prime Contractor or a subcontractor, deficient subcontract performance, or noncompliance by a subcontractor.

9-3.7 Prompt Payment of Funds Withheld To Subcontractors. The Agency will hold retention from the Contractor and will make prompt and regular incremental acceptances of portions, as determined by the Engineer, and pay retention to the Contractor based on these acceptances. The Contractor or Subcontractor shall return all monies withheld in retention from a subcontractor within 30 days after receiving payment for work satisfactorily completed and accepted including incremental acceptances of portions of the Work by the Agency. Federal law (49 CFR 26.29) requires that any delay or postponement of payment over 30 days may take place only for good cause and with the Agency’s prior written approval. Any violation of this provision shall subject the violating the Contractor or Subcontractor to the penalties, sanctions and other remedies specified in §7108.5 of the Business and Professions Code. These requirements shall not be construed to limit or impair any contractual, administrative, or judicial remedies otherwise available to the Contractor or Subcontractor in the event of a dispute involving late payment or nonpayment by Contractor or subcontractor, deficient subcontract performance, or noncompliance by a subcontractor.

9-4 WAIVER OF CLAIMS. Submission of an invoice labeled “final invoice” in any way shall constitute a waiver of any and all claims by the Contractor and releases the Agency, the Successor Agency (if any), and all private consultants and for each their elected officials, appointees, officers, agents, employees, contract employees, consultants, heirs and assigns from all claims and all liability for all things done or furnished in connection with the Work, and every act of the Agency, the Successor Agency (if any), and all private consultants and for each their elected officials, appointees, officers, agents, employees, contract employees, consultants, heirs and assigns and others relating to or arising out of the Work and related to those undisputed amounts. No payment, however, final or otherwise, will release the Contractor and the Surety from obligations under the Contract and the Performance Bond, Payment Bond, and other bonds and warranties as herein provided.
SECTION 10 – MISCELLANEOUS

10-1 NOTICE OF THIRD PARTY CLAIMS. Pursuant to Public Contract Code section 9201, the Agency shall provide Contractor with timely notification of the receipt of any third-party claim relating to the Contract.

10-2 STATE LICENSE BOARD NOTICE. Contractors are required by law to be licensed and regulated by the Contractors’ State License Board which has jurisdiction to investigate complaints against contractors if a complaint regarding a patent act or omission is filed within four (4) years of the date of the alleged violation. A complaint regarding a latent act or omission pertaining to structural defects must be filed within ten (10) years of the date of the alleged violation. Any questions concerning a contractor may be referred to the Registrar, Contractors’ State License Board, P.O. Box 26000, Sacramento, California 95826.

10-3 INTEGRATION

1. These Contract Documents, together with its incorporated documents, contains the entire, integrated agreement of the parties hereto, and supersedes any and all other prior or contemporaneous negotiations, understandings and oral or written agreements between the parties hereto. Each party acknowledges that no representations, inducements, promises or agreements have been made by any person which are not incorporated herein, and that any other agreements shall be void.

2. Any modification of this Contract shall only be effective if in writing signed by all parties.

3. No oral order, objection, direction, claim or notice by any party or person shall affect or modify any of the terms or obligations contained in the Contract Documents.

END OF PART ONE
SPECIAL PROVISIONS
AMENDMENTS TO THE “GREENBOOK”

STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION

PART 2 CONSTRUCTION MATERIALS

The following SECTIONS supplement the STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION, (“Greenbook”), 2018 edition, regional supplements and all current supplements, and supersede any conflicting requirements, (A “conflicting requirement” is one that cannot operate by law within the Special Provisions listed herein or both cannot be physically produced). Otherwise these Special Provisions only supplement the Standard Specifications. If any of the sections or part of sections below contradict or are not in conformance with current California Codes and Regulations at the time of bidding, the Contractor will assume that the current California Codes and Regulations supersedes that item in these specifications. When there are two or more specifications for same item or work the contractor shall bid the more expensive item or work specified unless the one specified item specifically states that it shall take precedent over other specified items for the same work.

SECTION 200 ROCK MATERIALS

200-1 ROCK PRODUCTS

200-1.2 crushed rock and rock dust

Add the following section:
200-1.2.3 Permeable Material

Permeable material shall consist of hard, durable, clean sand, gravel, or crushed stone, and shall be free from organic material, clay balls, or other deleterious substances. Class 1 and Class 2 permeable material shall have a Durability Index of not less than 40. Class 2 Permeable material shall have a Sand Equivalent value of not less than 75. Class 1 permeable material shall conform to the requirements in this section and Table 200-1.2.3(A). Class 2 permeable material shall conform to the requirements in this section and Table 200-1.2.3(B). When permeable material is required and the class or kind is not specified, Class 1 permeable material shall be used. The alternative gradings within Class 1 permeable material are identified by types. Unless otherwise shown on the plans the Contractor will be permitted to furnish and place any one of the types provided for this class. The percentage composition by mass of permeable material in place shall conform to the gradings in Tables 200-1.2.3(A) and 200-1.2.3(B).
TABLE 200-1.2.3(A)
CLASS 1 PERMEABLE MATERIAL

<table>
<thead>
<tr>
<th>Sieve Sizes</th>
<th>Type A</th>
<th>Type B</th>
</tr>
</thead>
<tbody>
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<td>50-mm (2&quot;)</td>
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</tr>
<tr>
<td>37.5-mm (1\frac{1}{2}&quot;)</td>
<td>---</td>
<td>95-100</td>
</tr>
<tr>
<td>19-mm (\frac{3}{4}&quot;)</td>
<td>100</td>
<td>50-100</td>
</tr>
<tr>
<td>12.5-mm (\frac{1}{2}&quot;)</td>
<td>95-100</td>
<td>---</td>
</tr>
<tr>
<td>9.5-mm (\frac{3}{8}&quot;)</td>
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<td>15-55</td>
</tr>
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<td>4.75-mm (No. 4)</td>
<td>0-55</td>
<td>0-25</td>
</tr>
<tr>
<td>2.36-mm (No. 8)</td>
<td>0-10</td>
<td>0-5</td>
</tr>
<tr>
<td>75-\mu m (no. 200)</td>
<td>0-3</td>
<td>0-3</td>
</tr>
</tbody>
</table>

TABLE 200-1.2.3(B)
CLASS 2 PERMEABLE MATERIAL

<table>
<thead>
<tr>
<th>Sieve Sizes</th>
<th>Percentage Passing</th>
</tr>
</thead>
<tbody>
<tr>
<td>25-mm (1&quot;)</td>
<td>100</td>
</tr>
<tr>
<td>19-mm (\frac{3}{4}&quot;)</td>
<td>90-100</td>
</tr>
<tr>
<td>9.5-mm (\frac{3}{8}&quot;)</td>
<td>40-100</td>
</tr>
<tr>
<td>4.75-mm (No. 4)</td>
<td>25-40</td>
</tr>
<tr>
<td>2.36-mm (No. 8)</td>
<td>18-33</td>
</tr>
<tr>
<td>600-\mu m (No. 30)</td>
<td>5-15</td>
</tr>
<tr>
<td>300-\mu m (No. 50)</td>
<td>0-7</td>
</tr>
<tr>
<td>75-\mu m (no. 200)</td>
<td>0-3</td>
</tr>
</tbody>
</table>

**200-2 untreated base materials**

**200-2.1 General**

*Add the following:*
Aggregate base shall be either crushed miscellaneous base pursuant to Section 200-2.4, or recycled Class 2 Aggregate Base per Caltrans Standard Specification, Section 26: Aggregate Bases, Section 26-1.02B, Class 2 Aggregate Base, latest edition, and as specified herein.

*Add the following section:*
200-2.9 Class 2 Aggregate Base

Aggregate for recycled Class 2 aggregate base shall be free from organic matter and other deleterious substances, and shall be of such nature that it can be compacted readily under watering and rolling to form a firm, stable base. Aggregate may be composed of a combination of the following:

1. 100% reclaimed asphalt concrete, Portland cement concrete, lean concrete base, or cement treated base
2. Broken stone
3. Crushed gravel
4. Natural rough surface gravel
5. Sand

Aggregate shall conform to the grading and quality requirements shown in the following tables. At the option of the Contractor, the grading for either the 1 1/2-inch maximum or 3/4 inch maximum shall be used, except that once a grading is selected it shall not be changed without the Engineer's written approval.

### AGGREGATE GRADING REQUIREMENTS

<table>
<thead>
<tr>
<th>Sieve Sizes</th>
<th>1 1/2” Maximum</th>
<th>3/4” Maximum</th>
</tr>
</thead>
<tbody>
<tr>
<td>2”</td>
<td>100</td>
<td>100</td>
</tr>
<tr>
<td>1 1/2”</td>
<td>90-100</td>
<td>90-100</td>
</tr>
<tr>
<td>1”</td>
<td>100</td>
<td>100</td>
</tr>
<tr>
<td>3/4”</td>
<td>50-85</td>
<td>90-100</td>
</tr>
<tr>
<td>No. 4</td>
<td>25-45</td>
<td>35-60</td>
</tr>
<tr>
<td>No. 30</td>
<td>10-25</td>
<td>10-30</td>
</tr>
<tr>
<td>No. 200</td>
<td>2-9</td>
<td>2-9</td>
</tr>
</tbody>
</table>

### QUALITY REQUIREMENTS

<table>
<thead>
<tr>
<th>Property</th>
<th>California Test</th>
<th>Operating Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>Resistance (R-value)</td>
<td>301.</td>
<td>78 Min.</td>
</tr>
<tr>
<td>Sand Equivalent</td>
<td>217</td>
<td>25 Min.</td>
</tr>
<tr>
<td>Durability Index</td>
<td>229</td>
<td>35 Min.</td>
</tr>
</tbody>
</table>

The aggregate shall not be treated with lime, cement or other chemical material before the Durability Index test is performed.
If the results of either or both the aggregate grading and Sand Equivalent tests do not meet the requirements specified for “Operating Range” but meet the “Contract Compliance” requirements, placement of the aggregate base may be continued for the remainder of that day. However, another day’s work may not be started until tests, or other information, indicate to the satisfaction of the Engineer that the next material to be used in the work will comply with the requirements specified for “Operating Range.”

If the results of either or both the aggregate grading and Sand Equivalent tests do not meet the requirements specified for “Contract Compliance,” the aggregate base which is represented by these tests shall be removed. However, if requested by the Contractor and approved by the Engineer, the aggregate base may remain in place and the Contractor shall pay to the City $2.25 per ton for such aggregate base left in place. The City may deduct this amount from any moneys due, or that may become due, the Contractor under the contract. If both the aggregate grading and Sand Equivalent do not conform to the “Contract Compliance” requirements, only one adjustment shall apply.

No single aggregate grading or Sand Equivalent test shall represent more than 500 tons or one day's production, whichever is smaller.
SECTION 201 CONCRETE, MORTAR, AND RELATED MATERIALS

201-3 EXPANSION JOINT FILLER AND JOINT SEALANTS

201-3.4 Type “A” Sealant (Two-Part Polyurethane Sealant)

Add the following:
The sealant shall be a polyurethane sealant furnished and placed in accordance with the Specifications for “Two-Component Machine-Mixed Polyurethane Sealant” (State Specification 8030-61J-01).

Polyethylene foam shall be commercial quality, with a continuous impervious, glazed top surface, suitable for retaining the liquid polyurethane sealant in the joint while hardening.

A primer, furnished by the manufacturer of the sealant, shall be applied to the sides of the groove and to all exposed vertical surfaces in the joint prior to placing the polyurethane sealant. The primer shall be dry prior to placing sealant. Contamination of the completed primer with foreign material will be cause for rejection of the primed surface.

All finished concrete surfaces shall have a ½” continuous expansion joint at locations indicated on the plans and notes and shall be located either parallel to perpendicular to the curb line. When not otherwise indicated, all expansion joints located adjacent to colored concrete shall be sealant Type “A” and colored to match the color of the concrete surface.

Contractor shall provide joint sealants that have been produced and installed to establish and to maintain watertight and airtight continuous seals without causing staining or deterioration of joint substrates.

Contractor shall submit product data from the manufacturer of each joint sealant product required, including instructions for joint preparation and joint sealer application. Contractor shall also submit samples for initial selection purposes in form of manufacturer’s standard bead samples, consisting of strips of actual products showing full range of colors available, for each product exposed to view. Samples shall be submitted to Engineer. Submit complete schedule of type (and location where type is to be used) of each sealant.

Contractor shall engage an experienced installer who has completed joint sealant applications similar in material, design and extent to that indicated for Project that have resulted in construction with a record of successful in-service performance.

Provide joint sealants, joint fillers, and other related materials that are compatible with one another and with joint substrates under conditions of service and application, as demonstrated by sealant manufacturer based on testing and field experience.
Provide color selections made by Engineer from manufacturer’s full range of standard colors for products of type indicated. Sealant color parallel to curb line shall match color of Paving Treatment Type “A” as specified in Section 201-1.2.4(a) of these Special Provisions.

Joint sealants shall be multi-component polyurethane sealant. Except as otherwise indicated, provide manufacturer’s standard, non-modified, 2-or-more-part, polyurethane-based, elastomeric sealant; complying with either ASTM-C-920-87, Type M, Grade P, Class 25, or FS TT-S 0227E Class A, non-sag, Type II.

Provide sealant backings of material and type that are nonstaining; are compatible with joint substrates, sealants, primers and other joint fillers; and are approved for applications indicated by sealant manufacturer based on field experience and laboratory testing.

Plastic foam joint fillers shall be performed, compressible, resilient, non-staining, non-waxing, non-extruding strips of flexible plastic foam either open-cell polyurethane foam or closed-cell polyethylene foam, subject to approval of sealant manufacturer, for cold-applied sealants only. Polystyrene foam is not acceptable.
SECTION 203  BITUMINOUS MATERIALS

203-1  PAVING ASPHALT

203-1 GENERAL

Add the following:
Paving Asphalt shall be PG 70-10

203-3  EMULSIFIED ASPHALT

Add the following sub section:

203-3.4.7  POLYMER MODIFIED REJUVENATING EMULSION (PMRE) FOR CHIP AND SCRUB SEALS

At least 14 days prior to use, the Contractor shall submit certifications from the manufacturers of the recycling agent and polymer identifying the types of agent and polymer used. The Contractor shall submit test results on the polymer supplied by the supplier of the polymer and shall submit certifications from the emulsion supplier that the emulsion meets the specification. The engineer may request these specifications weekly during the project.

The asphalt emulsion shall be a quick break Polymer Modified Rejuvenating Emulsion with a latex polymer, a rejuvenating agent and asphalt and shall meet the following specifications.

<table>
<thead>
<tr>
<th>Test on Emulsion</th>
<th>Method</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Viscosity @ 122° F (SFS)</td>
<td>ASTM D244</td>
<td>50 - 400</td>
</tr>
<tr>
<td>Residue, w%, minimum.</td>
<td>ASTM D244</td>
<td>65</td>
</tr>
<tr>
<td>pH</td>
<td>ASTM E70</td>
<td>2.0 - 5.0</td>
</tr>
<tr>
<td>Sieve, w%, max.</td>
<td>ASTM D244</td>
<td>0.1</td>
</tr>
<tr>
<td>Oil distillate, w%, max.</td>
<td>ASTM D244</td>
<td>0.5</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Test on Residue&lt;sup&gt;(4)&lt;/sup&gt;</th>
<th>Method</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Viscosity @ 140° F, (P), maximum.</td>
<td>ASTM D2171</td>
<td>5000</td>
</tr>
<tr>
<td>Penetration @ 39.2°F, minimum.</td>
<td>ASTM D5</td>
<td>40-65</td>
</tr>
<tr>
<td>Elastic Recovery on residue by distillation, %, minimum.&lt;sup&gt;(3)&lt;/sup&gt;</td>
<td>AASHTO T59, T301  &lt;sup&gt;(1,2)&lt;/sup&gt;</td>
<td>60</td>
</tr>
<tr>
<td>OR</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Modified Torsional Recovery, % minimum.&lt;sup&gt;(3)&lt;/sup&gt;</td>
<td>California Test 332  &lt;sup&gt;(4)&lt;/sup&gt;</td>
<td>45</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Test on Latex&lt;sup&gt;(5)&lt;/sup&gt;</th>
<th>Method</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tensile Strength, die C dumbbell, psi, minimum</td>
<td>ASTM D412</td>
<td>500</td>
</tr>
<tr>
<td>Swelling in rejuvenating agent, % maximum; 48 hours exposure @ 104° F</td>
<td>ASTM D471&lt;sup&gt;(6)&lt;/sup&gt; Modified</td>
<td>40% intact film</td>
</tr>
</tbody>
</table>
Test on Rejuvenating Agent:

<table>
<thead>
<tr>
<th>Test</th>
<th>Method</th>
<th>Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>Viscosity, 104°F, CST</td>
<td>ASTM D2170</td>
<td>50-175</td>
</tr>
<tr>
<td>Flash point, COC, °F</td>
<td>ASTM D92</td>
<td>&gt; 380</td>
</tr>
<tr>
<td>Saturate, %, by wt.</td>
<td>ASTM D2007</td>
<td>30 Max.</td>
</tr>
<tr>
<td>Asphaltness</td>
<td>ASTM D2007</td>
<td>1.0 Max.</td>
</tr>
</tbody>
</table>

Test on Rejuvenating Agent Residue:

<table>
<thead>
<tr>
<th>Test</th>
<th>Method</th>
<th>Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>Weight Change, %</td>
<td>ASTM D2872</td>
<td>6.5 Max.</td>
</tr>
<tr>
<td>Viscosity Ration</td>
<td>ASTM D2170</td>
<td>3 Max.</td>
</tr>
</tbody>
</table>

(1) Exception to AASHTO T59: Bring the temperature on the lower thermometer slowly to 350°F plus or minus 10°F. Maintain at this temperature for 20 minutes. Complete total distillation in 60 plus or minus 5 minutes from first application of heat.

(2) Elastic Recovery @ 10°C (50°F): Hour glass sides, pull 20 cm, hold 5 minutes then cut, let sit 1 hour.

(3) Choose either Elastic Recovery or Torsional Recovery as a test.

(4) Torsional Recovery shall include the first 30 seconds.

(5) Latex films shall be cured at 75°F and 50% relative humidity for 14 days prior to cutting or molding specimens. Suitable substrate for film formation shall be polyethylene boards, silicone rubber sheeting, glass, or any substrate which produces a cured film of uniform cross-section.

(6) Report mass increase as a percent by weight of the original latex film mass upon exposure of films to “Rejuvenating Agent”

Asphalt rejuvenating agent furnished without a Certificate of Compliance shall not be used in the work until the Engineer has approved the asphalt rejuvenating agent for use. The Engineer shall have 10 days to approve the asphalt rejuvenating agent for use. If, in the opinion of the Engineer, the Contractor’s controlling operation is delayed to interfered with by reason of the Engineer not completing the evaluation of the asphalt rejuvenating agent within the time specified, the delay will be considered as the Contractor’s inability to perform the work and no extension of time shall be granted in accordance to section 6-6 Delays and Extension of Time of the Special Provisions.

The Contractor shall submit a contingency plan to the Engineer at least 10 days prior to applying the asphalt rejuvenating agent. The contingency plan shall describe in detail the corrective actions the Contractor will use if the coefficient of friction is less than 0.30 or if the asphalt rejuvenating agent does not break within the times specified for lane closures. The plan shall include any additional traffic handling, additional materials on hand, or additional equipment kept available for contingency situations. The engineer must approve the use of a corrective action before it is implemented.

203-4 MICRO SURFACING

Replace entire section with the following:

203-4.1 ASPHALT EMULSION

Asphalt emulsion shall conform to 203-3.4.6 of the Standard Specifications.
203-4.2 WATER AND ADDITIVES

Water shall potable and of such quality that the asphalt will not separate from the emulsion before the microsurfacing is in place on the pavement. If necessary for workability, a set-control agent that will not adversely affect the microsurfacing, may be used.

203-4.3 MINERAL FILLER

Mineral filler shall be any recognized brand of non-air entrained Portland cement or hydrated lime that is free of lumps. The type and amount of mineral filler needed shall be determined by the laboratory mix design and will be considered as part of the mineral gradation requirement. An increase or decrease of less than one percent may be permitted when the microsurfacing is being placed if it is found to be necessary for better consistency or set times.

203-4.4 AGGREGATE

The mineral aggregate used shall be of the type and grade specified for the particular use of the microsurfacing. The aggregate shall be manufactured crushed stone such as granite, slag, limestone, or other high quality aggregate, or combination thereof. The material shall be free from vegetable matter and other deleterious substances. All aggregate shall be free of caked lumps and oversize particles.

The aggregate, prior to the addition of emulsion shall conform to the requirements of this section. If aggregates are blended each component aggregate shall meet the sand equivalency and abrasion resistance and shall be 100% crushed as tested in accordance with California Test 205. The definition of a crushed particle in California Test 205 Section D, is amended to read: “Any particle having 2 or more fresh mechanically fractured faces shall be considered a crushed particle.”

The percentage composition by mass of the aggregate shall meet the following grading requirements when tested in conformance with California Test 202:

<table>
<thead>
<tr>
<th>Sieve Size</th>
<th>Percentage Passing</th>
</tr>
</thead>
<tbody>
<tr>
<td>Type II</td>
<td>Type III</td>
</tr>
<tr>
<td>3/8”</td>
<td>100</td>
</tr>
<tr>
<td>No. 4</td>
<td>94 - 100</td>
</tr>
<tr>
<td>No. 8</td>
<td>65 - 90</td>
</tr>
</tbody>
</table>
Aggregate excluding mineral filler shall conform to the following additional quality requirements:

<table>
<thead>
<tr>
<th>Test</th>
<th>Method</th>
<th>Requirement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sand Equivalent</td>
<td>California Test 217</td>
<td>65 minimum</td>
</tr>
<tr>
<td>Durability Index</td>
<td>California Test 229</td>
<td>65 minimum</td>
</tr>
<tr>
<td>Percentage of crushed particles.*</td>
<td>California Test 205</td>
<td>95% minimum</td>
</tr>
<tr>
<td>Los Angeles Rattler</td>
<td>California test 211</td>
<td>35% maximum</td>
</tr>
<tr>
<td>Loss at 500 revolutions**</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* Crushed particle must have at least 1 fractured face.
**California Test 211 must be performed on the parent aggregate before crushing.

**203-4.5 MIX DESIGN**

At least 7 working days before microsurfacing placement commences, the Contractor shall submit to the Engineer for approval a laboratory report of tests and a proposed mix design covering the specific materials to be used on the project.

The tests and mix design shall be performed by a laboratory capable of performing the applicable International Slurry Surfacing Association (ISSA) tests. The proposed microsurfacing mixture shall conform to the requirements specified when tested in accordance with the following tests:

<table>
<thead>
<tr>
<th>Test</th>
<th>ISSA Test</th>
<th>Requirement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wet Cohesion</td>
<td>TB* 139 @ 30 min. (set)</td>
<td>12 kg-cm minimum</td>
</tr>
<tr>
<td>Test</td>
<td>Description</td>
<td>Standard</td>
</tr>
<tr>
<td>-----------------------------</td>
<td>-------------------------------------------</td>
<td>-----------------------------------------------</td>
</tr>
<tr>
<td>Excess Asphalt</td>
<td>@ 60 min. (traffic) 20 kg-cm minimum (or near spin)</td>
<td>TB 109 540 g/m² maximum</td>
</tr>
<tr>
<td>Wet Stripping</td>
<td>Wet Track Abrasion</td>
<td>TB 114 Pass (90% minimum)</td>
</tr>
<tr>
<td>Wet TrackAbrasion</td>
<td>Six day soak 810 g/m² max loss</td>
<td>TB 100</td>
</tr>
<tr>
<td>Displacement</td>
<td>Lateral 5% max</td>
<td>TB 147A</td>
</tr>
<tr>
<td>Classification Compatibility</td>
<td>Specific Gravity after 1000 cycles of 56.8 kg 2.10</td>
<td>TB 144** (AAA,BAA) 11 grade points minimum</td>
</tr>
<tr>
<td>Mix Time @ 25°C</td>
<td>Controllable to 120 seconds minimum</td>
<td>TB 113</td>
</tr>
</tbody>
</table>

* TB = Technical Bulletin

The original laboratory report shall be signed by the laboratory that performed the tests and mix design and shall show the results of the tests on individual materials, comparing their values to those required by the specifications. The report shall clearly show the proportions of aggregate, filler, water (minimum and maximum), set control additive, and asphalt solids content (minimum and maximum) based on the dry mass of aggregate. The laboratory shall also report the quantitative effects of moisture content on the unit mass of the aggregate (bulking effect). Previous laboratory reports covering the same materials may be accepted provided they are made within the previous 12 months. The mix design will further show recommended changes in cement, water and additive proportions for high temperature weather conditions by reporting proportions of materials required for 60 seconds of mix time with materials heated to 38°C. This 38°C mixing report will not be required for projects requiring night time application or application in cool weather conditions.
All the component materials used in the mix design shall be representative of the materials proposed by the contractor to be used on the project. Once the proportions of materials to be used are approved by the Engineer, no substitution of other materials will be permitted unless the materials proposed for substitution are first tested and a laboratory report is submitted for the substituted design as specified above. Substituted materials shall not be used until the mix design for those materials is approved by the Engineer.

**203-4.6 PROPORTIONING**

Aggregate, mineral filler, asphalt emulsion, water, and additives, including set-control agent if used, shall be proportioned by volume utilizing the mix design approved by the Engineer. If more than one kind of aggregate is used, the correct amount of each kind of aggregate to produce the required grading shall be proportioned separately, prior to adding the other materials of the mixture, in a manner that will result in a uniform and homogeneous aggregate blend.

The percentages of each individual material required shall be shown in the laboratory report. Adjustments may be required during the construction, based on field conditions. The component materials shall be within the following limits:

<table>
<thead>
<tr>
<th>Material</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Residual Asphalt</td>
<td>5.5% to 10.5% by dry weight of aggregate</td>
</tr>
<tr>
<td>Mineral Filler</td>
<td>0% to 3% by dry weight of aggregate</td>
</tr>
<tr>
<td>Additive</td>
<td>As needed</td>
</tr>
<tr>
<td>Water</td>
<td>As required to produce proper mix consistency</td>
</tr>
</tbody>
</table>

The completed mixture, after addition of water and any set-control agent, shall be such that the microsurfacing mixture has proper workability and (a) will permit a traffic flow without pilot-car-assisted traffic control on the microsurfacing within one hour after placement, and (b) will prevent development of bleeding, raveling, separation or other distress within 15 days after placing the microsurfacing. However, when ambient temperatures are below 25°C traffic may not be permitted on the microsurfacing until it has sufficiently cured. The time for sufficient curing shall be mutually agreed upon between the contractor and the Engineer.
203-6  ASPHALT CONCRETE

203-6.1 GENERAL

Delete the first two paragraphs and replace with the following:
Asphalt concrete shall be the product of mixing mineral asphalt with asphalt binder at a central mixing plant. Reclaimed Asphalt Pavement (RAP) shall be included in the mix per the specifications below:

**Base course Asphalt shall contain a maximum of 10 percent RAP. There shall be no RAP in the final asphalt cap (1 1/2” min).**

203-6.4.1 CLASS AND GRADE

Base course asphalt concrete shall be class B-PG70-10
Final lift asphalt concrete shall be class C2-PG70-10.
Leveling course asphalt concrete shall be class D2-PG70-10

203-11  asphalt rubber hot mix (ARHM)

203-11.1 GENERAL

Add the following:
Asphalt Rubber Hot Mix shall be Gap Graded (ARHM-GG) with class and grade C-PG 64-16.

Contractor and subcontractors shall comply with the following:

a. 100% California waste tires must be used in the runner portion of AHRM
b. AHRM to meet ASTM D6114-97 standard
c. Submitting the “Recycled Content Certification” CIWMB 74G-RAC form along with supporting documentation.

203-11.2 materials

Replace with the following:
Certificates of Compliance shall conform to 4-1.5 and be submitted to the Engineer. Certificates of Compliance for the paving asphalt and asphalt modifier shall be submitted prior to the start of asphalt rubber hot mix production. The Certificate of Compliance for the crumb rubber modifier shall be submitted no later than 1 week following completion of asphalt rubber hot mix production.

203-11.2.3 crumb rubber modifier (crm)

Replace the fourth sentence of the first paragraph with the following:
Whole scrap tire CRM shall be derived from whole scrap tires generated within the State of California.
## 203-11.3 Composition and Grading

*Replace Table 203-11.3 with the following:*

<table>
<thead>
<tr>
<th>SIEVE SIZE</th>
<th>GG-B Min.-Max.</th>
<th>GG-C Min.-Max.</th>
<th>GG-D Min.-Max.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1” (25 mm)</td>
<td>100</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>3/4” (19.0 mm)</td>
<td>90-100</td>
<td>100</td>
<td>–</td>
</tr>
<tr>
<td>1/2 ”(12.5 mm)</td>
<td>–</td>
<td>90-100</td>
<td>100</td>
</tr>
<tr>
<td>3/8” (9.5 mm)</td>
<td>60-75</td>
<td>78-92</td>
<td>78-92</td>
</tr>
<tr>
<td>No.4 (4.5 mm)</td>
<td>28-42</td>
<td>28-42</td>
<td>28-42</td>
</tr>
<tr>
<td>No. 8 (2.36 mm)</td>
<td>15-25</td>
<td>15-25</td>
<td>15-25</td>
</tr>
<tr>
<td>No. 30 (600 μm)</td>
<td>5-15</td>
<td>5-15</td>
<td>5-15</td>
</tr>
<tr>
<td>No. 200 (75 μm)</td>
<td>0-5</td>
<td>2-7</td>
<td>2-7</td>
</tr>
</tbody>
</table>

Asphalt Rubber Binder, % by Weight of Dry Aggregate

<table>
<thead>
<tr>
<th></th>
<th>GG-B Min.-Max.</th>
<th>GG-C Min.-Max.</th>
<th>GG-D Min.-Max.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>7.8-8.4</td>
<td>7.8-8.7</td>
<td>7.8-8.7</td>
</tr>
</tbody>
</table>

Air Voids%, California Test 367

<table>
<thead>
<tr>
<th></th>
<th>GG-B Min.-Max.</th>
<th>GG-C Min.-Max.</th>
<th>GG-D Min.-Max.</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.</td>
<td>3-6</td>
<td>3-6</td>
<td>3-6</td>
</tr>
</tbody>
</table>

Stabilometer Value, California Test 304 and 306, Min.

<table>
<thead>
<tr>
<th></th>
<th>GG-B Min.-Max.</th>
<th>GG-C Min.-Max.</th>
<th>GG-D Min.-Max.</th>
</tr>
</thead>
<tbody>
<tr>
<td>3.</td>
<td>25</td>
<td>23</td>
<td>23</td>
</tr>
</tbody>
</table>

Voids in Mineral Aggregate, %, Min.

<table>
<thead>
<tr>
<th></th>
<th>GG-B Min.-Max.</th>
<th>GG-C Min.-Max.</th>
<th>GG-D Min.-Max.</th>
</tr>
</thead>
<tbody>
<tr>
<td>4.</td>
<td>18</td>
<td>18</td>
<td>18</td>
</tr>
</tbody>
</table>

1. Once the percent asphalt rubber binder is determined by the mix design, the production tolerance shall be ± 0.5% as determined by California Test Method 362, 379, or 382.

2. Percent voids in the mineral aggregate (VMA) is to be determined during the mix design process only and is to be calculated on the basis of ASTM bulk specific gravity as described in the Asphalt Institute MS-2 manual.
SECTION 206   MISCELLANEOUS METAL ITEMS

Add the following section:

206-7   TRAFFIC SIGNS

Add the following section:

206-7.1 General

All traffic signs shall conform to the California Manual on Uniform Traffic Control Devices (MUTCD) except as modified herein.

Add the following section:

206-7.2 Sign Posts

Traffic signs shall be installed per City of Menifee Standard Plan No. 817 or as approved by the Engineer.

Add the following section:

206-7.3 STREET NAME Signs

Street name signs shall comply with City of Menifee Plan No. 815 or as approved by the Engineer.
SECTION 207  GRAVITY PIPE

207-2  REINFORCED CONCRETE PIPE (RCP)

207-2.5 Joints

Delete the second paragraph and add the following:
Reinforced concrete pipe with ‘O’ ring joints shall conform to the requirements of Section 208-3, Gaskets for Concrete Pipe, except the ‘O’ ring joints shall be as made by Ameron, Precon, Hydro-Conduit, or other approved equal.

Pipe designated in the plans as “pressure pipe” or with a 100-year hydraulic grade line at or above the pipe soffit shall be bell and groove spigot joint with “O” rings conforming to ASTM C-443 and C-361 for the limits shown on the plans.

Add the following section:

207-25 SUBDRAIN PIPE FOR REINFORCED CONCRETE BOX

Add the following section:
207-25.1 General

The subdrain pipe, both perforated and non-perforated, shall comply with the following:

<table>
<thead>
<tr>
<th>Material</th>
<th>ASTM Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Polyvinyl Chloride</td>
<td>D2729</td>
</tr>
<tr>
<td>Polyethylene</td>
<td>F405</td>
</tr>
</tbody>
</table>

Pipe of the same material shall be used throughout the entire project.

Add the following section:
207-25.2 Pipe Perforations

Perforations shall be located in the bottom half of the pipe as laid.

Add the following section:
207-25.3 Pipe Joints

The joints between sections of perforated pipe shall be of a type that will hold the pipe securely in alignment and maintain the inner surfaces of abutting pipes flush and even.
Add the Following section:

211-7 agronomic soil test

Prior to ordering material and delivery to the site, and prior to soil amendment and preparation, Contractor shall obtain soil samples from proposed topsoil material as approved by the Engineer. Contractor shall transmit soil samples to an approved agronomic soil–testing laboratory for analysis. Provide a soil analysis report from the laboratory, with recommendations for soil amendment and preparation. Submit a copy of the report to the Engineer for review. Contractor shall pay for soil sampling and testing. Soil analysis shall indicate following soil properties:

(a) organic matter content (%)
(b) fertility—nitrogen (N), phosphorus (P), potassium (K)
(c) pH reaction (acid–neutral–alkaline)
(d) ECe (salinity)
(e) SAR (sodium absorption ratio)
(f) particle size analysis (% sand, % silt, % clay)
(g) micronutrients (calcium, magnesium, copper, zinc, manganese, iron)
(h) specific toxicities (boron, chloride, fluoride, sodium, etc.)
(i) percolation (water infiltration rate)
(j) recommendations for amendments
SECTION 213  ENGINEERING GEOSYNTHETICS

213-2  GEOTEXTILES AND GEOGRIDS

213-2.1 General

Add the following:
Geosynthetic types shall be used for the applications listed in Table 213-2.1(A)

<table>
<thead>
<tr>
<th>Application of Geotextile</th>
<th>Type Designation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Subgrade stabilization</td>
<td>Tensar BX1200 Geogrid</td>
</tr>
<tr>
<td>Separation of Soil and Street Structural Section</td>
<td>90WS</td>
</tr>
<tr>
<td>Separation of Soil and Subsurface Aggregate Drain</td>
<td>180N</td>
</tr>
<tr>
<td>Reinforcement of Street Structural Section</td>
<td>200WS</td>
</tr>
<tr>
<td>Remediation and Separation of Soil</td>
<td>270WS</td>
</tr>
<tr>
<td>Reinforcement of Soil</td>
<td>270WS</td>
</tr>
<tr>
<td>Drainage at the Interface of Soil Structures</td>
<td>N/A</td>
</tr>
<tr>
<td>Drainage at the Interface of Soil and Structures</td>
<td>N/A</td>
</tr>
<tr>
<td>Rock Slope Protection Fabric for Rock Sizes Below 225 kg (¼ Ton)</td>
<td>180N</td>
</tr>
<tr>
<td>Rock Slope Protection Fabric for Rock Sizes Including and Above 225 kg (¼ Ton)</td>
<td>250N</td>
</tr>
<tr>
<td>Plant Protection Covering</td>
<td>90N</td>
</tr>
<tr>
<td>Erosion Control Fence with 14 AWG - 150 mm x 150 mm (6”x6”) Wire and 3 m (10’) Post Spacing</td>
<td>90WS</td>
</tr>
<tr>
<td>Erosion Control Fence with 1.8 m (6’) Post Spacing and No Wire Fencing</td>
<td>200WS</td>
</tr>
</tbody>
</table>

Add the following section:

213-6  EROSION CONTROL SPECIALTIES

213-3.1 Gravel bags

Gravel bags for the use of temporary erosion control shall be burlap type, filled with no less than 23kg (50 lbs) of 19 mm (3/4”) crushed rock and securely tied closed. Plastic bags are not acceptable.
SECTION 214    TRAFFIC STRIPING, CURB AND PAVEMENT MARKINGS, AND PAVEMENT MARKERS

Delete the entire section and replace with the following:

214-1 THERMOPLASTIC PAVEMENT STRIPING AND PAVEMENT MARKINGS

214-1.1 GENERAL
Thermoplastic traffic stripes and pavement markings shall conform to the provisions in Sections 84 of the Standard Specifications of the California Department of Transportation 2015 edition, and as specified in these special provisions.

214-1.2 MATERIAL
Thermoplastic striping material shall consist of 3M bonded core all weather reflective elements series 50 (or approved equal) and shall allow for both wet and dry reflectivity.

Thermoplastic material for traffic stripes and pavement markings shall be applied at a minimum thickness of 0.100 inch.

Thermoplastic traffic stripes and pavement markings with enhanced wet-night visibility shall consist of a single uniform layer of thermoplastic and a layer of bonded core elements and a layer of glass beads as follows:

The 1st layer of bonded core elements shall be 3M Bonded Core All Weather Reflective Elements for use in thermoplastic traffic stripes and pavement markings. The color of the bonded core elements shall match the color of the stripe or marking to which they are being applied.

The 2nd layer of glass beads shall comply with AASHTO M247 Type 2.

Both bonded core elements and glass beads must be surface treated for use with thermoplastic under the manufacturer’s instructions.

The bonded core elements (surface-drop) shall contain either clear or yellow tinted microcrystalline ceramic beads bonded to the opacified core. These elements shall not be manufactured using lead, chromate or arsenic. All “dry performing” microcrystalline ceramic beads bonded to the core shall have a minimum index of refraction of 1.8 when tested using the liquid oil immersion method. All “wet performing “microcrystalline ceramic beads bonded to the core shall have a minimum index of refraction of 2.30 when tested using the oil immersion method.
Gradations for the Bonded Core Elements

| Element Gradations Mass Percent Passing (ASTM D1214) |
|-----------------|-----------------|-----------------|
| US Mesh | Micron | “S” series |
| 12   | 1700   | 85-100         |
| 14   | 1410   | 70-96          |
| 16   | 1180   | 50-90          |
| 18   | 1000   | 5-60           |
| 20   | 850    | 0-25           |
| 30   | 600    | 0-7            |

A sample of bonded core reflective elements supplied by the manufacturer shall show resistance to corrosion of their surface after exposure to a 1% solution (by weight) of sulfuric acid. The 1% acid solution shall be made by adding 5.7 cc of concentrated acid into 1000 cc of distilled water.

The bonded core elements shall be surface treated to optimize embedment and adhesion to the thermoplastic binder.

Minimum retroreflectivity values [mcd(ft²)(fc)] metric equivalent [mcd(m²)(lux)] are shown below:

<table>
<thead>
<tr>
<th>Minimum Initial Retroreflectivity Values</th>
</tr>
</thead>
<tbody>
<tr>
<td>Test Method</td>
</tr>
<tr>
<td>Dry (ASTM E1710)</td>
</tr>
<tr>
<td>Wet recovery (ASTM E2177)</td>
</tr>
</tbody>
</table>

Note: Increased element drop may be necessary to compensate for increased surface area characteristic of rough pavement surfaces.

214-1.3 APPLICATION

Mobile truck mounted applicators shall be capable of traveling at a uniform, predetermined speed over variable road grades to produce uniform application of striping material, following straight lines and making normal curves in a true arc. The equipment shall be capable of air blasting the pavement, applying the stripe and immediately dropping the bonded core elements and glass beads in a single pass at speeds of up to 8 MPH.

Walk-behind cart applicators shall be capable of uniform application of striping material at walking speeds, following straight lines and making tight turns symbols and legends. Mobile equipment must be available to air blast the areas immediately prior to hand cart application. The walk-behind cart shall be capable of applying the molten binder and immediately dropping the bonded core elements and glass beads in a single pass at walking speeds.
The equipment shall be capable of application of bonded core elements and glass beads to the surface of the pavement marking by double drop application. The element dispenser for the first drop shall be attached to the striping machine in such a manner that the elements are dispensed closely behind the binder application device. The bead dispenser for the second drop shall be attached to the striping machine in such a manner that the beads are dispensed immediately after the first drop (bonded core elements).

The applicator for the bonded core elements and glass beads shall be capable of delivering a uniform drop rate at required application speeds. The bonded core elements and glass beads are applied such that they appear uniform on the entire traffic marking.

The specified reflective media shall be dropped immediately after binder application. Reflective media consists retroreflective elements followed by glass beads commonly called “Double-Drop” and shall be applied to achieve the application rates shown below.

<table>
<thead>
<tr>
<th>Bonded Core Element Application Rates for Thermoplastic Binders</th>
</tr>
</thead>
<tbody>
<tr>
<td>Units</td>
</tr>
<tr>
<td>---</td>
</tr>
<tr>
<td>Lb. per 4 in. ln. ft.</td>
</tr>
<tr>
<td>Lb. per 100 sq. ft.</td>
</tr>
<tr>
<td>Gr. per 4 in. ln. ft.</td>
</tr>
</tbody>
</table>

Note: Increased element drop may be necessary to compensate for increased surface area characteristic of rough pavement surfaces

<table>
<thead>
<tr>
<th>Application Rates for Glass Beads</th>
</tr>
</thead>
<tbody>
<tr>
<td>Units</td>
</tr>
<tr>
<td>---</td>
</tr>
<tr>
<td>Lb. per 4 in. ln. ft.</td>
</tr>
<tr>
<td>Gr. per 4 in. ln. ft.</td>
</tr>
<tr>
<td>Lb. per 100 sq. ft.</td>
</tr>
</tbody>
</table>

Note: Increased glass bead may be necessary to compensate for increased surface area characteristic of rough pavement surfaces

**214-2 PAINTED PAVEMENT STRIPING AND PAVEMENT MARKINGS**


Painted traffic stripes and pavement markings shall be applied in two coats and shall be lead-free water-born paint. The second coat of paint shall be applied within 7 to 14 days after the first coat.
214-3 RAISED PAVEMENT MARKERS

Raised pavement markers shall be retroreflective and shall conform to Section 81-3 of the Caltrans Standard Specifications 2015 edition and the Caltrans Standard Plans.


214-4 Permanent Reflective Channelizer

Reflective Channelizer shall be new surface-mounted type and shall be furnished, placed, and maintained at the locations shown on the plans. Reflective channelizer posts shall be orange in color. Reflective channelizers shall have affixed white reflective sheeting as specified in the special provisions. The reflective sheeting shall be 75 mm x 300 mm in size. The reflective sheeting shall be visible at 300 m at night under illumination of legal high beam headlights, by persons with vision of or corrected to 20/20. Reflective channelizer shall be one of the types shown in Table 214-5.2(A), or equal thereto.

<table>
<thead>
<tr>
<th>Type</th>
<th>Manufacturer of Distributor</th>
</tr>
</thead>
<tbody>
<tr>
<td>Safe-Hit SH236MA</td>
<td>Safe-Hit Corporation</td>
</tr>
<tr>
<td></td>
<td>1930 West Winton Avenue, Building #11</td>
</tr>
<tr>
<td></td>
<td>Hayward, CA 94545</td>
</tr>
<tr>
<td></td>
<td>Telephone (415) 783-6550</td>
</tr>
<tr>
<td>Carsonite &quot;Super Duck&quot;</td>
<td>Carsonite International Corporation</td>
</tr>
<tr>
<td>SDF-436</td>
<td>2900 Lockheed Way</td>
</tr>
<tr>
<td></td>
<td>Carson City, NV 89701</td>
</tr>
<tr>
<td></td>
<td>Telephone (702) 883-5104</td>
</tr>
<tr>
<td>Repo &quot;The Replaceable</td>
<td>Western Highway Products</td>
</tr>
<tr>
<td>Post&quot;</td>
<td>P.O. Box 7</td>
</tr>
<tr>
<td></td>
<td>Stanton, CA 90680</td>
</tr>
<tr>
<td></td>
<td>Telephone (800) 422-4420</td>
</tr>
</tbody>
</table>

The Contractor shall provide the Engineer with a Certificate of Compliance in accordance with the provisions of Section 2-5.3, Submittals. Said certificate shall certify that the permanent reflective channelizers comply with the plans and specifications and conform to the prequalified design and material requirements approved by the engineer and were manufactured in accordance with the approved quality control program.
Add the following section:

SECTION 215 ENVIRONMENTAL FENCING

Add the following section:

215-1 GENERAL

Environmental fencing shall be installed where shown on the plans. The Contractor shall not encroach into environmentally sensitive areas.

Add the following section:

215-1.1 Materials

Environmental fence shall be minimum 4’ high, orange colored plastic construction fencing installed prior to performing any work. Environmental fence shall be constructed of non-toxic, non-conductive polyethylene capable of withstanding temperatures from –58F degrees to 194F degrees. Color shall be non-fading. Posts shall be 6’-6” long, shall be spaced no more than 10’-0” apart and buried portion shall be no less than 2’-6” deep. Used materials may be installed providing the used materials are good, sound, and are suitable for the purpose intended, as determined by the Engineer. Materials may be commercial quality providing the dimensions and sizes of the materials are equal to, or greater than, the dimensions and sizes specified herein. Posts shall be either metal or wood at the Contractor's option. Galvanizing and painting of steel items will not be required. Treating wood with wood preservatives will not be required. Concrete footings for metal posts will not be required.

Add the following section:

215-2 PAYMENT

Payment for Environmental Fencing shall be made at the unit price bid and shall include all labor, equipment, and materials necessary to install, maintain, and remove the fence and no additional payment shall be made therefore.

If no bid item is provided then Environmental Fencing, as shown on the plans, shall be considered included in other items of work and no additional payment shall be made therefore.

END OF PART TWO
SPECIAL PROVISIONS
AMENDMENTS TO THE “GREENBOOK”
STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION

PART 3 CONSTRUCTION METHODS

The following SECTIONS supplement the STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION, (“Greenbook”), 2018 edition, regional supplements and all current supplements, and supersede any conflicting requirements, (A “conflicting requirement” is one that cannot operate by law within the Special Provisions listed herein or both cannot be physically produced). Otherwise these Special Provisions only supplement the Standard Specifications. If any of the sections or part of sections below contradict or are not in conformance with current California Codes and Regulations at the time of bidding, the Contractor will assume that the current California Codes and Regulations supersedes that item in these specifications. When there are two or more specifications for same item or work the contractor shall bid the more expensive item or work specified unless the one specified item specifically states that it shall take precedent over other specified items for the same work.

SECTION 300 EARTHWORK

300-1 CLEARING AND GRUBBING

300-1.1 General

Add the following:
Clearing and grubbing shall also include the removal, relocation, adjusting, or salvaging of all facilities so indicated on the Plans which are not designated as separate bid items or which are not included in other bid items.

Add the following to the third paragraph:
During surface clearing operations, the Contractor shall not cover or bury any plant material or other objectionable materials. If the Contractor cannot successfully separate the plant material from the surface soil and inadvertently or inadvertently mixes organic or other objectionable materials with the soil, the soil so contaminated shall be removed from the site by the Contractor. All costs associated with removing and disposing of the soil mixed with organic or other objectionable materials and importing of soil to replace said contaminated soil shall be borne by the Contractor and no additional payment shall be made therefore.

Add the following:
Clearing and Grubbing shall also include, but is not limited to, the following items as shown on the Plans or specified in these Special Provisions:
Clearing for and providing temporary graded driveways and continuing maintenance thereof to provide for safe, smooth, stable and continuous all weather access to all residences and businesses within the project area and as directed by the Engineer.

Minor grading for swales and drainage control.

Dust control throughout the duration of the project conforming to Section 7-8.1 General, of these Special Provisions.

Progressive clean-up and maintenance of project appearance.

Control of water and dewatering during construction.

Clean-up of project area upon completion of the Work.

Capping and removing sprinkler lines and sprinkler heads that are within the project limits and providing same to the property owner. The Contractor shall mark locations of capped lines with lath so that Owner can locate them later.

Removing and disposing of interfering portions of, making modifications to, and maintaining existing private sprinkler systems in working order. This includes water supply, water distribution, electrical supply, and electrical control elements of the existing sprinkler system.

Removing existing street signs and other miscellaneous signs that are in conflict with roadway construction and replacing/relocating them at new locations per plan or salvaging as directed by the Engineer.

Protection of all existing structures and improvements which fall within or are adjacent to the limits of work specified under this Contract in accordance with Sections 7-9 and 200-1 of the Standard Specifications.

Removal and salvage/disposal of miscellaneous items such as utility boxes and covers, street signs, posts, poles, interfering portions of water, sewer and storm drain pipes, fences, mail boxes, and retaining walls.

Removal and disposal of interfering portions of abandoned utility lines and structures and the filling with blown sand and plugging of abandoned pipes and conduits not removed.

Installation, maintenance, and removal of fences, temporary fences, and gates as required in these Special Provisions and/or for the contractor’s convenience.
Removal and disposal of any additional items not specifically mentioned which may be found within the work limits as directed by the Engineer.

Removal and disposal of existing A.C. berm, pedestrian ramps, lined ditches, curb inlets and outlets, and mow curbs which may be found within the work limits as directed by the Engineer.

Removal of all items necessary to complete the work including items not specifically shown on the demolition plans but discoverable through site visit or other reasonable means at time of bid. The Engineer shall have sole discretion in determining what items were “discoverable” but will generally be defined as items that could be seen, measured, and/or otherwise identified through surface investigation.

300-1.4 Payment

*Delete the first paragraph and add the following:* Payment for clearing and grubbing shall be made at the contract lump sum price for Clearing and Grubbing for all Work within the Project Site and at stockpile locations. No other payments shall be made therefore.

300-2 UNCLASSIFIED EXCAVATION.

300-2.1 General

*Delete the first paragraph and add the following:* Unclassified excavation shall consist of making all cuts and fills to the lines and grades shown on the Plans, stockpiling of suitable material, transport of stockpiled material to its ultimate location, all mixing, moisture conditioning, and compaction of stockpile and fill material, and export of excess material to a legal site.

Unclassified excavation shall also include scarification, moisture conditioning, and compaction of the top one foot of subgrade material to 95 percent relative compaction under roadway and other paved areas bearing traffic loads.

300-2.2 Unsuitable Material

300-2.2.1 General

*Add the following:* Such direction may include, but is not limited to, directing the Contractor to blend, adjust moisture content of, rework, or place unsuitable soils at specific locations or elevations within the Project Site.

*Add the following section:*
300-2.3 Removal & Recompaction

Compressible soils such as uncontrolled fills, alluvium, and colluvium may exist within the limits of Work. When encountered, these unconsolidated soils shall be removed by the Contractor until a firm and unyielding surface is exposed and approved by the Engineer. If the excavated material has a moisture content greater than optimum moisture content, the Contractor shall blend the wet soil with soils having a lower moisture content and/or spread the excavated material in a manner that enables the material to dry to optimum moisture content. The cost of blending, spreading and/or drying shall be included in the contract unit price for Removal and Recompaction. The excavated material shall be placed and compacted in accordance with Section 300-4, Unclassified Fill, except that Section 300-4.9, Measurement and Payment, shall not apply.

300-2.5 Slopes

Add the following after the first sentence of the first paragraph:
A slope shall be defined as any area steeper than three horizontal to one vertical.

And add the following to the first paragraph:
The hinge points (the top and bottom) of slopes shall be located within 75 mm (0.25') of the locations shown on the plans.

300-2.6 Surplus Material

Add the following:
The Contractor shall export all surplus material from the project. The Contractor shall utilize highway legal trucks for export of material from the Project Site to a legal site secured by the Contractor. No earth moving equipment or special construction equipment, as defined in Section 565 of the California Vehicle Code, will be allowed for hauling material on public streets.

300-2.8 Measurement

Delete the first and second paragraphs and add the following:
Unclassified Excavation payment quantity shall consist of all cut shown on the plans.

When paid as a unit price, Unclassified Excavation shall be measured based on the volume it occupies in its original position before excavation. The quantity of Unclassified Excavation shall be the volume of cut occupied between the original ground surface after clearing and grubbing and the design elevations shown on the plans. Materials excavated or otherwise removed as all or part of any other bid item shall not be measured as Unclassified Excavation.

Unclassified Fill shall be paid as Unclassified Excavation and no separate payment will be made.

The Contractor shall notify the Engineer three (3) working days prior to completing clearing and grubbing and the removal of all deleterious material from the entire site. It is the intent of the Engineer to schedule and perform field survey and/or aerial photography of the entire site at one
time to determine the original ground surface prior to grading for the purpose of Unclassified Excavation quantification. If the Contractor has not removed all deleterious material from the entire site by the day prior to the scheduled field survey and/or photography, the field survey and/or photography will be cancelled and not rescheduled until the Contractor has completed removing all material from the entire site. The Contractor shall not be entitled to any additional compensation or extensions in time if the field survey and/or aerial photography is cancelled due to the Contractor not completing clearing and grubbing and removal operations as scheduled. If the entire site cannot have field survey performed and/or be photographed because of weather, poor visibility or adverse flight conditions the Contractor will be entitled to a corresponding time extension but shall not entitled to any additional compensation due to the delay.

Removal and Recompaction shall be paid at the unit price bid. The quantity of Removal and Recompaction shall be the volume occupied between the original ground surface after clearing and grubbing where the original ground surface is at or beneath the design lines and grades and the bottom contours of the removal and recompaction area.

The Contractor shall allow a minimum of 36 hours after completion of the removal of compressible soils in Removal and Recompact areas for the Agency to measure the cut for the quantity of work performed.

**300-2.9 Payment**

*Delete this section and add the following:*

Payment for Unclassified Excavation and Removal & Recompaction will be made at the unit prices bid in the proposal unless specified otherwise. Only the quantity of Unclassified Excavation and Removal & Recompaction measured shall be paid for. No excavated material which is re-excavated will be paid for. For progress payments, the quantity of Unclassified Excavation and Removal & Recompaction shall be estimated by the Engineer. The Engineer’s calculations shall be considered the definitive determinant for quantities for progress and final payments. All topographic surveying and calculations necessary to quantify Unclassified Excavation and Removal & Recompaction payment quantities shall be performed by the Engineer.

Payment for Unclassified Excavation and Removal & Recompaction shall include all costs for salvaging clean and suitable material and filling areas to the required grades and cross sections, transport, placement, compaction, moisture conditioning and water therefore, rework of compressible soils, all work incidental to Section 300-4.8, slope rounding, grading, stockpiling, exporting and disposing of excess material, access roads, temporary detour roads, matching existing grades, construction of transitions, and grading of earthen swales and drainage channels as shown on the drawings or required by the contract documents.

When payment for Unclassified Excavation is made as a Final Pay Quantity it shall be made pursuant to Section 9-1.1, General, and no additional payment shall be made therefore.
When no bid item(s) exist for Unclassified Excavation and/or Removal & Recompaction then costs shall be considered included in other items of work and no additional payment shall be made.

Add the following section:

300-2.10 Grading Tolerance

The Contractor shall finish excavated areas other than slopes and subgrade below structures, within the roadway and sidewalk areas within 0.1’ of the grades shown on the plans. Subgrade tolerances shall conform to the requirements of Section 301-1.4 Subgrade Tolerances.

300-3 STRUCTURE EXCAVATION AND BACKFILL.

300-3.1 General

Add the following:
The Contractor shall excavate to the lines and levels required and/or shown on the Drawings. The Contractor shall provide all shoring, bracing, cribbing, pumping, and planking required. The Contractor shall excavate and maintain the bottom of all trenches in a condition that is level, firm, clean and free from all debris or foreign matter. Excavations shall be kept free from water at all times. The Contractor shall remove any unsuitable material encountered below grade as directed by the Engineer. Structure excavation and backfill shall comply with City of Menifee Plan No. 812 or as approved by the Engineer.

300-3.6 Payment

Add the following:
Dewatering shall be considered incidental to structure excavation and no additional compensation shall be made therefore. Except for unsuitable materials removed as part of unclassified excavation, unsuitable material encountered below structural excavation finished grade will be paid for at the unit price, lump sum, or if neither are included in the Contract pursuant to Section 3-3, Extra Work, SSPWC.

300-4 UNCLASSIFIED FILL

300-4.3 Other Fill Materials

Delete this section and add the following:
Excess soil remaining on the Project Site from excavations other than Unclassified Excavation may only be used for fill material when rocks, lumps, cobbles, clods, or other solid materials such as broken concrete or asphalt from removal operations are suitable for the particular area to be filled as determined by the Engineer and in conformance with the requirements of the geotechnical investigation. Broken concrete or asphalt pavement materials shall not be allowed within site fill areas or roadway fills less than three feet (3’) in height, within three feet (3’) of final grade in any area, or within five feet (5’) (vertically) of the existing ground water table. Concrete or asphalt placement shall be approved by the Geotechnical Engineer. Concrete or
asphalt pieces shall be less than six inches (6") in maximum dimension and surrounded by soil particles when used as compacted fill. No nesting shall occur.

**300-4.4 Benching**

*Add the following:*

Benching and keyways shall be constructed as shown in the Contract Documents. Benching and keyways shall be considered as incidental to Unclassified Fill and no separate payment shall be made therefore.

**300-4.5 Placing Materials for Fills**

*Add the following:*

The Contractor shall perform grading such that the upper 3’ of fill placed in the roadway right-of-way is composed of properly compacted low expansive soils when available on-site or when specified. The more highly expansive soils shall be placed in the deeper fill areas and/or properly compacted or exported from the site. Low expansive soils are defined as those soils that have an Expansion Index of 50 or less when tested in accordance with 1994 UBC Standard 18-2 as published by the International Conference of Building Officials. Should insufficient soils meeting the requirement of an expansion index of 50 or less be present within the limits of work, soils of the least expansion index that are available within the limits of work shall be incorporated in the upper 3’ of fill placed in the roadway.

*Delete the third and fourth paragraphs and add the following:*

No rock or similar irreducible material with a maximum dimension greater than 6 inches shall be buried or placed in fills closer than 10 feet to the finished grade unless recommendations for such placement have been submitted by the Soils Engineer in advance and approved by the Engineer. Rocks shall not be nested but shall be spread with sufficient room between them so that intervening voids can be adequately filled with fine material to form a dense, compact mass. Oversized material shall be removed from the site by the Contractor. If disposed of within the City of Menifee, a separate grading permit will be required for disposal of rock.

**300-4.6 Application of Water**

*Add the following:*

The Contractor shall place all fill soil at a moisture content no less than one (1) percent below optimum moisture as determined by ASTM test D-1557-91.

**300-4.7 Compaction**

*Add the following:*

The Contractor shall compact all fill soils placed within the top 1’ of roadway subgrade to a minimum of 95 percent relative compaction.

**300-4.8 Slopes**

*Add the following:*

Feathering of fill over the tops of slopes will not be permitted.
300-4.9 Measurement and Payment

*Delete this section and add the following:*
Unclassified fill, grading, shaping, compacting or consolidating, moisture conditioning, slope rounding, construction of transitions and all work included in and incidental to Section 300-4, Unclassified Fill, shall be paid for as unclassified excavation, and no additional payment will be made therefore.

300-5 BORROW EXCAVATION

300-5.2 imported borrow

*Add the following section:*

300-5.2.1 Imported Borrow Properties

The Contractor shall provide imported borrow that is clean well graded soil consisting of material conforming to all of the requirements in Table 300-5.2.1(A) and the following requirements. Rock shall not be a component of imported borrow.

**TABLE 300-5.2.1(A)**

<table>
<thead>
<tr>
<th>Tests</th>
<th>Test Method No.</th>
<th>Requirements</th>
</tr>
</thead>
<tbody>
<tr>
<td>R-Value</td>
<td>Calif. 301</td>
<td>40 Min.</td>
</tr>
<tr>
<td>Expansion Index</td>
<td>UBC Standard 18-2</td>
<td>30 Max.</td>
</tr>
<tr>
<td>Plasticity Index</td>
<td>ASTM D 424</td>
<td>4 Max.</td>
</tr>
<tr>
<td>Sieve Analysis</td>
<td>ASTM D 422</td>
<td>Percent Passing 75μ (No. 200) 15 Max.</td>
</tr>
</tbody>
</table>
SECTION 301  SUBGRADE PREPARATION, TREATED MATERIALS, AND PLACEMENT OF BASE MATERIALS

301-1  SUBGRADE PREPARATION

301-1.2 Preparation of Subgrade

After rough grading has been completed, when scarifying and cultivating are required, the roadbed shall be loosened to a depth of at least 12 inches (305 mm).

Uniform pervious soils, that allow the immediate penetration of water or uniform impervious soils which will allow the penetration of water to a depth of at least 12 inches (305 mm) after the addition of a suitable wetting agent, will not require scarifying and cultivation unless a condition pervious set forth in this section requires such processing. When scarifying and cultivation are not required, the moisture content of the top 12 inches (305 mm) of the subgrade material shall be brought to optimum by the addition of water at the surface, and the material shall be compacted by approved equipment to the specified relative compaction.

301-1.3 Relative Compaction

The Contractor shall compact the upper 12” of subgrade beneath roadways, alleyways, parking lots, other pavement areas under traffic loading, and beneath and including curb to curb to not less than 95 percent maximum dry density as determined by ASTM test D-1557-91, whether pavement is placed directly on subgrade, subbase, or base. The top 12” of all other areas shall be compacted to no less than 90 percent maximum dry density as determined by ASTM test D-1557-91.
SECTION 302 ROADWAY SURFACING

302-2 CHIP SEAL

302-2.1 General

*Add the following:*  
The Contractor shall treat all vegetation within the limits of the paved area to receive chip seal with a post emergent herbicide. Herbicide shall be applied at least 5 (five) working days prior to chip sealing the street. Allowance for the five day period shall be shown in the schedule required per Section 6-1, Construction Schedule and Commencement of the Work.

The Contractor shall comply with Section 302-4.5 Public Convenience and Traffic Control.

302-2.4 surface preparation

*Add to the first paragraph:*  
All traces of plastic, residual emulsion and chips shall be removed from all personnel covers, drain inlet covers, monument covers, and all other utility covers as quickly as possible, after the application of the chip seal and/or prior to final acceptance of the project.

*Add to the second paragraph:*  
When removing the raised pavement markers the Contractor shall remove excessive adhesive left on pavement caused from the removal of raised pavement markers. Removal shall be done to the satisfaction of the Engineer.

Immediately prior to the chip sealing operations, the Contractor shall sweep the entire surface with vacuum assisted power brooms on city streets and kick brooms on county and state highways when approved by the Engineer. Areas that have been patched shall receive a fog seal at the discretion of the Engineer.

*Add the following sub-section:*  
302-2.6.6 Polymer modified rejuvenating emulsion (PMRE) for chip and scrub seals

302-2.6.6.1 General.

The work shall consist of but not limited to furnishing all labor, materials, equipment and transportation for the application of the Polymer Modified Rejuvenating Emulsion. Application of aggregate to conform with 302-2 of the standard specifications and these Special Provisions unless otherwise specified herein. The work shall be done in the following order: Preparing the pavement surface; applying the Polymer Modified Asphalt Surface Sealer and scrubbing the applied emulsion sealer with a scrub broom as specified herein; applying aggregate, brooming the aggregate with a secondary broom when specified, rolling the aggregate; and sweeping up and disposing of excess aggregate off of the job site. The Polymer Modified Asphalt Rejuvenating Emulsion shall comply with Section 203-4 of these Special Provisions.
The screenings shall conform with section 200-1.2.1 and Section 302-2 of the Standard Specifications

302-2.6.6.2 pre-qualification

The Contractor shall: a) have had a minimum of three (3) years experience in the application of the Polymer Modified Rejuvenating Emulsions as applied to scrub-seal; and b) have successfully completed at least three (3) Scrub Seal projects utilizing the scrub-broom to the satisfaction of their clients.

302-2.6.6.3 equipment

The following equipment to be used for the scrub-seal shall be as follows

A. An asphalt distributor for application of the emulsion sealer shall have a full circulation spray bar that is adjustable to at least sixteen (16) feet wide in two (2) feet increments and capable of heating and circulating the emulsion simultaneously. It must have computerized rate control for adjusting and controlling the application from the cab that is adjusting by .01 gallons per square yard increments. The distributor shall also be equipped with a volume measuring devise and a thermometer for measuring the emulsion temperature in the tank.

B. A SCRUB BROOM as described herein shall be used to scrub the emulsion sealer after application.

C. A self-propelled aggregate spreader with front discharge that can evenly distribute aggregate.

D. A minimum of two (2) pneumatic rollers weighing at least five (5) tons each.

E. Two (2) mechanically powered kick-brooms or vacuum type brooms.

F. A back pack blower for removing excess chips during the sweeping operation.

302-6.6.4 scrub broom equipment

The scrub broom frame shall be constructed of metal. The scrub broom shall be attached to and pulled by the distributor truck. The scrub broom must be equipped with the means to mechanically raise and lower the scrub broom off and onto the road surface at designated points of completion and start up. It shall be tow able in the elevated position to the next area of construction. The weight of the broom assembly shall be such that it does not squeegee the emulsion sealer off the roadway surface.

The main body of the scrub broom shall be a minimum of 6’-9” wide and 8’-0” (ft) deep. The maximum width of the rigid frame at any point shall not exceed 8’-0”. The depth shall not exceed
10'-0" The nearest and furthest members, paralleling the back of the spreader truck, and diagonal members shall be equipped with street brooms. The leading member and the trailing member shall have broom heads angled at 15 degrees off the centerline of the supporting member. The diagonal members shall have broom heads attached in line with the centerline of the supporting member. Each individual street broom attached to the scrub broom assembly shall be 3 ½" w x 6 ½" h x 16” L and have stiff nylon bristles. Bristle height is to be maintained at a minimum of 5”.

The scrub broom shall be equipped with a min. of 2- hinged wing assemblies attached to the main body not to exceed 4'-6” (ft) in total per side, with diagonals and equipped with street brooms. The purpose of the maximum rigid frame width and the hinged wing extensions is not only for maximum width of 16’ (ft) but to maintain the scrubbing process evenly as contours and cross-sections change across the existing road surface.

**NOTE:** The contractor shall supply a scrub broom as described for the purpose of scrubbing the Polymer Modified Rejuvenating Emulsion. If the Contractor fails to supply the scrub broom specified, the project shall be shut down until the contractor supplies the required equipment in full operation. Shut downs resulting from the failure to provide this specified scrub broom shall not excuse the Contractor from the provisions of contract working days.
PASS Scrub Broom
Exhibit "A"
(Not for fabrication – Use as schematic only)
302-6.6.5 application

All incidental work such as surfacing of driveway aprons and returns shall be done concurrently with the surfacing of the street proper. The scrub seal shall be applied 0”-4” from the lip of the gutter. Where a curb exists without gutter, the scrub seal shall be applied 0”-4” from the face of curb when receiving a cape. If a cape is not specified then the scrub seal shall be placed from edge of pavement to edge of pavement. Where no curb or gutter exists, the scrub seal shall be applied from edge of pavement to edge of pavement. The edges of the limits of the scrub seal application on both sides of the street shall be maintained in a neat and uniform line. Scrub seal shall not be applied on concrete gutters or pads unless directed by the Engineer.

The application of the Polymer Modified Rejuvenating Emulsion shall be applied when ambient temperature is above forty (40) degrees Fahrenheit and rising. The polymer modified rejuvenating emulsion shall not be placed if the ambient temperature during the twenty four curing period (24) hours is expected to be below twenty-five (25) degrees Fahrenheit. The termination time of application shall be determined by the Engineer.

The areas to be scrub sealed shall have the Polymer Modified Rejuvenating Emulsion applied with a distributor truck to the pavement surface at a rate of 0.25 to 0.40 gallons per square yard. For cul-de-sacs, turnout pockets, elbows and curve returns the use of the scrub broom will not be required. The actual emulsion sealer application rate required will be determined by the pavement surface condition and aggregate the aggregate used. Recommended application rate ranges for both aggregate and emulsion are shown in Table 302-2.6.2 and Table 302-2.6.4.2 of the Standard Specifications. The actual application of the emulsion sealer shall be determined by the manufacturer’s representative and/or the Engineer.

The Polymer Modified Rejuvenating Emulsion temperature when applied shall be at a minimum of 110 degrees Fahrenheit. For smaller areas the emulsion sealer may be applied with a wand. The emulsion sealer shall be immediately broomed to fill cracks and voids.

The application of the Polymer Modified Rejuvenating Emulsion and the scrub broom operation shall cease 40’ (ft) prior to the end of the street section or intersection. The remaining emulsion sealer shall be drug out by the scrub broom, and the remaining emulsion sealer required to complete the pass shall be applied only by the spread truck (boot truck), at the specified rate.

Immediately following the scrubbing of emulsion sealer, aggregate shall be applied at the rate specified. The rate shall be adjusted up or down so that no “bleed through” occurs during rolling.

The aggregate shall be spread evenly by a mechanical spreader. Aggregate ¼”X #10 or less shall be broomed with a SECONDARY AGGREGATE BROOM to fill all cracks and voids, unless otherwise directed by the Engineer. The SECONDARY AGGREGATE BROOM when used must be equipped with the means to mechanically raise and lower the broom off and onto the road surface at
designated points of completion and start up. The design shall be similar in design to that of the emulsion broom. The exception would be that the internal diagonal members shall be used for stiffness and shall not have broom heads attached to the cross members. It shall be pulled by a vehicle following the aggregate spreader to ensure even distribution of the aggregate, and penetration of the aggregate into the cracks. The weight of the broom assembly shall be such that it does not roll or turn the aggregate that is set in the emulsion sealer. The use of the SECONDARY AGGREGATE BROOM can be used immediately after the application of the chips or after rolling. The sequence of operation will be determined by the Engineer.

302-2.7 finishing

Finishing shall conform with section 302-2.7 of the Standard Specifications and these Special Provisions.

A minimum of two self-propelled pneumatic-tired rollers shall be used for the required rolling of the aggregate. The pneumatic-tired rollers shall be in good working condition and actively rolling at all times during the scrub seal operation. The pneumatic-tired rollers shall be a minimum 5 tons. The pneumatic-tired rollers shall be operated in such a manner to prevent the dislodging of newly applied aggregate.

Power sweeping shall be done before the end of the day after scrub seal operation to remove any excess loose aggregate. During the sweeping process the Contractor shall use a backpack blower to clear driveways, gutters and sidewalks of excess aggregate at the end of each day until the street is surfaced. The Contractor shall wait a minimum of one day after the scrub seal application before applying other surface treatments as specified.

The Contractor shall exercise care to prevent oil from being deposited on concrete surfaces. Each day the Contractor shall remove oil from the surfaces not designated to caped. No additional streets shall be scrub sealed until this clean up has been performed. The method of the oil removal shall be approved by the Engineer.

Contractor shall install temporary raised pavement markers and tabs once the scrub seal is cured until the roadway surface is ready for permanent raised pavement markers and striping.

302-2.11 Payment

Add the following:
Payment for chip seal shall include post emergent herbicide treatment of the areas to receive chip seal and no additional payment will be made therefore.
302-3 microsurfacing

302-3.6 SCHEDULING, Public Convenience and Traffic Control

Scheduling for Microsurfacing shall conform to Section 302-4.5 of the Standard Specifications and these Special Provisions.

The Contractor shall schedule the work so as to prevent damage by all traffic, including but not limited to, mail delivery and trash pickup. The Contractor shall not schedule work so as to conflict with trash pickup. The Contractor shall obtain the trash pickup schedule and provide its schedule and any modifications thereto to the trash pickup entity. At least two weeks prior to work, the Contractor shall send, by first class mail, notification letters to all property addresses on which sealing will occur and all other property addresses within 500 feet thereof. Obtaining the appropriate addresses shall be the contractor’s responsibility. Notification letters shall be in bold type as follows, with the appropriate information specific to the work inserted at the locations indicated in the brackets and italicized.

(Name of Contractor)
(Address of Contractor)
(Contractor’s License Number)
(Date)

As a part of the City of Menifee’s ongoing program to maintain its streets, your street will be sealed with a mixture of asphalt and aggregates, beginning in two or three weeks. This process requires that your street be closed for X day(s) starting at 7:00 a.m. to X:XX p.m. and until the Contractor removes the traffic control devices. You will be notified 72 hours in advance of the day your street will be closed by a brightly colored 3 ½” x 8 ½” card attached to your doorknob. You will also notice temporary no parking signs on your street with a specific no parking date written on it.

A successful street maintenance program depends on your cooperation. Please do not drive, walk, play, skate or allow pets on the newly sealed street until all traffic control devices have been removed.

Furthermore, please do not wash your car or turn on any sprinklers during the closure period. If you plan to leave your home after 7:00 a.m. on the day your street will be sealed, and you need to use your vehicle later, please park your car on an adjacent street in your neighborhood that is not signed as a no parking zone. When walking to and from your car, remember not to walk on the newly sealed street or you will have black residue on the bottom of your shoes. The residue will damage some surfaces, will mark all surfaces that you track it on, and will be very difficult to remove.

(Name of Contractor) is the Contractor that will be performing the resurfacing work for the City and you may call them at (24 hour per day attended telephone number in the 951 area code) for any questions you may have about the project. Sealing of your street will not occur on the day your trash is collected. On the day your street is sealed mail delivery may be delayed until the following day. You will not know
the exact date your street will be closed until you receive the 3 ½” x 8 ½” card. If you have a moving company scheduled to come to your house within the next two weeks, please call and inform the Contractor of the date. If you have any concerns which are not addressed by the Contractor, please call the City’s Public Works Inspection Division at 951-672-6777. They will assist you in resolving the concerns.

During sealing operations, the Contractor’s schedule shall be designed to provide residents and business owners whose streets are to be sealed sufficient paved parking within an 800 foot distance from their homes or businesses.

302-4 SLURRY SEAL SURFACING

302-4.5 SCHEDULING, Public Convenience and Traffic Control

Add the following:
The Contractor shall schedule the work so as to prevent damage by all traffic, including but not limited to, mail delivery and trash pickup. The Contractor shall not schedule work so as to conflict with trash pickup. The Contractor shall obtain the trash pickup schedule and provide its schedule and any modifications thereto to the trash pickup entity. At least two weeks prior to work, the Contractor shall send, by first class mail, notification letters to all property addresses on which sealing will occur and all other property addresses within 500 feet thereof. Obtaining the appropriate addresses shall be the contractor’s responsibility. Notification letters shall be in bold type as follows, with the appropriate information specific to the work inserted at the locations indicated in the brackets and italicized.

(Name of Contractor)
(Address of Contractor)
(Contractor’s License Number)
(Date)

As a part of the City of Menifee’s ongoing program to maintain its streets, your street will be sealed with a mixture of asphalt and sand, beginning in two or three weeks. This process requires that your street be closed for X day(s) starting at 7:00 a.m. to X:XX p.m. and until the Contractor removes the traffic control devices. You will be notified 72 hours in advance of the day your street will be closed by a brightly colored 3 ½” x 8 ½” card attached to your doorknob. You will also notice temporary no parking signs on your street with a specific no parking date written on it.

A successful street maintenance program depends on your cooperation. Please do not drive, walk, play, skate or allow pets on the newly sealed street until all traffic control devices have been removed.

Furthermore, please do not wash your car or turn on any sprinklers during the closure period. If you plan to leave your home after 7:00 a.m. on the day your street will be sealed, and you need to use your vehicle later, please park your car on an adjacent street in your neighborhood that is not signed as a no parking zone. When walking to and from your car, remember not to walk on the newly sealed street or
you will have black residue on the bottom of your shoes. The residue will damage some surfaces, will mark all surfaces that you track it on, and will be very difficult to remove.

(Name of Contractor) is the Contractor that will be performing the resurfacing work for the City and you may call them at (24 hour per day attended telephone number in the 951 area code) for any questions you may have about the project. Sealing of your street will not occur on the day your trash is collected. On the day your street is sealed mail delivery may be delayed until the following day. You will not know the exact date your street will be closed until you receive the 3 ½" x 8 ½” card. If you have a moving company scheduled to come to your house within the next two weeks, please call and inform the Contractor of the date. If you have any concerns which are not addressed by the Contractor, please call the City’s Public Works Inspection Division at 951-672-6777. They will assist you in resolving the concerns.

During sealing operations, the Contractor’s schedule shall be designed to provide residents and business owners whose streets are to be sealed sufficient paved parking within an 800 foot distance from their homes or businesses.

Add the following section:

302-4.6 emulsion aggregate slurry (eas)

Add the following section:

302-4.6.1.1 Surface Preparation

As part of surface preparation prior to application of emulsion-slurry seal the Contractor shall:

1. Treat the area to receive emulsion-slurry seal with a post emergent herbicide. Herbicide shall be applied at least 5 (five) working days prior to sealing of street. Allowance for the five day period shall be shown in the schedule required per Section 6-1, Construction Schedule and Commencement of the Work.

2. Remediate cracks, potholes, and large areas of alligator cracking. Remediation shall be accomplished by:
   a) Removal of existing asphalt pavement, base material and soil and replacement with full depth asphalt concrete in locations designated by the Engineer
   b) Crack cleaning and sealing of all cracks designated by the Engineer.

302-5 ASPHALT CONCRETE PAVEMENT

302-5.1 General

Add the following:
The Contractor shall treat all vegetation within the limits of the paved area to receive asphalt concrete paving with a post emergent herbicide. Herbicide shall be applied at least 5 (five) working days prior to paving the area. Allowance for the five day period shall be shown in the schedule required per section 6-1, Construction Schedule and Commencement of the Work.

The surface course asphalt concrete shall be installed as a last order of work after all concrete improvements and base course asphalt has been installed.
302-5.4 Tack Coat

*Add the following:*
The Contractor shall place a tack coat between the interface of existing pavement and new pavement and successive courses when, in the opinion of the engineer, the Contractor has failed to maintain or prepare each previously laid course of asphalt receiving the subsequent course of asphalt in a sufficiently clean state and the asphalt receiving the new pavement course is dirty enough to impair bonding between the next lift of asphalt.

302-5.5 Distribution and Spreading

*Modify as follows:*
*Add to the fifth paragraph:*
Asphalt Concrete pavement sections greater than 4” thick shall be constructed in two lifts or as directed; pavement base course shall be type B-PG70-10 and the final lift (surface layer) shall be C2-PG70-10 with a minimum thickness of 1-1/2 inch and shall not exceed 2-1/2 inch. Spreading, once commenced, shall be placed without interruption. The final or surface layer of asphalt concrete shall not be placed until all on-site improvements have been completed, including all grading.

302-5.6 rolling

302-5.6.1 General

*After last paragraph, add the following:*
Unless directed otherwise by the Engineer, the initial breakdown rolling shall be followed by a pneumatic-tired roller as described in this section.

302-5.9 Measurement and Payment

*Add the following:*
Payment for Asphalt Concrete shall be made at the price bid per ton and shall include full compensation for furnishing all labor, materials, equipment, and incidentals necessary to perform the work.

Payment for tack coat shall be included in the price bid for Asphalt Concrete for which tack coat is required and no additional payment shall be allowed therefore.

302-7 PAVEMENT FABRIC

302-7.1 General

*Add the following:*
Pavement reinforcing shall be placed to the limits approved by the Engineer.

302-7.2.3 Laydown

*Add the following:*
The fabric shall be stretched, aligned, and placed without any wrinkles that lap. The test for lapping shall be made by gathering together the fabric in a wrinkle. If the height of the double
portion of extra fabric is 1/2" or more, the fabric shall be cut to remove the wrinkle, and then lapping in the direction of paving. Lap in excess of 2” shall be removed.

Delete the second sentence of the eighth paragraph and add the following:
If necessary, exposed tack coat on top of fabric shall be covered lightly with sand.

302-9 asphalt rubber hot mix (arhm)

302-9.1 General

Replace the entire subsection with the following:
ARHM shall conform to 203-11. Unless otherwise shown on the Plans, ARHM shall be Class ARHM-GG-C.

The Contractor shall schedule the paving work such that no longitudinal drop-offs on the pavement will remain overnight in the travelled way. Any transverse drop-offs on the pavement over 1 inch in height that will remain overnight shall be ramped with temporary AC pavement.

[Include the following if the Work includes full-width cold milling and placement of ARHM directly over the cold milled surface, not on an ARAM:]
Roadways to receive full-width cold milling shall be resurfaced within 24 hours of cold milling any portion of the Work.
[End inclusion.]

[Include the following if the Work includes placement of ARHM over an ARAM:]
ARHM shall be placed within 48 hours of the completion of placement of the asphalt rubber and aggregate membrane (ARAM).
[End inclusion.]

[Include the following for QA/QC projects:]

302-9.1.1 Quality Control Program

The Contractor shall submit a "Quality Control Program for Asphalt Rubber Hot Mix" per 2-5.3.4 of the Special Provisions. This program shall include the names) of personnel responsible for quality control, their qualifications, and specific procedures to be followed during asphalt rubber hot mix placement operations.

The Contractor shall maintain accurate records of all tests it performs as part of its Quality Control Program and shall make these records available to the Engineer upon request. The Contractor shall satisfy itself that its materials and workmanship, including those of its subcontractors and suppliers, are in conformance with the Contract Documents. The Contractor shall submit to the Engineer for review copies of the results of all Quality Control tests it has performed prior to requesting the Agency to perform Quality Assurance testing.
[End inclusion.]
[Include the following if a RAC Grant Project:]

Add the following:

302-9.1.2 Recycled Content Certification for the Waste Tire Grant Program.

The Contractor shall complete the "Recycled — Content Certification for the Waste Tire Grant Program" for all products purchased and used for this Project that are listed under the product category of this Certification. A copy of this certification is included at the end of this Section (include sample of certificate). This certification must be submitted to the Agency within 15 calendar days after field acceptance of the Work.

[End inclusion.]

302-9.3 Distribution and Spreading

Replace the second sentence with the following:
Asphalt rubber hot mix shall not be placed until the atmospheric temperature is a minimum of 55 degrees F and rising, and the surface temperature of the underlying material is a minimum of 55 degrees F, or during unsuitable weather.

Add the following:
The spreading and finishing machine shall be equipped with a fully automatic screed control system which shall be in operation at all times. The system shall be either a contact (skid) or non-contact (sonic averaging) system. The skid shall be a minimum of 30-feet long, mounted on the side of the spreading and finishing machine which will receive the next mat of material, and be placed in contact with the pavement surface.

The sonic averaging system shall have a ski, a minimum of 24 feet long, mounted on the side of the spreading and finishing machine which will receive the next mat of material. A joint maker placed on the side of the spreading and finishing machine to ride on the existing or previously constructed surface or mat of material may be required as directed by the Engineer.

[Include the following for QA/QC projects:]

302-9.3.1 Test Strip

The first order of work during distribution and spreading shall be the placement of a test strip. The Contractor shall notify the Engineer 24 hours prior to the placement of the test strip. The quantity of the test strip shall be 500 tons. The test strip shall be incorporated into the Work. The test strip shall be located such that it does not have to be opened to traffic immediately upon completion of rolling operations. The Contractor shall not open the test strip to traffic until coring has been completed and the Engineer has so approved.
[Include the following if the Agency will perform the coring:]

302-9.3.2 Suspension and Resumption of Distribution and Spreading

The Contractor shall suspend distribution and spreading upon completion of the test strip. The Contractor shall not resume distribution and spreading operations until the Agency has completed its testing activities and furnished the Contractor with the information specified in 302-9.4. The Contractor shall allow 2 working Days, beginning the next working day following the day coring operations are completed, for the Agency to complete the aforementioned. Suspension and resumption of distribution and spreading shall be shown as an individual activity on the Contractor's construction schedule per 6-1.

[Include the following if the Contractor will perform the coring:]

302-9.3.2 Suspension and Resumption of Distribution and Spreading

The Contractor shall suspend distribution and spreading upon completion of the test strip. The Contractor shall not resume distribution and spreading operations until the Agency has completed its testing activities and furnished the Contractor with the information specified in 302-9.4. The Contractor shall allow 2 Working Days, beginning on the next working day following the day the cores are furnished to the Engineer, for the Agency to complete the aforementioned. Suspension and resumption of distribution and spreading shall be shown as an individual activity on the Contractor's construction schedule per 6-1.

[End inclusion.]

302-9.4 Rolling

[Include the following for QA/QC projects:]

Replace the third paragraph of 302-5.6.2 of the SSPWC with the following:
The Contractor shall determine the in-place density and relative compaction of asphalt rubber hot mix placed on this Project as part of its Quality Control Program. The Contractor shall follow the procedures and methods specified in California Test 375, February 2012 (included herein at the end of this Section) modified as follows:

DETERMINING THE IN-PLACE DENSITY AND RELATIVE COMPACTION OF HOT MIX ASPHALT PAVEMENT USING NUCLEAR GAGES
California Test 375, February 2012

PART 1. STANDARDIZATION AND CALIBRATION OF THE NUCLEAR DENSITY DEVICE GAGE

1A. APPARATUS

1. Add the following:
The nuclear device shall be specifically designed to determine the density of asphalt concrete.
PART 2. CORRELATION WITH CORE DENSITIES

2A. TEST STRIP

1. Add the following:
c. The test strip shall conform to 302-9.3. The Contractor shall notify the Engineer 24 hours prior to the placement of the test strip. The Agency’s Materials Laboratory will assist the Contractor in determining the Contractor’s nuclear gauge correlation value.

2. Add the following:
The nuclear density values shall be determined by the Contractor and furnished to the Engineer or Agency representative present during test strip operations.

2B. CORRELATING TO CORES

1. Add the following:
The Agency will obtain the cores. The Contractor shall establish the traffic control necessary for the Agency to safely perform the coring operations. Traffic control shall be maintained until the Agency has completed coring operations. Upon the completion of coring operations, the Contractor shall furnish, place, and compact ARHM of the same type and class as the test strip in the core holes.

4. Replace with the following:
The Agency will determine the density of each core in accordance with California Test 308, Method "A", with the exception that the Agency will use zinc stearate.

5. Add the following:
The Agency will determine the average core density for each test site and furnish to the Contractor within 2 Working Days of receipt of the cores by the Engineer.

6. Add the following:
The Agency will determine the correlation value for each test site and furnish to the Contractor.

PART 3. TEST SITE LOCATION

A. SCOPE

Add the following:
The basis of reporting test results to the Engineer shall be a Lot. A Lot shall be defined as the amount of pavement placed in 1 Day. A Sub-Lot shall be defined as 500 tons. Should the amount of pavement placed in 1 day be less than 500 tons, the Sub-Lot and Lot shall be one and the same. Each Lot shall be from a single source unless otherwise approved by the Engineer.
B. TESTING FREQUENCY

1. Replace with the following:
The Contractor shall test a minimum of 10 sites for each 500 tons of asphalt rubber hot mix placed.

2. Replace with the following:
For areas containing less than 500 tons, the Contractor shall test at the rate of 1 test site for each 50 tons or portion thereof of asphalt rubber hot mix placed.

PART 4. DETERMINING IN-PLACE DENSITY BY THE NUCLEAR DENSITY DEVICE

B. APPARATUS MATERIAL

1. Add the following:
The nuclear device shall be specifically designed for testing the density of asphalt concrete.

C. DETERMINING IN-PLACE DENSITY

Add the following:
13. The Contractor shall furnish the Engineer with a copy of the test results for each Sub-Lot at the end of each Working Day. The test results shall identify the Lot and Sub-Lot in the following manner:

1) Each Lot shall be consecutively numbered (i.e. first day of paving, Lot "1"); second day of paving, Lot "2"; ...)
2) Each Lot shall be divided into Sub-Lots of 500 tons each and shall be consecutively lettered starting with Sub-Lot "A" (i.e. the first Sub-Lot of the first day of paving will be Lot "1-A", the second Sub-Lot of the first day of paving will be Lot "1-B"...the first Sub-Lot of the second day of paving will be Lot "2-A", ...). A Sub-Lot may, when approved by the Engineer, be placed at 2 separate locations as long as placement is in conformance with the Specifications and the Contractor clearly identifies the location and limits of the placement.

PART 5. DETERMINING TEST MAXIMUM DENSITY

A. SCOPE

Add the following:
The Agency will determine the TMD using the laboratory procedure (LTMD). The Agency may, at its option, use the field procedure (FTMD). The Agency will furnish the Contractor with the TMD to be used for the purpose of calculating relative compaction per Part 6.
PART 6. CALCULATING RELATIVE COMPACTION

Add the following:
3. The Agency will take a set of 3 cores per Sub-Lot for the purposes of determining in-place density. In-place density will be determined by the Agency in accordance with California Test 308, Method "A", with the exception that the Agency will use zinc stearate. The average in-place density of the 3 cores will be used for the purpose of calculating relative compaction per Part 6. The Agency, at its option, may determine the average in-place density using a nuclear device in accordance with California Test 375. In the event of a dispute between the results obtained by the Contractor using the nuclear device, and the results obtained by the Agency using California Test 308, the latter results shall prevail.

[End inclusion.]

302-9.5 Joints

Add the following:
Longitudinal joints shall coincide with traffic lane lines unless otherwise approved by the Engineer.

302-9.6 Manholes (and Other Structures)

Add the following:
Survey monuments shall be protected in place. The Contractor shall locate all survey monuments within the project area prior to the start of the Work. During the progress of the Work, cold millings, hot or cold mix asphalt concrete materials, and other debris shall not damage or cover the survey monuments. Damaged survey monuments shall be replaced at the contractor’s expense. Should the survey monuments be damaged, the Contractor shall notify the Engineer prior to replacing.

302-9.9 Payment

[Include the following for QA/QC projects:]
Payment for compaction testing shall be considered as included in the Contract Unit Price for "ASPHALT RUBBER HOT MIX."
[End inclusion.]

[Include the following for QA/QC projects if the Agency will core the test strip:]
Add the following:
Payment for asphalt rubber hot mix placed in the test strip will be made at the Contract Unit Price per ton for "ASPHALT RUBBER HOT MIX (TEST STRIP)." The Contract Unit Price shall also include establishing and maintaining traffic control, and furnishing, placing and compacting asphalt rubber hot mix of the same type and class as the test strip in the core holes.
[End inclusion.]

[Include the following two paragraphs for QA/QC projects if the Contractor will perform the coring:]

202
Add the following:
Payment for asphalt rubber hot mix placed in the test strip will be made at the Contract Unit Price for "ASPHALT RUBBER HOT MIX (TEST STRIP) (INCL CORES)."

No separate payment will be made for test strip pavement cores. Payment shall be considered as included in the Contract Unit Price for "ASPHALT RUBBER HOT MIX (TEST STRIP) (INCL CORES)." The Contract Unit Price shall also include extracting the cores, furnishing the cores to the Engineer, establishing and maintaining traffic control, and furnishing, placing and compacting asphalt rubber hot mix of the same type and class as the test strip in the core holes.

[End inclusion.]

[Include the following for QA/QC projects:]

Payment for ARHM in which the relative compaction, by lot, is less than 95 percent, but equal to or greater than 92.0 percent, will be made at the Contract Unit Price minus (the Reduced Compensation Factor multiplied by the Contract Unit Price) in accordance with the following table:

<table>
<thead>
<tr>
<th>Relative Compaction (Percent)</th>
<th>Reduced Compensation Factor</th>
<th>Relative Compaction (Percent)</th>
<th>Reduced Compensation Factor</th>
</tr>
</thead>
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<tr>
<td>95.0</td>
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</tr>
<tr>
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<td>0.056</td>
<td></td>
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</tr>
</tbody>
</table>

Should the compaction of any lot be less than 92.0 percent, the lot shall be removed and replaced at the Contractor’s expense.

[End inclusion.]
SECTION 303    CONCRETE AND MASONRY CONSTRUCTION

303-1    CONCRETE STRUCTURES

303-1.1 General

Add the following:
Where the Plans refer to the Standard Drawings or Standard Plans for construction details for concrete structures or elements and the primary dimensional requirements (such as chamber length, width, depth, etc.) are not shown in said Standard Drawings or Plans, then the next larger size dimension for that requirement shall be used to establish dependent structure element characteristics (such as wall thickness, reinforcement schedule, etc.).

The Contractor may extend or otherwise increase the total length of inlet, basin or cleanout structures by as much as a total of four feet (4’), to meet the uncut ends of pipe. Payment for pipe to the limits shown on the Plans shall be full compensation for extending such structures. Where concrete structures are extended, steel reinforcing shall be extended in the pattern and spacing shown for the standard length structure.

Concrete brow ditches, if air-placed, shall be constructed in accordance with Section 303-2, Air Placed Concrete, of the Standard Specifications, and these Special Provisions. Otherwise, brow ditch construction and materials shall conform to the applicable provisions of Section 303-1, Concrete Structures.

303-1.2 Subgrade for Concrete Structures

Add the following section:
303-1.2.1 Reinforced Concrete Box Subgrade

The design details for the project provide for the placement of six-mil polyethylene sheeting as an underlayer below the RCB culvert and transition structures and over the gravel foundation mattress. The Contractor shall furnish and place six-mil polyethylene sheeting as an underlayer below these reinforced concrete structures. The placing of steel reinforcement and placement of concrete shall be accomplished as soon after the installation of the polyethylene sheeting as possible.

Add the following section:
303-1.2.2 Reinforced Concrete Box Gravel Foundation Mattress.

Gravel foundation mattress under the reinforced concrete box (RCB) culverts and reinforced concrete box (RCB) transition structures shall be constructed to the limits and grades shown on the Plans and in accordance with these Special Provisions.

It is the intent of these specifications that a firm, unyielding gravel mattress or layer be constructed to help bridge any earthen subgrade irregularities or minor differential settlements.
and to act as a stable working surface for the placement of reinforcing steel and concrete forms for the construction of RCB culverts and transition structures.

Permeable material for use as gravel foundation mattress under RCB and transition structures shall consist of hard, durable, clean sand, gravel, or crushed stone; and shall be free of organic material, clay balls, or other deleterious substances. Permeable material shall conform to the gradation requirements for Class 1, Type B permeable material specified in Section 200-1.2.2, Permeable Material, of these Special Provisions.

The Contractor shall place permeable material for foundation mattress within the limits and to the lines and grades shown on the Plan. Permeable material shall be placed directly on prepared subgrade unless filter fabric material is specified or shown on the Plans. The finish subgrade surface of the pervious mattress material shall be held to the closest practicable tolerance, and in no case shall the finish subgrade surface deviate from the indicated slope and grade lines by greater than plus zero inches (0”) above or minus two inches (-2”) below.

Permeable mattress material shall be spread uniformly on the prepared subgrade to the neat lines indicated on the drawings in such a manner that the gradation after final placement remains within the limits specified. Placing of material by methods which will tend to segregate particle size within the mattress layer will not be permitted.

Permeable material shall be deposited and spread in a manner so as to prevent damage to or displacement of the filter fabric subgrade cover below.

Imported permeable material shall be placed on the subgrade as uniform mixtures and each layer shall be spread in one operation. Segregation shall be avoided and the layer shall be free from pockets of coarse or fine material.

Permeable material shall be deposited at a uniform quantity per linear foot, which quantity will provide the required compacted thickness within the tolerances specified herein without resorting to spotting, picking up, or otherwise shifting the gravel material.

Where the required thickness is twelve inches (12”) or less, the gravel mattress material may be spread and compacted in one layer. Where the required thickness is more than twelve inches (12”), the permeable material shall be spread and compacted in two or more layers of approximately equal thickness, and the maximum compacted thickness of any one layer shall not exceed twelve inches (12”). Each layer shall be spread and compacted in a similar manner.

The use of motor graders will be permitted during depositing, spreading, and compacting operations.
Rolling for compaction shall always be commenced along the edge of the area to be compacted and the roller shall gradually advance toward the center of the area to be compacted. Rollers shall be operated along lines parallel or concentric with the centerline of the road being constructed, and no material variation there from will be permitted. All rollers must be maintained in good mechanical condition.

During and after placement and compaction of the permeable mattress material, the surface shall be protected from damage, erosion, or movement by flowing water or mechanical injury.

Add the following section:

**303-1.2.3 Reinforced Concrete Box Subdrain and Backdrain Systems**

Sidewall backdrain systems along reinforced concrete box (RCB) culverts and transition structures shall be constructed to the limits and grades and per the details shown on the Plans and in accordance with these Special Provisions.

Each pipe shall be carefully inspected immediately before it is laid, and any that are damaged or defective shall not be used. The pipe shall be placed on the bedding surface that is accurately shaped to conform to the lower ¼ of the outside portion of the pipe. Perforated pipe shall have two rows of perforations of one-half inch diameter (1/2” Φ) holes at five inches (5”) on center, with rows separated by 120 degrees (120°) of arc centered at the pipe bottom. Pipe shall be laid to the grades and alignment indicated or as directed. Pipe laying shall proceed upgrade from the lower end of the pipeline. Pipe grade shall be maintained within ¼ inch in 10 feet of that indicated. Upon completion of backfill, the area shall be suitable for placement of concrete invert or fill as applicable.

The Contractor shall flush the sidewall backdrain system with sufficient water to develop a flow of at least five cubic feet per minute (5 cfm) out of the end of the length of pipe being tested, as measured by approved measuring equipment furnished by the Contractor. Tests shall be conducted in the presence of the Engineer.

Two separate tests to demonstrate proper functioning of the sidewall backdrain collector lines shall be made by the Contractor. The first test of each completed section of the new backdrain system shall be made immediately prior to placing concrete invert. Both tests shall conform to the above requirements. Final acceptance will be made only if the discharge is free and of adequate quantity. Any necessary clearing of drain lines shall be performed at no additional cost to the Agency.

Add the following section:

**303-1.2.4 Reinforced Concrete Box Subdrain and Backdrain Pipe Materials**

Pipe for weep holes and backdrain collector pipes shall be smooth-wall polyvinyl chloride (PVC).
Non-perforated pipe materials specified above for the backdrain system shall conform to the requirements of Section 68-1.02B, 68-1.02E, 68-1.02H and 68-2.02 of the State Standard Specifications and as specified herein.

Perforated pipe materials specified above for the backdrain system shall conform to the requirements of Sections 68-1.02E, 68-1.02H and 68-2.02 of the State Standard Specifications and as specified herein.

Standard for pipe diameter requirement shall be deleted from Section 68-2.02 of the State Standard Specifications and as specified herein. PVC pipe shall be smooth-wall type; no corrugated pipe shall be allowed.

Cast iron pipe and fittings for backdrain outlet shall be service weight and shall conform to the requirements of ASTM A74.

Add the following section:

**303-1.2.5 Reinforced Concrete Box Backdrain Permeable Material**

Permeable material for sidewall backdrains shall be Class 2 permeable material per Section 200-1.2.2, Permeable Material, of these Special Provisions.

Add the following section:

**303-1.2.6 Reinforced Concrete Box Filter Fabric/Composite Drain**

Filter fabric shall be in accordance with Section 213-2, Geosynthetics, of these Special Provisions.

Composite drain material on the sidewalls of the culverts shall be installed at the locations indicated on the project plans. Drain material shall be Miradrain G100N, J-Drain 300, or approved equivalent drainage system installed in accordance with the recommendations of the manufacturer. The composite drain material shall have a minimum compressive strength of 20,000 pounds per square foot (20,000 psf), a minimum flow rate of seven gallons per minute per foot (7 gpmpf), and the filter fabric shall have a minimum grab tensile strength of 90 pounds. The fabric side of the composite drain shall be placed toward the soil.

Add the following section:

**303-1.2.7 Reinforced Concrete Retaining Wall Foundation**

Foundation soil shall be excavated as required to the depths and locations shown on the Plans or as directed by the Engineer. The exposed foundation soil shall be observed by the geotechnical engineer prior to construction to verify that the exposed material is suitable for the design bearing pressure and that the base of the excavation is free of loose soil, uncompacted fill, or water. The Contractor shall undercut any unsuitable soil when directed by the Engineer. Undercut areas shall be filled with crushed gravel or granular native soil when required by the
geotechnical engineer and compacted to at least 90% of the material’s maximum dry density (per ASTM D1557).

Add the following section:

303-1.2.8 Reinforced Concrete Retaining Wall Backfill

Wall backfill material shall be placed in maximum eight inch (8”) loose lifts and compacted to at least 90% of the material’s maximum dry density as determined by ASTM D1557. Backfill shall be placed, spread, and compacted in such a manner that minimizes disturbance to the wall backdrain and drainpipe. The soil shall be sloped during construction in such a manner to drain all water away from the wall.

Construction equipment shall be operated in such a way so as not to damage the wall drain and drainpipe system.

Wall backfill soil shall have the following properties:

- Soil friction angle shall be greater than or equal to 33 degrees.
- Expansion index less than or equal to 50 (per UBC Standard 18-2).
- Maximum particle size = 2 inches.

On-site soils meeting the above criteria may have to be processed or selectively graded, or soils may need to be imported onto the site to meet this specification.

303-1.3 Forms

Add the following:

Forms shall be braced to withstand the pressures developed and shall be tight to prevent loss of mortar. Tangent sections for formed wall surfaces shall result in concrete surface free of any unevenness greater than quarter-inch (1/4”) when checked with a ten-foot (10’) straightedge.

Forms for covered conduit or open channel curved sections shall be constructed along the arc of the curve. The finished surface shall follow the arc of the curve.

If permitted by the Engineer, covered conduit curved section may use chord panel length not to exceed eight feet (8’). Ends of the chord panel shall be on the arc of the curve.

Reinforcing steel shall be billet steel conforming to ASTM A615 and of the grade shown.

303-1.6 Falsework

303-1.6.2 Falsework Design

Add the following:

The Contractor shall provide all temporary bracing necessary to withstand all imposed loads during erection, construction, and removal of any falsework. The Contractor shall provide
falsework drawings and calculations prepared by a registered professional engineer, civil or structural, that show provisions for resolution of all loads that may be imposed upon the falsework. Such plans and calculations shall include:

1. Resolution of all live, dead, wind, construction and impact loads that may be imposed on the falsework.
2. Temporary bracing or methods to be used during each phase of erection and removal of the falsework.
3. Concrete placement sequence.
4. Erection and removal sequence.
5. Deflection values for the falsework that include recommended methods to compensate for falsework deflections, vertical alignment, and anticipated falsework deflection.

**303-1.7 Placing Reinforcement**

**303-1.7.1 General**

Add the following:
Aluminum and plastic supports for reinforcement shall not be used.

Bars shall be accurately spaced as shown on the Plans and spacing of the first bar immediately adjacent to a transverse construction joint shall be one-half the required spacing shown on the Plans. In no case shall the clear distance between parallel bars be less than 2 ½ diameters of the bar or a minimum of two inches (2”).

Unless otherwise shown on the plans, embedment of reinforcing steel (other than stirrups and spacers) shall be 1 ½ inches clear depth for #8 bars and smaller, and shall be 2 inches clear for #9 bars and larger. Where placement of reinforcing steel requires alternate bars of different size, embedment requirements shall be governed by the larger bar. Stirrups and spacers shall be embedded not less than one inch clear depth. Measurement of embedment shall be from the outside of the bar to the nearest concrete face.

Tack welding on reinforcing bars will not be permitted.

**303-1.7.2 Splicing**

Add the following:
Splicing of reinforcing bars shall be either by lapping, butt welding, or by mechanical butt splicing, at the option of the Contractor.

Reinforcing bars may be continuous at locations where splices are shown on the Plans, at the option of the Contractor. The location of splices, except where shown on the Plans, shall be determined by the Contractor as approved by the Engineer, based upon using available commercial lengths where practicable.
Unless otherwise shown on the Plans or approved by the Engineer, splices in adjacent reinforcing bars shall be staggered. The minimum distance between staggered splices for reinforcing bars No. 11 or small shall be the length required for a lapped splice in the bar.

Completed welded butt splices and mechanical butt splices shall develop not less than ninety percent (90 %) of the specified minimum ultimate tensile strength of the unspliced reinforcing bar.

The deviation in alignment of reinforcing bars at a welded or mechanical splice shall not be more than ¼-inch over a 3 ½ foot length of bar.

Prior to use in the work, welded butt splices and mechanical butt splices shall be qualified by tests made on sample splices.

During progress of the work, in addition to inspection and non-destructive testing performed by the Engineer on all types of butt splices, job control tests shall be made on sample splices representing each lot of mechanical butt splices. Sample splices for qualification and job control tests shall be tested for compliance with all specified requirements for splices. All such sample splices shall be fabricated and tested by the Contractor at its cost and a copy of the test results furnished to the Engineer.

Splices shall consist of placing the reinforcing bars in contact and wiring them together in such a manner as to maintain the alignment of the bars and to provide minimum clearances.

No lapped splices will be permitted at locations where the concrete section is not sufficient to provide a minimum clear distance of two inches (2”) between the splice and the nearest adjacent bar. The clearance to the surface of the concrete shall not be reduced.

The length of lapped splices shall be as follows: Reinforcing bars No. 8, or smaller, shall be lapped at least 45 diameters of the smaller bar joined, and reinforcing bars Nos. 9, 10, and 11 shall be lapped at least 60 diameters of the smaller bar joined, except when otherwise shown on the Plans.

Splices of tensile reinforcement at points of maximum stress shall be avoided; however, any deviation from splices shown on the Plans shall be approved by the Engineer. Splices in longitudinal steel shall be staggered at least the length of the splice.

**303-1.8 Placing Concrete**

Add the following:

When concrete is to be deposited in a member less than 16 inches in width, the use of double belting to prevent segregation of the concrete shall be permitted, in lieu of pipes or tremies. Each belt shall extend equidistant into the forms to a point where concrete shall not fall more than six feet (6’). When placed in the forms, the belts shall be aligned directly opposite each other.
303-1.8.6 Joints

Add the following:
Unless otherwise specified, transverse construction joints shall be placed in all reinforced sections at intervals of not less than ten feet (10') or more than fifty feet (50'). The joints shall be in the same plane for the entire structure, and for concrete thickness greater than six inches (6") shall be keyed as directed by the Engineer.

Construction of all reinforced concrete sections (including inverts) shall be by the alternate panel method, and no continuous placement through joints will be permitted. After placement of all concrete in a panel or section on one side of the joint has been completed, placement of concrete on the other side of the joint shall be delayed as directed by the Engineer; but in no event shall the delay be less than eight (8) hours.

303-1.9 Surface Finishes

303-1.9.1 General

Add the following:
The longitudinal and transverse channel invert elevation shall not vary from true line and grade more than ½ inch. The unevenness shall not be more than ¼ inch when checked with a ten-foot (10') straightedge.

Top of channel wall and channel side slope elevation shall not vary from true line and grade more than ½ inch. Unevenness shall not be more than ½ inch when checked with a ten-foot (10') straightedge.

Any surfaces which fail to conform to the above tolerances shall be ground in accordance with the best standard practice until the tolerances are met. Grinding shall not reduce the concrete cover on reinforcing steel to less than 1-1/2 inches. Portions of inverts which cannot be corrected satisfactorily by grinding shall be removed and replaced.

Except as specified above, vertical or horizontal position of structures as shown on the Plans or as specified in these specifications, shall not vary more than ½ inch from true position. Elevation at inlet lips shall not vary more than ¼ inch from elevations shown on the Plans.

The ten-foot (10') straightedge or template shall be furnished by the Contractor and shall be readily available prior to placing of concrete.

303-1.9.2 Ordinary Surface Finish

Add the following:
Ordinary surface finish shall not apply to rock pockets which, in the opinion of the Engineer, are of such an extent or character as to affect the strength of the structure materially or to endanger the life of the steel reinforcement. In such cases, the Engineer may declare the concrete defective and require the removal and replacement of the portions of the structure affected.
Add the following section:

**303-1.9.5 Surface Finish for Concrete Spillway**

The Contractor shall provide a surface finish for concrete spillway to prevent the use of rollerblades, skateboards, and other rolling devices. Surface finish shall be a rough finish approved by the Engineer.

**303-1.10 Curing**

Add the following:
Where the curing compound method is used on concrete surfaces exposed after construction, the invert surface shall be sealed with a Type 1 chlorinated rubber base compound, and the wall surfaces shall be sealed with a Type 1 wax base compound.

**303-1.11 Payment**

Add the following:
Full compensation for this work shall be paid at the lump sum or unit prices bid for various concrete construction and appurtenant items or shall be considered as included in the Contract price for other items of work.

The unit or lump sum price paid for the various concrete structures shall be considered as including the furnishing and installation of all concrete, reinforcing steel, forming, finishing, form removal, miscellaneous metal, gratings, frames and covers, excavating, backfilling, compaction, making connection of pipes, chain, access steps, ladders, plates, hardware, concrete bases, supporting utilities, weep holes and back drains, and providing all labor, equipment, materials, and tools necessary to provide the structure complete in place.

Payment for curb inlets, curb outlets, catch basins, clean-outs, pipe collars and manholes shall be at the contract unit price per each.

Payment for concrete brow ditch shall be at the contract unit price per lineal foot complete in place.

Payment for concrete encasement or backfill of structures shall be considered as included in the contract price(s) paid for various type of pipe as specified elsewhere in these Special Provisions.

Add the following Section:

**303-1.11.1 Reinforced Concrete Box Payment**

Payment for reinforced concrete box (RCB) culvert and transition structures shall be at the Contract lump sum or unit price bid. Such payment shall be considered as full compensation for the furnishing of all labor, material, tools, equipment, and for performing of all work necessary for the construction of RCB culverts, complete, and in place including, but not limited to, structural excavation, removal of portions of existing culverts and connecting thereto, forming,
joints, joint material, finishing, Portland cement concrete, reinforcing steel; weepholes, permeable mattress and backdrain material, subdrain & backdrain systems, inlet pipe connections, access manholes, flab gates, variable-width common walls, interior wall hydraulic window openings, parapet walls, cut-off walls, wing walls, polyethylene subgrade cover; temporary utility support; phased construction requirements, integral utility crossing structures or sleeves, and backfill.

All costs involved in the construction of windows for box conduits shall be included in the price bid for the applicable RCB item. For purposes of payment, no additions or deductions in box quantities will be made for windows.

Add the following section:

**303-1.11.2 Reinforced Concrete Retaining Wall Payment**

Payment for reinforced concrete retaining walls shall be made at the lump sum or unit prices bid. Such payment shall be considered as full compensation for the furnishing of all labor, materials, tools, equipment and for performing all work necessary for the construction of the Project Site retaining walls, complete, and in place including, but not limited to, structural excavation, forming, joints, joint material, reinforcing steel, weep holes, Portland cement concrete, finishing, waterproofing, installation of wall back drain system and connections to the storm drain system, backfill, and spoils disposal.

**303-4 MASONRY CONSTRUCTION**

**303-4.1 Concrete Block Masonry**

**303-4.1.2 Construction**

Add the following section:

303-4.1.2.1 Masonry Retaining Wall Foundation
Foundation soil shall be excavated as required to the depths and locations shown on the Plans or as directed by the Engineer. The exposed foundation soil shall be observed by the geotechnical engineer prior to construction to verify that the exposed material is suitable for the design bearing pressure and that the base of the excavation is free of loose soil, uncompacted fill, or water. The Contractor shall undercut any unsuitable soil when directed by the Engineer. Undercut areas shall be filled with crushed gravel or granular native soil when required by the geotechnical engineer and compacted to at least 90% of the material’s maximum dry density (per ASTM D1557).

Add the following section:

303-4.1.2.2 Masonry Retaining Wall Backfill
Wall backfill material shall be placed in maximum eight inch (8”) loose lifts and compacted to at least 90% of the material’s maximum dry density as determined by ASTM D1557. Backfill shall be placed, spread, and compacted in such a manner that minimizes disturbance to the wall
backdrain and drainpipe. The soil shall be sloped during construction in such a manner to drain all water away from the wall.

Construction equipment shall be operated in such a way so as not to damage the wall drain and drainpipe system.

Wall backfill soil shall have the following properties:

- Soil friction angle shall be greater than or equal to 33 degrees.
- Expansion index less than or equal to 50 (per UBC Standard 18-2).
- Maximum particle size = 2 inches.

On-site soils meeting the above criteria may have to be processed or selectively graded, or soils may need to be imported onto the site to meet this specification.

### 303-4.1.5 Measurement and Payment

Add the following section:

303-4.1.5.1 Masonry Retaining Wall Measurement and Payment

Payment for masonry retaining walls shall be made at the lump sum or unit prices bid. Such payment shall be considered as full compensation for the furnishing of all labor, materials, tools, equipment and for performing all work necessary for the construction of the Project Site retaining walls, complete, and in place including, but not limited to, structural excavation, joints, joint material, reinforcing steel, weep holes, Portland cement concrete, finishing, waterproofing, installation of wall back drain system and connections to the storm drain system, backfill, and spoils disposal.

When paid by the square foot the quantity measurement shall be the length of the wall by the height of the wall from top of footing to top of wall.

### 303-5 CONCRETE CURBS, WALKS, GUTTERS, CROSS GUTTERS, ALLEY INTERSECTIONS, ACCESS RAMPS, AND DRIVEWAYS

#### 303-5.1 requirements

#### 303-5.1.1 General

After the second sentence of the first paragraph, add the following:

Delete the Class “B” mortar coat should curb be placed by extrusion machine and concrete mix is approved by the Engineer. All concrete shall be class 560-C-3250 unless otherwise specified on the plans.

Delete the first sentence of the second paragraph and add the following:

Unless otherwise specified on the Plans, and except as otherwise prescribed in 303-5.1.3, Driveway Entrances, the minimum thickness of walks shall be 4 inches (101.6 mm).
Prior to placing concrete on subgrade, the existing grade shall be in a moistened condition to obtain optimum moisture content, and recompacted as determined by ASTM D1557-78.

**303-5.5 FINISHING**

**303-5.5.2 Curb**

Add the following:
The Contractor shall stamp the curb face with 3” high block letters directly above the point that it is crossed by underground facilities with the marking specified in Table 303-5.5.2(A)

**TABLE 303-5.5.2(A)**

CURB FACE MARKINGS

<table>
<thead>
<tr>
<th>Type of underground facilities</th>
<th>Marking</th>
</tr>
</thead>
<tbody>
<tr>
<td>Water Service Lateral</td>
<td>W</td>
</tr>
<tr>
<td>Sewer Service Lateral</td>
<td>S</td>
</tr>
<tr>
<td>Irrigation/Reclaimed Water Lateral or Sleeve</td>
<td>RW</td>
</tr>
<tr>
<td>Gas Service Lateral</td>
<td>G</td>
</tr>
</tbody>
</table>

Delete the last sentence of second paragraph and add the following:
The name of the Contractor and the year in which the improvement is constructed shall not be stamped in the completed work.

**303-5.6 Curing**

Delete first paragraph and add the following:
Immediately after finishing operations are completed, Type 2 concrete curing compound shall be applied at a rate of one gallon per 150 square feet.

**303-5.9 Measurement and Payment**

Add the following:
Payment for concrete Curb and Gutter or Curb only shall be made at the price bid per linear foot, including transition sections where the curb face height varies (such as at pedestrian ramps, curb inlets, cross gutters and other depressions). Payment for concrete Sidewalk, Driveway, and Cross Gutter shall be at the unit prices bid per square foot, including transition sections where the concrete thickness varies (such as at the wings of driveways).

Payment for curb inlet transitions on each side of curb inlets shall be made at the unit price bid for Curb and Gutter and no additional payment shall be made therefore.
SECTION 304  METAL FABRICATION AND CONSTRUCTION

304-3  CHAIN LINK FENCE

304-3.1 General
Add the following:
The work includes installation of new chain link fencing and gates and the removal and relocation of existing chain link fencing as shown on the Plans.

304-3.2 Fence Construction
Add the following:
New fence construction includes both hole-dug ground surface installations and embedded-pole, structure-mounted installations (such as on parapets, wing walls, headwalls, retaining walls, and channel lining stiffening beams). Unless otherwise specified, materials and construction of chain link fencing and gates shall conform to Sections 206-6, Chain Link Fence, and 304-3, Chain Link Fence, of the Standard Specifications, the Plans, the Standard Drawings, and as provided herein. Where so specified or shown on the Plans, chain link fence materials and construction shall conform to Section 80-4, Chain Link Fence, of the State Standard Specifications, the Standard Plans, and as provided herein.

304-3.3 INSTALLATION OF Gates
Add the following:
Where existing chain link fencing and/or gate improvements are shown on the Plans to be relocated, or where new fencing is required to remodel Caltrans right-of-way fencing, new fabric and support posts or framework materials shall match those to be joined or extended.

Where existing fence is shown to be removed and relocated, and the Contractor does not undertake the installation in the new location immediately after removal, then the Contractor shall make provision to install temporary fencing or other type of perimeter enclosure or security during the interim period. The use and type of temporary, interim fencing, if proposed, shall be approved by the Engineer prior to the removal of the original fencing. The needs and wishes of the affected property owner shall be considered when selecting the type of temporary fence material for, and the timing of, interim fence installation.

304-3.4 Measurement and Payment
Add the following:
Payment for the installation of new chain link fence shall conform to this section or alternatively, when applicable, to Section 80-4.03, Measurement, and 4.04, Payment, of the State Standard Specifications, and the following:

Payment for new chain link fence, regardless of type, shall be at the contract unit price per lineal foot.
<PROJECT NAME>
CIP No. <CIP No.>

Payment for the removal and relocation of existing chain link fencing shall be at the contract unit price per lineal foot when a unit price bid item is provided or shall be included in clear and grub if no specific bid item is provided.
SECTION 306 OPEN TRENCH CONDUIT CONSTRUCTION

306-3 TRENCH EXCAVATION

Add the following:
The work covers trench excavation, installation and backfill of reinforced concrete pipe (RCP), polyvinyl chloride (PVC) pipe, corrugated high density polyethylene (N-12 HDPE) pipe, vitrified clay pipe (VCP), ductile iron pipe (DIP), cement mortar lined and coated (CMLC) steel pipe, cement mortar lined and epoxy painted steel pipe, Southern California Edison conduit, Gas Company, ATT/Verizon conduit, Cox Communications/Timewarner/Mediacom Communications cable television conduit, irrigation conduit, other conduits of any type, and other appurtenant work.

Open excavations on the Project Site shall be either backfilled by the end of each work day or secured with steel plates or temporary 6’ chain link fence as approved by the Engineer.

306-3.1 general

Add the following to the first paragraph:
No trenching operations requiring a permit shall be allowed until proof of a valid of permit is submitted and approved to the satisfaction of the Engineer. The Contractors inability or delay in obtaining the permit shall not be cause for delay, additional contract days, and/or additional compensation.

306-3.3 REMOVAL AND ABANDONMENT OF EXISTING CONDUITS AND STRUCTURES

Replace the third paragraph with the following:
Structures shown on the Plans to be removed shall be removed to the full depth of the structure, including its foundation. Voids resulting from removed structures that are located in the pavement area and subject to traffic loads shall be filled with material approved by the Engineer and shall follow City Standard 812 for compaction requirements. Voids resulting from abandoned or removed structures not subject to traffic loads shall be filled with material approved by the Engineer and compacted to a relative compaction of 90%.

Add the following:
Contractor is responsible to coordinate necessary inspections with the appropriate utility owner prior to abandoning and/or removing existing facilities.

306-3.4 maximum and minimum width of trench.

Add the following:
There shall be no additional payments or deductions for variations in the trench excavation width.
There shall be no direct payment for trench temporary and/or permanent pavement resurfacing.

306-4 SHORING AND Bracing

Add the following:
The Contractor shall furnish all labor, equipment and materials required to design, install, and remove shoring, sheeting, bracing, lagging, cribbing, piling, tiebacks, soil anchors, shields, temporary retaining structures or wall, or other types of support for the walls of all open excavations required for construction of this Project.

Add the following section:

306-4.1 Steel Plates

All open trenches within the traveled way shall be backfilled and patched by the end of each work day or covered with steel plates set flush with adjacent pavement. Plates shall be adequate to support traffic loadings without noticeable deflection and shall be required at all times.

Trench plate installation shall follow City Standard 813.

Add the following section:

306-4.2 Measurement and Payment

Unless a separate bid item is provided for sheeting, shoring, and bracing, the cost of sheeting, shoring and bracing shall be included with related items of work including furnishing all labor, materials, tools, equipment, and incidentals and for doing all the work involved in providing trench safety, shoring or sloping of excavations; including, but not limited to, constructing trench shoring, design of the shoring system, removal and disposal of the shoring materials, obtaining all necessary permits from the Division of Occupational Safety and Health; all as shown on the Plans, as specified in the General conditions, Standard specifications, and these Special Provisions.

No additional payment will be made for sheeting, shoring, and bracing as a result of required revisions in the trench support details due to a type of soil encountered which requires a method of trench support different from that approved.

Steel plate bridging including, but not limited to, cold milling, plate installation, temporary cold mix asphalt, and subsequent plate removal shall be paid for as an incidental to the work for which the bridging is required and no separate payment shall be made therefore.

306-5 Dewatering

Replace the entire subsection with the following:
The work shall include furnishing, installing, and operating a dewatering system capable of dewatering any excavation for any work in progress or planned, and subsequent removal of such equipment from the site.

The Contractor shall limit the area to be excavated at any one time to that area which can be properly dewatered by the equipment in use. The equipment in use shall be both capable of removing any water that accumulates in the excavation and maintaining the excavation in a dry condition while construction is in progress. The surface of the ground adjacent to the trench shall be sloped away from the excavation or temporary dikes or pipe culverts shall be provided to prevent surface water from entering the excavation.

Disposal of the water from the dewatering system shall be done in such a way as not to damage, contaminate, or overload the existing drainage facilities in the area. The Contractor shall protect from injury any portion of the work completed or in progress such as street surfaces, lawns, or private property. No water shall be directed across a public street outside of the Work limits.

All water encountered during trench excavation shall be disposed of by the Contractor in such a manner as to not damage public or private property, create a nuisance, or health menace. The Contractor shall furnish, install, and operate pumps, pipes, appliances, and equipment of sufficient capacity to keep all excavations free from water until the excavation is backfilled, unless otherwise authorized by the Engineer. The Contractor shall furnish, install, and operate pipes, appliances, and equipment of sufficient capacity to keep all excavations free from water until the excavation is backfilled, unless otherwise authorized by the Engineer. The Contractor shall provide all means or facilities necessary to conduct water to the pumps.

Discharge of pumped groundwater shall be in conformance with the requirements of the Regional Water Quality Control Board, the County of Riverside Department of Environmental Health, the City of Menifee, and other agencies having jurisdiction. The Contractor shall obtain all required permits before pumped water from naturally occurring groundwater or from rainfall is discharged to any storm drain or sewer. A means shall be provided for desilting the water before discharging it where required by the Engineer or by the terms of the discharge permits.

Add the following section:

306-5.1 Measurement and Payment

Dewatering shall be paid at the unit price or lump sum price bid when such an item is provided or as incidental to the work for which the dewatering is required and no separate payment shall be made therefore.

306-6 Bedding

306-1 General

Replace the first sentence of the first paragraph with the following::

Bedding material shall consist of clean sand or gravel and shall conform to section 217. Sand shall meet the gradation for Table 200-1.5.5.
306-7 prefabricated gravity pipe

306-7.8 gravity pipeline testing

306-7.8.1 General

Add the following:
All storm drain lines less than 48 inches in diameter shall be inspected by closed circuit television paid for by the Contractor after installation of the pipe and prior to installation of permanent surface improvements. The video inspection shall be performed by an entity with the demonstrated experience to perform the inspection as approved by the Agency.

306-15 payment

Add the following:
Payment for underground conduit construction shall also include removal and disposal of excavated material not suitable for use as trench backfill.

306-15.9 temporary Resurfacing

Replace entire subsection with the following:
Temporary bituminous resurfacing materials which are placed by the Contractor are for its convenience and shall be at no cost to the Agency. Temporary bituminous resurfacing materials shall be used in lieu of permanent resurfacing only when approved by the Engineer. When temporary bituminous resurfacing materials are used in lieu of permanent resurfacing it shall be removed and replaced with permanent resurfacing within 7 days of placement or as approved by the Engineer. No additional payment will be made for temporary bituminous resurfacing materials.
The price bid for the associated conduit or structure shall include full compensation for furnishing, placing, maintaining, removing, and disposing of such temporary resurfacing materials.

In the event the Contractor does not place temporary resurfacing by end of work day of placing backfill, the Agency may furnish and place temporary resurfacing at the sole expense of the Contractor. The Agency shall deduct such expense from payments due to the Contractor.
Add the following section:

SECTION 313  TRAFFIC SIGNING

313-1  General
The Contractor shall provide and install all permanent traffic control signs as shown on plans and as specified herein. Traffic signs shall comply with Section 206-7, Traffic Signs.

Add the following section:

313-2  Sign Posts
Sign locations shall be approved by the Agency prior to installation.

Sign posts shall be located such that they maintain a minimum of forty-eight (48) inches of clearance between post and back of sidewalk for ADA compliance.

Signs shall have 7’ vertical clearance from bottom of sign to finished surface for one sign and 6’ vertical clearance for a two sign installation.

Each post shall be new and have a maximum of two signs (with different meanings) on each side of a post (maximum number of signs on both sides shall not exceed four).

Sign posts shall be installed per City of Menifee Standard Plan No. 817.

Sign posts located in the median shall be set in an eight (8) inch diameter by twenty-four (24) inch deep PVC sleeve and backfilled with sand to top of sleeve.

Wood posts for Class II & III barricades shall be painted white.

Add the following section:

313-3  Signs
All traffic signs shall conform to the California Manual on Uniform Traffic Control Devices (MUTCD) except as modified herein.

Signs shall be a minimum of twelve (12) inches clear (horizontal) from curb face.

Signs that are forty eight (48) inches wide shall be installed utilizing sign strap hardware on the back.

Signs greater than forty eight (48) inches wide shall be installed utilizing two posts.
Signs shall be installed on existing or new street light poles utilizing ¾” “band it” stainless steel strapping with fasteners.

Single signs mounted on aluminum posts shall include 2 7/8” post caps and double signs shall include 2 7/8” cross saddle.

Signs shall not be installed on utility company poles.

Existing signs shall be salvaged and delivered to the Public Works Department.

Add the following section:

313-4 Measurement and Payment

Permanent signing and appurtenances thereto shown on the plans or required in the specifications shall be paid as part of the lump-sum price bid for Traffic Signing & Striping and shall include full compensation for furnishing all labor, materials, tools, equipment, and incidentals and for doing all work involved in supplying and installing permanent signing, striping, and appurtenances, complete in place, as shown on the plans, as specified in the Standard Specification and these Special Provisions, and as directed by the Engineer.
SECTION 314 TRAFFIC STRIPING, CURB AND PAVEMENT MARKINGS AND

PAVEMENT MARKERS

314-4 APPLICATION OF TRAFFIC STRIPING AND CURB AND PAVEMENT MARKINGS.

Delete the entire section and replace with the following:


314-5 pavement markers.


END OF PART THREE
SPECIAL PROVISIONS

AMENDMENTS TO THE “GREENBOOK”

STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION

PART 4 EXISTING IMPROVEMENTS

SECTION 400 PROTECTION AND RESTORATION

400-1 GENERAL

*Add the following:*

The Contractor shall protect utility facilities relocated prior to or during construction of the Work.

401 REMOVAL

401-1 GENERAL

*Add the following:*

All materials removed shall be disposed of at a legal site outside of the Project Site.

401-3 CONCRETE AND MASONRY IMPROVEMENTS

*Replace the entire subsection with the following:*

All Portland Cement Concrete (PCC) removals, including, but not limited to, cross gutters, curbs, driveway approaches, gutters, sidewalks and spandrels shall be made by removing and replacing the entire section between joints. If any utility cuts are made in PCC improvements, the entire section shall be removed and replaced. Sidewalk removal in front of driveway approaches shall be no less than two squares.

All PCC removals shall have neatly sawed and the sawcut shall be at right angles to the unit’s alignment.

All existing or newly broken, cracked, chipped or damaged PCC within the project limits shall be removed and replaced.

Removal of improvements covered by this section shall include sawcutting and removal of a twenty-four inch (24”) wide section of the adjacent bituminous pavement or as approved by the Engineer. Replacement of said pavement shall be full depth in-kind.

*Add the following section:*
401-8 REMOVE AND SALVAGE/REMOVE AND RELOCATE

The work covers the Remove and Salvage and/or Remove and Relocate of all objectionable or interfering material, natural or man-made, within the public right-of-way and adjoining land within the project limits as shown on the Plans.

The work of Remove and Salvage/Relocate of existing improvements shall conform to the provisions of applicable portions of Sections 401, Removal, and 306-3.3, Abandonment of Conduits and Structures, of the Standard Specifications; referenced sections of other utility standard specifications; referenced sections of the Standard Specifications; as shown on the Plans; as specified in these Special Provisions; and as directed by the Engineer.

The Contractor, unless noted or shown otherwise, shall demolish and remove from the site all existing surface and subsurface improvements adversely affecting or adversely affected by the proposed work.

All known existing improvements are identified on the Plans. These improvements include, but are not limited to, the following: asphalt pavement, water mains, sewer mains, pipe storm drains, gas mains, concrete headwall structures, curb inlets, poles, fencing, lighting, utility appurtenances, etc.

The terminal post of any fence removed shall be reinforced by bracing or other appropriate means to maintain the structural integrity of the fence. Relocation and reconnection of existing fences shown on the plans shall include all posts, hardware, and all incidentals necessary to complete the Work.

401-8.1 Remove and Salvage

All removed and Salvage Items shall require the Contractor to deliver all salvageable materials, including traffic signs and streetlights, to the City of Menifee at time and location to be determined at the preconstruction meeting.

Terminations for street or parking lot lights to be removed and salvaged shall be in accordance with the National Electric Code. To avoid any live wires remaining in service, the entire length of wire extending to street light or street lights being removed shall be disconnected at the power supply and removed from the site. Complete restoration of affected surface improvements shall be required.

The Contractor shall remove existing street signs and miscellaneous signs in conflict with roadway construction and place same at new locations as directed by the Engineer.

401-8.2 Remove and Relocate

The Contractor shall remove and relocate all existing improvements shown on the Plans to be relocated.
All existing water services shall be relocated per EMWD standards and requirements. The Contractor shall inspect and verify that the existing service, including the connection at the main, meets current EMWD standards. Where existing services meet EMWD standards, extension of the service will be allowed at the price bid for water meter relocations.

401-8.3 Abandon In Place

All existing sewer or water facilities to be abandoned within the proposed project limits shall be terminated at the mainline in accordance with EMWD requirements. This shall include removal of sewer and water services back to the main. Sewer laterals shall be capped with concrete at the wye connection. Water services shall be terminated at the corporation stop and the stop closed.

403 Manhole adjustment and reconstruction

403-1 general

Add the following:
Adjusting manholes to grade shall be done in conformance with the City of Menifee Standard detail 814.

404 COLD MILLING.

404.1 General

Add the Following:
Additional widths of cold milling may be required at various locations as determined by the Engineer.

404.9 Traffic Signal Loop Detectors

Delete section and add the following.

Before cold milling pavement within 90 m (300 feet) of a traffic signal, the Contractor shall notify the Agency at least 3 working days prior to commencing work within said area. Upon notification, the Agency will mark the location of all existing loop detectors.

The Contractor shall not mill within 12 inches (300mm) of any existing loop detectors that are shown to be protected in place on the Plans or in the Special Provisions. Traffic signal loop detectors that were shown to be protected in place but are damaged or removed shall be replaced in their entirety in conformance with 7-9.

Damage to the existing loops caused by the Contractor operation will require replacement of the loops in their entirety at the Contractor’s expense.
SPECIAL PROVISIONS
AMENDMENTS TO THE “GREENBOOK”
STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION

PART 6  TEMPORARY TRAFFIC CONTROL

601-1 GENERAL

Add the following:
The Contractor shall supply and install temporary traffic pavement markers, channelizers, signing, railing (type K), crash cushions and appurtenances at the locations shown on the plans and as required in the specifications, complete in place prior to opening the traveled way served by said final and temporary traffic pavement markers, signing, railing (type K) and appurtenances to public traffic.

Add the following sections:

601-7  TEMPORARY RAILING (TYPE K) AND CRASH CUSHIONS

601-7.1 General
Temporary railing (Type K) shall consist of interconnected new or undamaged used precast concrete barrier units as shown on the plans. Temporary sand-filled crash cushions shall consist of new or undamaged used temporary sand-filled crash cushions units as shown on the plans.

601-7.2 Appearance
Exposed surfaces of new and used units of Temporary railing (Type K) shall be freshly coated with a white color paint prior to their first use on the project. The paint shall conform to the provisions in Sections 210-1.5, Paint Systems, and 310, Painting. The Contractor shall be responsible for the removal and cleanup or painting over the graffiti from the K-Rails within 48 hours. The Contractor shall replace or repaint units of Temporary railing (Type K) or shall remove graffiti, tire or vehicle marks, dirt or any and all materials such that said marks or discoloration mar the appearance of said units when ordered by the Engineer after the units are in place.

601-7.3 Manufacture of Temporary Railing
In addition to the requirements herein the temporary railing (Type K) shall be manufactured per CALTRANS Standard Drawing T3A Concrete used to manufacture Temporary railing (Type K) shall conform to the provisions in Sections 201-1, Portland Cement Concrete, and 303-1, Concrete Structures. Load tickets and a Certificate of Compliance will not be required. Reinforcing steel shall conform to the provisions sections 201-1, Portland Cement Concrete, and 303-1, Concrete Structures. Steel bars to receive bolts at ends of concrete panels shall conform to ASTM
Designation: A 36/A 36M. The bolts shall conform to ASTM Designation: A 307. A round bar of the same diameter may be substituted for the end-connecting bolt shown on the plans. The bar shall conform to ASTM Designation: A 36/A 36M, shall have a minimum length of 660 mm and shall have a 75 mm (3") diameter by 9 mm (\(\frac{3}{8}\))" thick plate welded on the upper end with a 5-mm (\(\frac{3}{16}\))" fillet weld. The final surface finish of temporary railings (Type K) shall conform to the provisions in section 303-1.9.2 “Ordinary Surface Finish." Exposed surfaces of concrete elements shall be cured by the water method, the forms-in-place method, or the pigmented curing compound method. The pigmented curing compound shall be type 2 curing compound. Temporary railing (Type K) may have the Contractor’s name or logo on each panel. The name or logo shall not be more than 100 mm in height and shall be located not more than 300 mm above the bottom of the rail panel.

601-7.4 Installation of Temporary Railing

In addition to the requirements herein the temporary railing (Type K) shall be installed per CALTRANS Standard Drawing T3. Temporary railing (Type K) shall be set on firm, stable foundation. The foundation shall be graded to provide a uniform bearing throughout the entire length of the railing. Abutting ends of precast concrete units shall be placed and maintained in alignment without substantial offset to each other. The precast concrete units shall be positioned straight on tangent alignment and on a true arc on curved alignment each rail unit placed within 3 m (10’) of a traffic lane shall have a reflector installed on top of the rail as directed by the Engineer. Reflectors and adhesive will be furnished by the Contractor. A Type P marker panel conforming to the requirements of the CALTRANS Traffic Manual shall also be installed at each end of railing installed adjacent to a two-lane, two-way highway and at the end facing traffic of railing installed adjacent to a one-way roadbed. If the railing is placed on a skew, the marker shall be installed at the end of the skew nearest the traveled way. Type P marker panels shall conform to the provisions of section 206-7.2, “Temporary Traffic Signs”. Where shown on the plans, threaded rods or dowels shall be bonded in holes drilled in existing concrete. When temporary railings (Type K) are removed, any area where temporary excavation or embankment was used to accommodate the temporary railing shall be restored to its previous condition, or constructed to its planned condition.

601-7.5 Temporary Sand-Filled Crash Cushions

Temporary sand-filled crash cushion units shall be “Energite III” manufactured by Energy Absorption Systems, “Fitch Inertial Barrier System Modules” manufactured by Roadway Safety Service, or equal. Features required to determine equivalence of any other temporary sand-filled crash cushion units shall be approval of the system by CALTRANS and that the temporary sand-filled crash cushion units meet NCHRP 350 standards. Other features will be suitability to application, operational characteristics, durability and other such characteristics that the Engineer shall determine. Temporary sand-filled crash cushions (TSFCC) shall be of the type and array configurations shown on plans, and installed at every end of, or gap in, the temporary railing (Type K) whenever the closest point of approach of traffic, regardless of direction, is 4.6 m
(15’) or less to the end of the temporary railing (Type K) being considered. The TSFCC shall be installed per CALTRANS Standard Drawings T1 and T2 for approach speeds no less than the posted speed of the street prior to construction or 55 kilometers per hour (35 mph), whichever is the greater. The TSFCC array shall be appropriate to the application as shown on said standard drawings. A Type J and/or P marker panel conforming to the requirements of the CALTRANS Traffic Manual shall also be installed at each TSFCC array as shown in CALTRANS Standard Drawings T1 and T2. Particular care shall be taken to assure that crash cushions are installed with the soil supporting them and the adjacent soil leveled to match the elevation of the bottom of the temporary railing immediately adjacent to the crash cushion. All routes of approach to the TSFCC array shall be graded such that any vehicle diverging from the traveled way to strike the TSFCC will travel on a vertical alignment parallel to the segment of the travel lane that it departed from.

601-7.6 MEASUREMENT AND PAYMENT

Temporary railing (type K), temporary crash cushions and temporary appurtenances thereto shown on the plans or required in the specifications are a part of the lump-sum item for traffic control and payment therefore shall include full compensation for furnishing all labor, materials, tools, equipment, and incidentals and for doing all the work involved in applying, installing, maintaining, and removing temporary traffic pavement markers, channelizers, signing, railing (type K), crash cushions and appurtenances, complete in place, as shown on the plans, as specified in the Standard Specification and these special provisions, and as directed by the Engineer. Payment for temporary crash cushions, concrete barriers and the signs and reflectors marking them shall include the installation, grading for installation, grading for the approach path, maintenance, painting and re-painting, replacement of damaged units and removal and shall also be included in the lump-sum price bid for traffic control. Payment for installation and/or relocation of K-rails and crash cushions when not shown on the plans and requested by the Engineer shall be made per section 3-3, Extra Work, SSPWC.
SPECIAL PROVISIONS

AMENDMENTS TO THE “GREENBOOK”

STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION

PART 7 STREET LIGHTING AND TRAFFIC SIGNAL SYSTEM MATERIALS

Delete entire section and replace with the following:

700-1 GENERAL

The following specifies the requirements for materials to be installed in the street lighting and traffic signal systems.

The Contractor shall submit, prior to acceptance of the contract, the manufacture’s warranties, guaranties, instruction sheets and parts lists supplied for the material used in the work.

700-2 REFERENCE SPECIFICATIONS.


700-3 STREET LIGHTING SYSTEM MATERIALS.

209-4.9 LIGHT EMITTING DIODE (LED) Luminaires

New or relocated streetlights located within City R/W or City easements are required to include light emitting diode (LED) luminaries. Refer to City of Menifee Street and Safety Lighting Standards and Specifications.

700-4 TRAFFIC SIGNAL MATERIALS.

Add the following:

Refer to City of Menifee Traffic Signal Specification and Installation Manual for special traffic signal equipment and installation requirements.

END OF PART SEVEN
SPECIAL PROVISIONS

AMENDMENTS TO THE “GREENBOOK”

STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION

PART 8  LANDSCAPE AND IRRIGATION

800-1 MATERIALS

800-1.1 Topsoil

Topsoil shall meet requirements of Section 800-1.1.2 “Class A Topsoil”, relating to agricultural suitability.

800-1.1.2 Class “A” Topsoil

Add the following:

d) Salinity. The topsoil shall be reasonably free of harmful salts (ECe rating of 3.0 millisiemens/cm or less) and shall be free from insoluble carbonates and toxic substances harmful to plant growth or a hindrance to maintenance operations.

e) Weeds. The topsoil shall be free of seeds, rhizomes, and runners from objectionable weeds and grasses (nut grass, salt grass, Bermuda grass, kikuyu grass, artichoke, Russian thistle, etc.).

f) Soil analysis. Topsoil shall have the following analysis:
   • pH—6.0 (min.) to 7.5 (max.)
   • SAR—zero (0) to six (6)

g) Topsoil shall consist of no more than five (5) percent by volume of stones smaller than one inch, coarse sand, and small clay lumps.

800-1.2 Soil Fertilizer and Conditioning Materials

800- 1.2.1 General

Add the following:

When required by the Engineer /Inspector or their designated representative, the Contractor shall furnish a Certificate of Compliance stating that the material supplied to the project complies with the specifications.

Delete the following section:
800-1.2.2 Manure

800-1.2.3 Commercial Fertilizer

*Add the following:* Commercial fertilizer shall be a slow release pelleted or granular product with a nutrient release over an 8- to 12-month period, and shall have a chemical analysis as specified herein. Commercial fertilizer shall be free-flowing material delivered to the project site in unopened sacks. Material which becomes caked or otherwise damaged shall not be used.

<table>
<thead>
<tr>
<th>Ingredient</th>
<th>Percentage (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nitrogen</td>
<td>16% - 21%</td>
</tr>
<tr>
<td>Phosphoric Acid</td>
<td>6% - 8%</td>
</tr>
<tr>
<td>Water Soluble Potash</td>
<td>4% - 10%</td>
</tr>
</tbody>
</table>

800-1.2.4 Organic Soil Amendment

*Delete this section and add the following:* Organic soil amendment shall be a ground or processed wood product derived from redwood, fir, or cedar sawdust, or from the bark of fir or pine, treated with a non-toxic agent to absorb water quickly, and shall comply with the following requirements:

<table>
<thead>
<tr>
<th>Gradation: Sieve Size</th>
<th>Percent (%) Passing (minimum)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1/4 in (6.3 mm)</td>
<td>95%</td>
</tr>
<tr>
<td>No. 8 (2.36 mm)</td>
<td>80%</td>
</tr>
<tr>
<td>No. 35 (500 μm)</td>
<td>30%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Nitrogen Content (%)</th>
<th>dry weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>Redwood</td>
<td>0.4 - 0.6%</td>
</tr>
<tr>
<td>Fir</td>
<td>0.56 – 0.84%</td>
</tr>
<tr>
<td>Cedar</td>
<td>0.56 – 0.84%</td>
</tr>
<tr>
<td>Fir Bark</td>
<td>0.8 – 1.2%</td>
</tr>
<tr>
<td>Pine Bark</td>
<td>0.8 – 1.2%</td>
</tr>
</tbody>
</table>

**Salinity**

Maximum saturation extract conductivity: 6.35 millihos per inch (2.50 millisiemens/centimeter) at 25°C (77°F).

**Wetability**
When one teaspoon of tap water is applied to 4 cubic inches (volumetric ratio of 1:15) of the air-dry product, the material shall become completely damp in a period not exceeding 2 minutes. Any wetting agent added shall be guaranteed non-phytotoxic at the rate used.

800-1.2.5 Mulch.

Delete this section and add the following:
Mulch shall be as designated in accordance with the requirements herein. Mulch shall be from a bulk source approved by the Engineer in advance of delivery to the Work site.

Type 1 mulch (ground wood product), shall comply with the requirements for Type 1 organic soil amendment.

Type 5 mulch (fir bark chips), shall be fir bark chips in the gradation specified.

Type 6 mulch (straw), shall be either threshed new straw or stable bedding material derived from rice, oats or barley. Straw in an advanced state of decomposition will not be acceptable.

SECTION 801 INSTALLATION

801-2 earthwork and topsoil placement

Add the Following sub-section:
801-2.2.3 Agronomic Soil Test

Prior to ordering material and delivery to the site, and prior to soil amendment and preparation, Contractor shall obtain soil samples from proposed topsoil material as approved by the Engineer. Contractor shall transmit soil samples to an approved agronomic soil–testing laboratory for analysis. Provide a soil analysis report from the laboratory, with recommendations for soil amendment and preparation. Submit a copy of the report to the Engineer for review. Contractor shall pay for soil sampling and testing. Soil analysis shall indicate following soil properties:

(a) organic matter content (%)
(b) fertility—nitrogen (N), phosphorus (P), potassium (K)
(c) pH reaction (acid–neutral–alkaline)
(d) ECe (salinity)
(e) SAR (sodium absorption ratio)
(f) particle size analysis (% sand, % silt, % clay)
(g) micronutrients (calcium, magnesium, copper, zinc, manganese, iron)
(h) specific toxicities (boron, chloride, fluoride, sodium, etc.)
(i) percolation (water infiltration rate)
(j) recommendations for amendments
SPECIAL PROVISIONS

AMENDMENTS TO THE “GREENBOOK”

STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION

PART 9  RECYCLED ASPHALT CONCRETE

900-1 COLD-IN-PLACE RECYCLED ASPHALT CONCRETE PAVEMENT (CIRACP).

900-1.1 GENERAL. CIRACP shall consist of 100 percent reclaimed asphalt pavement (RAP), emulsified recycling agent, and other additives uniformly mixed, spread, compacted, finished, and cured such that the in-place mixture forms a dense, uniform mass conforming to the thickness, lines, grades, and cross sections shown on the Plans.

900-1.2 SUBMITTALS.

At the time of bid, the Contractor shall furnish the following information regarding the Cold In-place Recycling (CIR) to the Engineer. Approval of the Contractor or Subcontractor performing the CIR is at the discretion of the Engineer.

1) Emulsion and emulsion supplier. Identification that the proposed recycling emulsion has been successfully used on at least five (5) other CIR asphalt projects in California over the past five (5) years, including project name, agency/owner, project engineer, and construction dates.

2) Description and specification of the proposed CIR recycling unit and support equipment.

3) The Contractor (or Subcontractor) shall have completed a minimum of five (5) CIR asphalt projects in the last three (3) years. Submit project name, agency/owner, project engineer, and construction dates.

4) The CIR recycling unit shall demonstrate the ability to crush and screen the RAP used in the CIR process and remove pavement reinforcing fabric during the recycling.

5) Verification the CIR recycling unit meets the proportioning requirements of California Test 109 and the applicable Air Quality Control district permits.

Additional Submittals if required by engineer:

a) CIRACP mix design (job mix formula).

b) Two, 2-quart samples of emulsified recycling agent with the CIRACP mix design submittal.
c) Quality Control Plan per 900-1.6.2.

The Contractor shall submit the following to the Engineer during production and placement:

d) Test results and Certificates of Compliance conforming to 4-1.5 of the Special Provisions for the emulsified recycling agent and additive with each delivery to the Work site. Test results may represent a batch or a Day of production. An AASHTO-accredited laboratory shall perform the testing.

e) Certified weigh master certificates showing the net weight of each load of emulsified recycling agent, additive, emulsified asphalt (fog seal coat), and sand (sand cover) delivered to the Work site.

f) On a daily basis during cold-in-place recycling operations, the Contractor shall submit:

   i) Quality control inspection records, and sampling and test results.
   ii) One, 2-quart sample of emulsified recycling agent from each load delivered to the Work site no later than 1 hour after samples are taken.
   iii) Batch logs for cement or lime slurry production.
   iv) Dilution data for emulsified asphalt.

g) During supplemental compaction of the CIRACP surface: quality control inspection records, and sampling and test results.

900-1.3 MATERIALS.

900-1.3.1 General. Materials include RAP, emulsified recycling agent, additive, and water.

900-1.3.2 Reclaimed Asphalt Pavement (RAP). RAP shall be produced by cold milling the existing asphalt concrete pavement to be recycled. RAP shall be crushed and screened in accordance with 903-1.8.6.

900-1.3.3 Emulsified Recycling Agent. Emulsified recycling agent shall conform to the requirements shown in Table 900-1.3.3 (A).
Table 900-1.3.3 (A): Emulsified Recycling Agent

<table>
<thead>
<tr>
<th>Test on Emulsion:</th>
<th>Test Method</th>
<th>Requirement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sieve test, % of weight sample</td>
<td>AASHTO T59</td>
<td>--- 0.1</td>
</tr>
<tr>
<td>Residue by distillation, %</td>
<td>AASHTO T59</td>
<td>60 --</td>
</tr>
<tr>
<td>Rap Coating Test (min.)</td>
<td>AASHTO T59</td>
<td>Good</td>
</tr>
</tbody>
</table>

Tests on Residue by Distillation:

<table>
<thead>
<tr>
<th>Test on Residue by Distillation:</th>
<th>Test Method</th>
<th>Requirement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Penetration at 25°C, 100g / 5 sec (TV) (min.)</td>
<td>AASHTO T49</td>
<td>TV +/- 25 percent 3</td>
</tr>
<tr>
<td>Absolute Viscosity at 60°C, pascal second (x10^-1) (TV)</td>
<td>AASHTO T2171</td>
<td>Report Only</td>
</tr>
</tbody>
</table>

Notes:
1. Modify AASHTO T 59 - distillation temperature of 350ºF with a 20-minute hold.
2. CIRACP mixture emulsified recycling agent and water application rates to be determined using Work site RAP in CIRACP mix design and submitted in the job mix formula.
3. Target value (TV) is determined for emulsified recycling agent chosen for use and submitted in the job mix formula.
4. Sieve residue from distillation on No. 20 sieve before determining viscosity.

Paving asphalt used to make the emulsified recycling agent shall be PG 64-10 conforming to 203-3.1 of the SSPWC.

At the Contractor’s option, the emulsified recycling agent may contain a latex polymer and/or a rejuvenating agent. The latex polymer shall conform to the requirements shown in Table 900-1.3.3 (B). The rejuvenating agent shall conform to the requirements shown in Table 900-1.3.3 (C).

Table 900-1.3.3 (B): Latex Polymer

<table>
<thead>
<tr>
<th>Test on Latex Polymer</th>
<th>Test Method</th>
<th>Requirement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Specific Gravity, min.</td>
<td>ASTM 1475</td>
<td>1.08</td>
</tr>
<tr>
<td>Tensile strength, die C dumbbell, psi, min.</td>
<td>ASTM D412  5</td>
<td>500</td>
</tr>
<tr>
<td>Swelling in rejuvenating agent, % max. 48 hours exposure @ 104°F</td>
<td>ASTM D471 Modified</td>
<td>40% intact film</td>
</tr>
</tbody>
</table>

Notes:
5. Tensile Strength Determination: Samples for testing for tensile strength in accordance with ASTM D412 shall be cut using a die dumbbell at a crosshead speed of 20 inches/min.
6. Latex Testing: Suitable substrate for film formation shall be polyethylene boards, silicone rubber sheeting, glass, or any substrate which produces a cured film of uniform cross-section. Polymer film shall be prepared from latex as follows:

Resistance to Swelling: Polymer films shall be formed by using a 50-mil drawdown bar and drawing down 50 mils of the latex on polyethylene boards. Films shall be cured for 14 Days at 75°F and 50% humidity. Samples for resistance to swelling in rejuvenating agent shall be 1” by 2” rectangles cut from the cured film. Cut at least 3 specimens for each sample to be tested for swelling. Fill 3- 8 oz. ointment tins with at least a ½” deep of rejuvenating agent. Swelling samples shall be weighed and then placed in the ointment tins on top of the
rejuvenating agent. Then, add at least another ½” deep of rejuvenating agent over each of the latex samples. The ointment tins shall be covered and placed in an oven at 104°F for the specified 48 hours +/- 15 minutes. The ointment tins are allowed to cool to 75°F and then the latex films are removed from the tins. Unabsorbed rejuvenating agent is removed from the intact latex film by scraping with a rubber policeman and blotting with paper towels. If the latex film does not remain intact during removal from the tins or while removing the unabsorbed rejuvenating agent the sample shall be rejected. After the rejuvenating agent is removed from the samples they are then weighed. Percent swelling is reported as weight increase of the polymer film; report mass increase as a percent by weight of the original latex film mass upon exposure of films to the recycling agent.

<table>
<thead>
<tr>
<th>Test on Rejuvenating Agent</th>
<th>Test Method</th>
<th>Requirement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Viscosity, 140 °F, CST</td>
<td>ASTM D2170</td>
<td>50-175</td>
</tr>
<tr>
<td>Flash Point, °F, COC</td>
<td>ASTM D92</td>
<td>380 Min.</td>
</tr>
<tr>
<td>Saturate, % by weight</td>
<td>ASTM D2006-70</td>
<td>30 Max.</td>
</tr>
<tr>
<td>Asphaltenes</td>
<td>ASTM D2872</td>
<td>1.0 Max.</td>
</tr>
<tr>
<td>Test on Residue</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Weight Change, %</td>
<td>ASTM D2872</td>
<td>6.5 Max.</td>
</tr>
<tr>
<td>Viscosity Ratio</td>
<td>ASTM D2170</td>
<td>3 Max.</td>
</tr>
</tbody>
</table>

900-1.3.4 Water. Water added shall be potable, clean, and free of deleterious concentrations of acids, alkalis, salts, sugar and other organic or chemical substances.

900-1.3.5 Additive. If an additive is specified in the approved mix design, it shall be either Type II Portland cement or lime.

Portland cement shall conform to 201-1.2.1 of the SSPWC. Portland cement shall be limited to no more than 1.0 percent by dry weight of RAP.

Lime shall conform to the chemical requirements in ASTM C977 except it shall have a minimum of 90 percent available calcium oxide. Air slaked, by-product or waste lime is not permitted and will be rejected. Quicklime shall be supplied from a single source, protected from moisture until application, and sufficiently dry to flow freely when handled. Dry lime shall be high-calcium quicklime. Lime slurry shall be produced at the Work site.

The additive shall be incorporated into the CIRACP mixture as specified in the CIRACP mix design.
900-1.3.6 Emulsified Asphalt. Emulsified asphalt for fog seal coat shall be CSS-1h conforming to 203-3.4.3 of the SSPWC.

900-1.3.7 Sand. Sand for sand cover shall conform to 200-1.5.3 of the SSPWC.

900-1.4 MIX DESIGN.

The Contractor will prepare the mix design for this Contract. The mix design will be furnished to the Agency. The emulsified recycling agent percentage, by dry weight of RAP, shall be determined by the Contractor and verified by an independent laboratory at the Contractors expense.

903-1.4.1 General. The Contractor shall submit a mix design(s) in accordance with 2-5.3 and 900-1.2 of the Special Provisions. The mix design(s) shall be prepared by a Caltrans certified testing laboratory, and signed and stamped by a State of California Registered Civil Engineer. The component materials used in the mix design(s) must be the same materials that will be used during CIRACP production and placement.

Based on the characteristics of the RAP taken from the Work site, more than one mix design may be required. The CIRACP mixture shall conform to the requirements shown in Table 900-1.4.1.

Table 900-1.4.1 CIRACP Mixture Design Requirements

<table>
<thead>
<tr>
<th>Quality Characteristic/Test Method</th>
<th>Requirement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gradation of Reclaimed Asphalt Pavement (RAP): CT 202</td>
<td>Passing 1-inch</td>
</tr>
<tr>
<td>Asphalt Content of RAP: CT 362 or CT 379 or ASTM D 2172 Method B</td>
<td>Report</td>
</tr>
<tr>
<td>Bulk Specific Gravity of Compacted Samples: CT 308, Method C</td>
<td>Report</td>
</tr>
<tr>
<td>Maximum Theoretical Specific Gravity: CT 309, including provisions of Section J</td>
<td>Report</td>
</tr>
<tr>
<td>Air Voids of compacted and cured specimens: CT 367, Part B</td>
<td>Report</td>
</tr>
<tr>
<td>Marshall Stability, cured Specimen: AASHTO T 245, 104 °F (min.)</td>
<td>1250 lbs.</td>
</tr>
<tr>
<td>Marshall Retained Stability, AASHTO T 245, 104 °F based on Moisture Conditioning on cured Specimen (min.)</td>
<td>70% 4</td>
</tr>
<tr>
<td>Ratio of Emulsion Residue to Cement (min.)</td>
<td>3.1</td>
</tr>
<tr>
<td>Raveling Test of Cold Mixed Bituminous Emulsion, ASTM D 7196, 50 °F (max.)</td>
<td>7.0%</td>
</tr>
<tr>
<td>RAP Coating Test, AASHTO T59 (min.)</td>
<td>Good</td>
</tr>
</tbody>
</table>

Notes:
1. 4-inch diameter mold compaction based on either 75 blow Marshall on each side or gyratory compactor at 30 gyrations.
2. Test specimens after 140°F curing to constant weight between 16 hours and 48 hours.
3. Vacuum saturation from 55 percent to 75 percent. Water bath at 77 °F for 23 hours, with the last 30 minutes to 40 minutes in 104 °F water bath.
4. The Marshal Retained Stability ratio may be reduced to 60%, providing the saturated Marshall Stability is at least 1500 lbs.
During preparation of the mix design, the Contractor shall determine the target values for penetration at 77°F and viscosity at 140°F of the emulsified recycling agent to be used in the production of the CIRACP mixture. The Contractor shall provide current test results for the emulsified recycling agent and additives at the time of the mix design.

900-1.4.2 Emulsified Recycling Agent Percentage.

900-1.4.2.1 General. This procedure is used to determine the percent and grade of the emulsified recycling agent to be used when constructing CIRACP.

900-1.4.2.2 Core Samples. A representative baseline of core samples for use in the mix design(s) shall be taken from the existing pavement at the Work site. A minimum of one core shall be obtained for each 1/2 lane-mile, and where visual differences in the pavement type or structural section occur. Cores shall be cut to the depth shown on the Plans for CIRACP.

When core samples indicate a significant variation in the type or thickness of existing pavement courses, separate mix designs shall be developed for each common pavement type segment.

A minimum of 350 pounds of RAP shall be obtained from the Work site for use in determining the mix design(s). A representative sample of each common pavement type shall be tested in accordance with California Test 362, California Test 379, or California Test 382 to determine the asphalt content of the RAP.

Two mix designs shall be developed for each gradation shown in Table 900-1.4.2.2 below by recombining the RAP material.

<table>
<thead>
<tr>
<th>Sieve Size</th>
<th>Target Value (Percent Passing)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Medium Gradation</td>
</tr>
<tr>
<td>1”</td>
<td>100</td>
</tr>
<tr>
<td>3/4”</td>
<td>95±2</td>
</tr>
<tr>
<td>No. 4</td>
<td>50±2</td>
</tr>
<tr>
<td>No. 30</td>
<td>10±2</td>
</tr>
<tr>
<td>No. 200</td>
<td>0.8±0.3</td>
</tr>
</tbody>
</table>

Gradation of the RAP after milling or crushing shall be determined in accordance with California Test 202 with the exception that drying of RAP samples to constant mass shall be performed at 104 ± 4°F.

900-1.4.2.3 Mixing Specimen Size. The Contractor shall determine the amount of RAP necessary to produce a 2.5 ± 0.1 inch tall specimen when compacted in accordance with 900-1.4.2.5.
900-1.4.2.4 Number of Specimens. The Contractor shall select 3 emulsified recycling agent values bracketing the estimated recommended emulsified recycling agent content for the stability tests. The 3 values, in either 0.5 percent or 1.0 percent increments, shall cover a range between 0.5 percent and 4.0 percent by dry weight of RAP.

For stability testing 6 samples shall be compacted at each emulsified recycling agent value, 3 for Marshall stability on cured samples, and 3 for Marshall stability on cured samples for moisture conditioning.

Two specimens shall be used to determine the theoretical maximum specific gravity in accordance with California Test 309, Section J, with the exception that the loose RAP mixture shall be cured in an oven at 140 ± 2°F to constant weight (0.05 percent change in weight in 2 hours) for not less than 16 hours and not more than 48 hours. Any agglomerates which will not easily reduce with a flexible spatula shall be left unbroken. Both specimens shall be tested at the highest emulsified recycling agent content in the design, and the lower emulsified recycling agent values shall be back-calculated.

Moisture shall be added at a rate expected to match that at the milling head, typically between 1.5 to 2.5 percent.

If an additive is used, it shall be incorporated in a manner to emulate field production.

Mixing of test specimens shall be performed manually, with a mechanical bucket mixer, or by a combination of the two. RAP shall first be thoroughly mixed with water, then with emulsified recycling agent, one specimen at a time, at an ambient temperature of 77 ± 4°F. The mixing time with emulsified recycling agent shall not exceed 60 seconds.

900-1.4.2.5 Compaction of Specimens. Specimens shall be compacted after mixing at an ambient temperature of 77 ± 4°F.

For stability testing purposes, specimens shall be compacted in 4-inch molds with a Marshall compactor by applying 75 blows per side or with a gyratory compactor at 30 gyrations.

Molds and test equipment shall remain unheated.

Paper disks, when used, shall be placed on the top and bottom of the specimen before compaction, and removed immediately after compaction.

Specimens shall be removed from molds after compaction without damage to the samples.
**900-1.4.2.6 Curing Specimens after Compaction.** Specimens shall be placed in a 140 ± 7°F forced draft oven with ventilation on the top and sides. Each specimen shall be placed in a small container to account for material loss.

Compacted specimens shall be cured at 140 ± 2°F to constant weight (< 0.05 percent change in weight in 2 hours), but for no more than 48 hours and no less than 16 hours. After curing, specimens shall be cooled at ambient temperature for a minimum of 12 hours and a maximum of 24 hours.

The same oven conditioning and volumetric measurements on moisture-conditioned specimens shall be used as on other specimens.

Moisture conditioning shall be performed on 3 compacted samples at each emulsified recycling agent content value by applying a vacuum of 10 to 26 inches of mercury (Hg) partial pressure for a sufficient duration to vacuum saturate samples to 55 to 75 percent. Saturation shall be calculated by comparing saturated surface mass with dry mass in air. Moisture conditioned samples shall be soaked in a 77 ± 2°F water bath for a minimum of 22 hours and a maximum of 24 hours, followed by a 30 to 40 minute soak at 140 ± 2°F.

**900-1.4.2.7 Testing.** Asphalt content of the RAP shall be determined in accordance with California Test 362, California Test 379, or California Test 382.

Bulk specific gravity shall be determined on each compacted, cured, and cooled specimen in accordance with California Test 308, Method C. Specimen heights shall be determined in accordance with California Test 308 Section D2e. Alternatively, the height can be obtained from the SGC readout if the gyratory compactor is used.

Maximum theoretical specific gravity shall be determined in accordance with California Test 309, Section J, with the exception specified in 900-1.4.2.4.

Air voids of the compacted and oven-cured samples of each emulsified recycling agent content value shall be determined in accordance with California Test 367, Part B.

Corrected Marshall Stability shall be determined in accordance with AASHTO T245 at 140 ± 2°F after 2 hour temperature conditioning in a forced draft oven or immersion in a water bath for 30 to 40 minutes. This test shall be performed at the same time as testing of the moisture-conditioned specimens.

“Marshall Retained Stability” shall be defined as the conditioned specimen strength divided by the average dry specimen strength.
Raveling percentage shall be determined in accordance with ASTM D7196.

900-1.4.3 Mix Design Submittal. The mix design submittal shall include the following:

a) Results of all tests conducted.

b) Gradations of RAP used.

c) Recommended quantity of emulsified recycling agent as a percentage by weight of dry RAP for each gradation.

d) Recommended water content range as a percent of dry RAP for each gradation.

e) Recommended quantity of the additive (if used) as a percentage by weight of dry RAP for each gradation.

f) Compaction apparatus used to form the Marshall test specimens.

g) Target values for the emulsified recycling agent used in the CIRACP mixture for penetration at 77°F and viscosity at 140°F.

h) For the emulsified recycling agent and the additive (if used), the following shall be provided:

   i) Designation or product name.
   ii) Company name and location of manufacture.
   iii) Residue content for emulsified recycling agent.
   iv) Certificates of Compliance with test results.

i) Process for incorporating the additive (if used).

j) Preliminary estimates of the time intervals between CIRACP mixing and compaction relative to ambient temperature.

900-1.5 EQUIPMENT.

900-1.5.1 General. Equipment shall consist of one or more cold milling machines, a recycling train of equipment specifically designed and constructed to produce CIRACP, a paving machine, and rollers.

900-1.5.2 Cold Milling Machines. Cold milling machines shall conform to 302-1.2 of the Standard Specifications, except the cutting drum of the cold milling machine in front of the crushing and screening equipment shall be a minimum of 12 feet wide and the machine shall be
equipped with automatic depth and cross slope controls and capable of maintaining the cutting depth to within 1/4 inch of the depth shown on the Plans.

**900-1.5.3 Crushing and Screening Equipment.** Crushing and screening equipment shall be capable of producing RAP of the specified size (1 inch minus) before mixing with the emulsified recycling agent, and of routing all oversize material through the crusher and re-screening to the specified size.

**900-1.5.4 Mixing and Proportioning Unit.**

**900-1.5.4.1 General.** The mixing and proportioning unit shall be calibrated in accordance with California Test 109 such that it dispenses the emulsified recycling agent, additive, and water at the quantities required to produce a homogenous mixture of thoroughly and uniformly coated RAP of unchanging appearance.

The mixing and proportioning unit shall be calibrated not less than 5 Working Days prior to the start of production. Calibration shall only be performed in the presence of the Engineer unless otherwise approved.

**900-1.5.4.2 Pugmill.** The mixing unit shall be an on-board, completely self-contained counter rotating twin shaft pugmill appropriately rated by the manufacturer for the level of production. The mixing unit shall be equipped with a belt scale for the continuous weighing of the RAP and a coupled/interlocked computer-controlled liquid metering device. The liquid metering device shall be capable of automatically adjusting the flow of emulsified recycling agent to compensate for any variation in the weight of the RAP introduced into the pugmill.

Emulsified recycling agent shall be metered by weight of RAP using a mass flow, coriolis-effect-type, meter capable of measuring the amount of emulsified recycling agent to within 0.5 percent of the amount required by the mix design or as adjusted in the field and approved by the Engineer. Other additives, including water as required, shall be controlled and metered based on the weight of RAP introduced into the pugmill. Additives may be introduced volumetrically or by weight in accordance with the mix design.

The pugmill shall:

a) operate continuously using an integrated microprocessor control system to control the weight of RAP being delivered to the mixing chamber;

b) have automatic controls;

c) automatically display digital readings for both the flow rate and the total amount of RAP, emulsified recycling agent, and additives in the appropriate units of weight and time.
d) be equipped with paddles of a type and arrangement to provide sufficient mixing and movement of RAP, emulsified recycling agent, and additives; and

e) be configured such that no build-up of fines or other segregated material develops, and all materials entering at the feed end of the mixing chamber exit uniformly at the discharge end without clumping.

900-1.5.5 Water Storage and Supply Equipment. The water storage and supply equipment shall serve as an independent, supplemental water source separate from the source of water for the cold milling machine. The supplemental water system shall be interlocked with the RAP control microprocessor. The water source for the emulsified recycling agent shall be independent of the water source for cement or lime slurry.

900-1.5.6 Cement or Lime Storage and Supply Equipment. Cement or lime storage and supply equipment shall be equipped with agitators capable of keeping the cement or lime in suspension during transport or when held in the slurry feed tank. Cement and lime slurry shall be added directly to the pugmill or sprayed over the cold milling machine cutting teeth.

900-1.5.7 Paving Machine. The paving machine shall be a self-propelled, track-equipped spreading and finishing machine (“track paver”) conforming to 302-5.5 of the Standard Specifications, equipped with a fully automatic screed control system, and coupled to a windrow pickup machine.

The automatic screed control system shall be in operation at all times during placement. The system shall be either a contact (skid) or non-contact (sonic averaging) system. The skid shall be a minimum of 30-feet long, mounted on the side of the spreading and finishing machine which will receive the next mat of material, and placed in contact with the pavement surface. The sonic averaging system shall have a ski, a minimum of 24 feet long, mounted on the side of the spreading and finishing machine which will receive the next mat of material.

The integral track paver/windrow pickup machine shall be capable of forward progress at a rate consistent with that of windrow production, completely picking up the windrow, and conveying and depositing the CIRACP mixture directly into the hopper of the track paver.

900-1.5.8 Rollers. Rollers shall conform to 302-5.6 of the Standard Specifications. A minimum of one pneumatic-tired roller weighing 25 tons and one vibratory, double steel drum roller weighing at least 10 tons shall be on the Work site and operated during placement. Rollers shall not be less than 5-1/2 feet wide. Each roller shall have a working water spray system and working scrapers. The number of rollers used shall be consistent with the rate of CIRACP placement.

900-1.6 QUALITY CONTROL PROGRAM.
900-1.6.1 General. The Contractor shall implement a quality control program throughout the production and placement of CIRACP. The quality control program shall consist of the preparation and implementation of a Quality Control Plan.

900-1.6.2 Quality Control Plan (QCP). The Contractor shall prepare and submit in accordance with 2-5.3 and 903-1.2 a QCP which includes the following:

a) Name(s) of personnel responsible for quality control and their qualifications.

b) Name(s) and qualifications of the independent testing laboratory and staff personnel to be assigned.

c) Specific procedures to be followed during CIRACP placement and production.

d) The organization, responsible parties, and procedures to address quality control issues, the conditions when corrective actions are needed, and implementation of corrective actions when required.

e) Equipment list, including manufacturer, model, and evidence of compliance with the requirements of 900-1.5.

f) The inspection, sampling, testing, and reporting requirements specified in 900-1.6.3.

g) A contingency plan for corrective actions that will be taken to ensure that the Work site will be opened to traffic at the end of each Working Day or at the scheduled or specified time of re-opening. Corrective actions shall include repairing the roadway using hot mix asphalt concrete in conformance with 300-5 of the Standard Specifications. Hot mix asphalt concrete pavement, when required, shall be C2-PG 70-10 conforming to 203-6 of this Special Provisions and the Standard Specifications.

h) Copies of the forms that will be used to provide all required inspection records and sampling and testing results.

The Quality Control Plan must be approved by the Engineer prior to the start of CIRACP production and placement.

900-1.6.3 Implementation.

900-1.6.3.1 General. The Contractor shall retain and provide an independent testing laboratory (ITL) to perform quality control inspection, sampling, testing, and reporting as part of its Quality Control Program.
The ITL must be certified by Caltrans. ITL personnel must be certified by Caltrans for the tests they will perform.

The Engineer shall have unrestricted access to all information resulting from quality control inspection, sampling, and testing activities.

The Contractor shall satisfy itself that its materials and workmanship, including those of its subcontractors and suppliers, are in conformance with the Contract Documents.

**900-1.6.3.2 Inspection, Sampling, and Testing.** The ITL shall perform inspection, sampling, and testing at a rate sufficient to ensure that the CIRACP mixture, placement, compaction and finish surface conforms to the Specifications.

The ITL shall maintain accurate records of all tests it performs as part of the Quality Control Program and shall make these records available to the Engineer upon request.

**900-1.6.3.3 Reporting.** The basis of reporting to the Engineer shall be a Lot. A Lot shall be defined as 3,000 square yards or fraction thereof of CIRACP constructed during the same Day. The CIRACP mix design information shall be included on the form used to record and report the quality control measurements and calculations.

For each Lot, the ITL shall measure or calculate, record, and report to the Engineer each Day the following:

a) The actual recycle depth at each end of the milling drum at least once every 300 feet along the cut length.

b) Length, width, depth of cut and calculated weight in tons of material processed.

c) Weight of emulsified recycling agent added in tons.

d) Percentage of added emulsified recycling agent by weight of the CIRACP mixture. The amount of emulsified recycling agent shall be within 0.5 percent of the value established in the CIRACP mix design. The percent shall be determined based on the ratio of emulsified recycling agent used to the theoretical dry weight of the RAP processed.

e) Maximum particle size of the sized RAP prior to the addition of the emulsified recycling agent. If the RAP does not meet the allowable maximum particle size, the test results shall be reported immediately to the Engineer. Re-process the material or take other corrective actions to attain conformance.

f) Wet field gradation test results for material passing the 1 inch through No. 4 sieves on the first and every fourth sample. Compare the sieved sample to the gradation band determined from the CIRACP mix design and adjust the emulsified recycling agent as needed.

g) Maximum obtainable density used for relative compaction calculation.
h) Nuclear gauge in-place density and relative compaction. Perform compaction testing within each Lot at 10 random locations. Relative compaction of the Lot shall be the average of the 10 locations divided by maximum obtainable density obtained in the test strip (as percent). Relative compaction of each of the 10 individual locations must be greater than or equal to 95 percent and less than or equal to 105 percent of the maximum obtainable density obtained in the test strip. Relative compaction of the Lot must be greater than or equal to 97 percent and less than or equal to 103 percent of the maximum obtainable density obtained in the test strip. Re-work or re-process any Lot not in conformance.

i) Ambient and compacted recycled pavement surface temperatures.

j) Maximum theoretical density under California Test 309 and void ratio (Report Only). On a daily basis during CIRACP operations, the Contractor shall take and split a sample of the CIRACP from a location approved by the Engineer. The samples shall be split into 2 parts and the containers labeled with the location and station. The Contractor shall submit 1 container to the Engineer and use the other for testing. The maximum theoretical density shall be determined in accordance with California Test 309. The maximum theoretical density shall be used to calculate the void ratio for each nuclear gauge site and Lot. The Contractor shall report daily, quality control inspection records and sampling and test results.

k) 12-foot straightedge measurements, both initial and after corrections.

l) Rate of fog seal coat application.

m) Rate of sand cover application.

900-1.6.3.4 Adjustments. The Contractor shall adjust the rate of emulsified recycling agent, additive, and water as necessary based on the coating, compaction and breaking properties of the emulsified recycling agent. For any changes made by the Contractor from one Lot to the next, the Contractor shall document the reason for the change and identify each Lot where such changes were made.

900-1.6.3.5 Rolling Pattern Re-Establishment. A new rolling pattern and a new maximum obtainable density shall be established if any of the following occurs:

a) Relative compaction of any of the 10 individual locations is less than 95 percent or greater than 105 percent of the maximum obtainable density obtained in the test strip.

b) Relative compaction of the Lot is less than 97 percent or greater than 103 percent of the maximum obtainable density obtained in the test strip.

c) There are changes in the RAP, or the CIRACP mixture or proportions.
d) There are changes in placement equipment or procedures.

e) There is a significant change in temperature or weather conditions, or other environmental controlling factor.

f) There is major displacement and/or cracking of the CIRACP mixture.

Should a change in the rolling pattern or additional rolling produce results that do not meet the relative compaction requirements, additional test strips shall be constructed to determine the maximum obtainable density for the CIRACP mixture being produced, and the rates of the emulsified recycling agent, additive, and water for the existing Work site conditions.

900-1.7 JUST-IN-TIME TRAINING (JITT).

900-1.7.1 General. JITT is a formal joint training class on CIRACP materials, equipment, placement, compaction methods, and quality control. JITT may be conducted as an extension of the Pre-Paving Conference per 903-1.8.3 at the Contractor’s option. Construction operations for CIRACP shall not begin until the Contractor's personnel have completed the mandatory training.

900-1.7.2 Class Requirements. The JITT class must be:

a) At least 2 hours long.
b) Completed within 7 Days before beginning CIRACP work.
c) Conducted during normal working hours.

The following Contractor personnel shall complete JITT:

d) The Contractor’s project manager.
e) The Contractor’s Representative per 7-6.2 of the SSPWC.
f) The Contractor’s paving foreman.
g) The Contractor’s paving equipment operators.
h) Quality control staff.
i) Testing technicians.

The following personnel will also be in attendance:

j) The Engineer and other Agency staff.

The training class shall be conducted at a location convenient for both the Contractor and the Engineer. Personnel having attended CIRACP JITT in the last 12 months must submit certificates of completion when requesting exemption from attendance.
The JITT instructor shall be provided by the Contractor, and shall be experienced in the construction methods, materials, and test methods associated with construction of CIRACP projects. The JITT instructor shall not be an employee of the Contractor, any Subcontractor, or of the Agency. Upon completion of JITT, the instructor shall issue a certificate of completion to the participants.

The Contractor and the Engineer will mutually agree to the course instructor, course content, and training site. Just-In-Time Training shall not relieve the Contractor of responsibility under the Contract for the successful completion of the Work in conformance with the requirements of the Plans and Specifications.

900-1.7.2.1. Payment. Payment shall be considered as included in the various item for CIRACP and no additional compensation will be allowed.

900-1.7.3 Submittals. The Contractor shall submit the following to the Engineer a minimum of 21 Days prior to the scheduled date of the JITT:

a) Name(s) of instructor(s) and their qualifications and work experience.
b) Copy of course syllabus, handouts, and presentation materials.
c) JITT facility location.
d) Staff name, title, duties/assignment attending the JITT.

900-1.8 PRODUCTION AND PLACEMENT.

900-1.8.1 General. CIRACP operations shall neither start nor be performed during wet conditions as determined by the Engineer or if rain or cold conditions (less than 50°F) are forecast within a 48 hour period by the National Weather Service for the most representative and nearest location listed where the CIRACP is to begin and end.

The forecast ambient temperature shall be a minimum of 60°F and rising until initial compaction and protection operations have been completed for that Day. CIRACP operations shall cease if the actual ambient temperature drops below 60°F any time after an initial 3-hour window following start-up. CIRACP operations shall be completed at least 2 hours before sunset. CIRACP damaged by inclement weather shall be replaced by the Contractor as directed by the Engineer.

Neither gaps of un-recycled pavement material between successive cuts along the same longitudinal cut line nor untreated wedges shall be created by the entry of the milling drum into the existing pavement. Longitudinal joints between successive cuts shall overlap a minimum of 4 inches.

900-1.8.2 Sequence of Work. The general sequence of work shall be as follows:
a) Surface Preparation.  
b) Test Strip.  
c) Cold milling, crushing, and screening.  
d) Mixing and proportioning.  
e) Spreading and initial compaction.  
f) Fog seal coat and sand cover.  
g) Curing and protection.  
h) Supplemental compaction.

900-1.8.3 Pre-Paving Conference. A minimum of 5 Working Days prior to the scheduled start of CIRACP placement and production, the Engineer will arrange a meeting with the Contractor’s Representative, the Contractor’s paving foreman, the CIRACP subcontractor, materials suppliers, and representatives of the Agency. The following will be discussed:

a) Equipment.  
b) Rate of production and placement.  
c) Test Strip.  
d) Contractor Quality Control Program implementation.  
e) Agency quality assurance.  
f) Traffic control.  
g) Other topics as may be proposed.

900-1.8.4 Roadway Surface Preparation. Prior to the start of CIRACP operations, the Contractor shall prepare the roadway surface by:

a) Removing any dirt, vegetation, standing water, combustible materials, oils, raised pavement markers, thermoplastic striping and pavement markers, and objectionable materials.

b) Referencing the existing pavement profile and cross slope as shown on the Plans.

c) Marking the proposed longitudinal cut lines on the existing roadway surface.

900-1.8.5 Test Strip.

900-1.8.5.1 General. A test strip of a single lane width and a minimum of 1,500 feet in length located within the limits of the CIRACP work shall be constructed on the first Working Day of CIRACP operations. The test strip shall be used for determination of both initial and supplemental compaction unless otherwise approved by the Engineer.

The Contractor shall:

a) Demonstrate that the equipment, materials, processes, and proposed job mix formula (mix design) is capable of producing and constructing CIRACP that conforms to the requirements of these
Specifications.

b) Establish the optimal rates for the emulsified recycling agent, additive, and water recommended for the reclaimed asphalt pavement.

c) Determine the effect on the CIRACP mixture at various forward speed rates, drum rotation rates of the cold milling or mixing equipment.

d) Establish the sequence and manner of rolling necessary to achieve the maximum obtainable density using a compaction rolling pattern developed in the field by the Contractor and reviewed by the Engineer. A rolling pattern for compaction shall be defined as that which produces no increase in density on successive nuclear density tests for any additional passes of the compaction equipment once the maximum density pattern has been identified (“breakover point”). The Contractor shall prepare a rolling vs. density chart that shows the progress of densification from initial lay down through maximum obtainable density at the “breakover point.”

e) Determine the relative compaction of the CIRACP within the test strip by a nuclear gauge in accordance with ASTM D2950. If the relative compaction within the test strip does not meet the density requirements, the Contractor shall construct additional test strips as necessary to determine the maximum density obtainable.

Upon completion of the test strip, the Contractor shall provide a report to the Engineer with the following information:

f) Length, width, and depth of cold milling, and the calculated weight in tons of material processed.

g) Weight of emulsified recycling agent added in tons.

h) Percentage of added emulsified recycling agent in the CIRACP mixture by weight.

i) Percentage of additive in the CIRACP mixture by weight.

j) Maximum particle size of the RAP before the addition of the emulsified recycling agent.

k) Maximum obtainable density used for relative compaction calculation.

l) Nuclear gauge in-place density and relative compaction at 10 random locations.

m) Rolling vs. density chart that shows the progress of compaction from initial laydown through maximum obtainable density at the “breakover point.”

n) Ambient and compacted CIRACP surface temperatures.

o) Maximum theoretical density determined in accordance with California Test 309 and void ratio (Report Only).
900-1.8.5.2 Approval. CIRACP work shall proceed upon the approval of the test strip by the Engineer. Test strips that fail, or do not demonstrate or fulfill the requirements shall be re-worked, re-compacted, or removed and replaced. The Contractor shall determine the corrective actions to be taken, discuss the adjustments or changes with the Engineer, and obtain approval from the Engineer before proceeding. If adjustments are made, the Contractor shall construct a new test strip to define the maximum density.

The Contractor shall use the same equipment, materials, and construction methods for the remainder of CIRACP operations, unless adjustments are made by the Contractor and approved by the Engineer.

900-1.8.6 Cold Milling, Crushing, and Screening. Cold milling shall conform to 302-1 of the SSPWC. The existing pavement shall be cold milled to the depth shown on the Plans to produce RAP.

The RAP shall be crushed and screened to a maximum size of 1 inch, and be free of dirt, base material, concrete or other deleterious materials. Water shall be added during crushing and screening as necessary to abate dust and mitigate reconsolidation.

Pavement fabric, if present in the crushed and screened RAP, shall not exceed 2 inches in any dimension. Oversized pieces of paving fabric shall be removed and properly disposed of.

Residual materials that cannot be completely removed from the processed RAP may be incorporated into the recycled mix upon approval of the Engineer after demonstration by the Contractor that such materials will not adversely affect the performance, appearance, or strength of the CIRACP.

900-1.8.7 Mixing and Proportioning.

900-1.8.7.1 General. The Contractor shall measure and weigh the emulsified recycling agent and the cement or lime additive to be mixed with the RAP. The Contractor shall compare the amount of each additive against the amount reported in the approved CIRACP mix design or the adjusted amount approved by the Engineer. Water may be added by the milling machine to facilitate uniform mixing of the emulsified recycling agent and the RAP. Water added shall be measured. The rate of added water shall be between 0.5 and 5.0 percent by weight of the CIRACP mixture in accordance with the approved mix design. The quantity of residual asphalt in the recycling agent incorporated into the final recycled pavement mixture shall not vary due to the addition of water.

Adjustments in the rate of emulsified recycling agent, additive, and water shall be made as necessary based on the coating, compaction and breaking properties of the emulsified recycling
agent. Sampling variations and the approved mix design(s) may determine the necessity of different levels of emulsified recycling agent and/or additives in various sections of the Work.

900-1.8.7.2 Additive Mixing and Spreading.

a) General. Proportioning of cement or lime slurry may be accomplished by either continuous mixing or batch mixing. Cement or lime slurry may be added directly to the pugmill or may be sprayed over the cutting teeth of the milling machine at the rate specified in the approved mix design. The Contractor shall provide the Engineer with daily batch logs.

Dry cement may be spread upon the existing asphalt concrete surface ahead of the recycling train at the rate specified in the CIRACP mix design. If cement is spread ahead of the milling operation, the distance between the spreader and the recycling equipment shall be reduced as necessary to prevent being blown off the surface during windy days. In no case shall additives be allowed to remain exposed at the end of the Day. No traffic other than the recycling equipment shall be allowed to pass over the spread additive until the recycling operation is complete.

b) Continuous Mixing. The proportioning device must determine the exact ratio of water to dry lime or cement at each production rate. Rate-of-flow indicators and totalizers for like materials must be accurate within 0.5 percent of each other. The following method shall be used:

i) A belt scale shall be used to weigh cement or dry lime. When the belt scale operates between 30 percent and 100 percent of production capacity, the average difference between the indicated material weight and the actual material weight shall not exceed 0.5 percent of the actual material weight for 3 individual runs. For any of the 3 individual runs, the indicated material weight shall not vary from the actual material weight by more than one percent of the actual material weight. Tests for belt scale accuracy must be for at least 0.5 tons of cement or lime. Actual material mass shall be weighed on a certified scale.

ii) A meter shall be used to measure water in the slurry. When the meter operates between 50 percent and 100 percent of production capacity, the average difference between the indicated water weight and the actual water weight shall not exceed one percent of the actual weight for 3 individual runs. Tests for water meter accuracy must be for at least 300 gallons of water. Actual mass shall be weighed on a certified scale.

iii) Meters and scales used shall be equipped with rate-of-flow indicators that show the delivery rates of cement or lime and water and resettable totalizers that indicate the total amounts of cement or lime and water introduced into the slurry storage tank. Individual feeds for water and cement or lime shall be equipped with no-flow devices that stop slurry
production when either of the individual ingredients is not being delivered to the slurry storage tank.

c) **Batch Mixing.** For batch-type proportioning for slurry production, the following method shall be used:

i) Cement or dry lime shall be weighed with a certified scale.

ii) The water meter shall be equipped with a resettable totalizer. If an automatic controller is used to batch the cement or lime it shall also control the water proportioning. If an automatic controller is used to proportion the water, the indicated draft of the water must be within one percent of its total draft weight. The water meter test for accuracy shall be for at least 300 gallons of water.

iii) When the meter operates between 50 percent and 100 percent of production capacity, the average difference between the indicated water weight and the actual water weight shall not exceed one percent of the actual water weight for 3 individual runs.

900-1.8.8 **Spreading.** The CIRACP mixture may be placed in a windrow or deposited directly into the hopper of the track paver.

Immediately upon completion of the mixing and proportioning of the CIRACP mixture, the mixture shall be spread in one continuous pass to the lines, grades, and cross sections shown on the Plans. The wings of the track paver shall be emptied regularly. Handwork shall be minimized while spreading.

Based on the ambient temperatures, weather conditions, and type of emulsified recycling agent used, the Contractor shall determine and record the time intervals between spreading and compacting of the CIRACP. The final time interval shall be recorded in the daily Quality Control Program documents.

900-1.8.9 **Compaction.**

900-1.8.9.1 **General.** The Contractor shall perform compaction testing as part of its Quality Control Program per 903-1.6. The Agency will perform such quality assurance compaction testing as the Engineer deems necessary to correlate to and verify the Contractor’s testing.

Areas inaccessible to rollers shall be compacted to the required density by other equipment approved by the Engineer.

The final compacted CIRACP surface shall conform to the thickness, lines, grades, and cross sections shown on the Plans.
900-1.8.9.2 Initial Compaction and In-Place Density. Initial compaction operations shall start no more than 15 minutes behind the track paver unless otherwise approved or directed by the Engineer. The Contractor shall continuously observe the compaction of the CIRACP.

During initial compaction, the Contractor shall follow the rolling pattern established in accordance with 903-1.8.5 unless changes in the CIRACP mixture or placement conditions occur and a new rolling pattern is established. Rolling that causes cracking, major displacement, and/or any other type of pavement distress shall be discontinued until such time as the problem can be resolved. Discontinuation and commencement of rolling operations shall be at the discretion of the Engineer.

Starting and stopping shall be on previously compacted material.

If moisture cracking occurs during the vibratory compaction mode, the vibrators shall be turned off and static rolling only performed. If moisture cracking continues under static steel drum rolling, compaction shall cease, the mat allowed to further cure in order for additional moisture to escape, and pneumatic-tired rolling commenced, followed by steel drum rolling. This procedure shall be followed until there is no longer any displacement of the mat produced by rolling.

The Contractor shall ensure that aggregate from the CIRACP mixture does not stick to the drums or tires of the rollers. Water shall be uniformly applied to the tires and drums, along with mechanical means to keep aggregate from sticking. Sufficient water shall be applied to keep drums and tires clean, but not so much that water pools or ponds on the recycled surface.

The final compacted surface of the CIRACP mixture shall be free of ruts, bumps, indentations, raveling, irregularities, or segregation. The smoothness of the finished surface shall be checked regularly during placement using a 12-foot long straightedge. Areas that vary from the lower edge by more than 0.01 foot when the straight edge is laid parallel with the centerline, or more than 0.02 foot when the straightedge is laid perpendicular to the centerline and extended from edge to edge of a traffic lane, shall be corrected by reworking, re-compaction, or removal and replacement. The correction method chosen by the Contractor must be approved by the Engineer before starting any corrective work.

Corrected areas must be uniform rectangles with edges that are parallel to the nearest HMA pavement edge or lane line; or perpendicular to the pavement centerline.

900-1.8.10 Fog Seal Coat and Sand Cover. After initial compaction and prior to opening to traffic, the Contractor shall apply a fog seal coat to the CIRACP surface which shall be composed of emulsified asphalt diluted with water at a ratio not to exceed 1:1 unless otherwise approved by the Engineer. The application rate of the fog seal coat shall be between 0.08 and 0.12 gallon
per square yard. Immediately following application of the fog seal, the CIRACP surface shall be covered with sand at a rate of 1.0 to 2.0 pounds per square yard. The exact rate shall be recommended by the Contractor and approved by the Engineer. Excess sand shall be removed by sweeping.

900-1.8.11 Curing, Protection, and Maintenance. CIRACP shall cure in-place either for a minimum of 3 Days and until the percent moisture at the mid-depth of the CIRACP is less than 1.5 percent, or for a minimum of 10 Days without rainfall.

The Contractor shall be responsible for protecting and maintaining the CIRACP free from nuisance water, other deleterious substances, and/or any other damage. Any damage shall be repaired by the Contractor prior to placement of the new asphalt concrete surface course or final surface seal coat. Damaged areas shall be excavated to the depth directed by the Engineer and/or filled and compacted with new C2-PG 64-10 asphalt concrete conforming to 203-6 of the SSPWC.

Loose particles shall be removed by sweeping prior to placement of the surface course or final seal coat.

900-1.8.12 Supplemental Compaction. Supplemental compaction shall be conducted after the CIRACP has cured and prior to any smoothness testing or placement of the new surface course or final surface seal coat. During supplemental compaction, the Contractor shall re-establish the rolling pattern in accordance with 900-1.8.5. The Contractor shall use this rolling pattern during supplemental compaction.

The final compacted surface shall be free of ruts, bumps, indentations, raveling, irregularities, or segregation and conform to the smoothness requirements specified in 900-1.8.9.2

900-1.9 MEASUREMENT.

CIRACP will be measured by the square yard of finished surface for each thickness shown on the Plans. CIRACP outside the limits shown on the Plans will not be measured for payment. Test strips conforming to the requirements of these Specifications will be included in the quantity measured for payment.

Emulsified recycling agent will be measured by the ton. The quantity in the Bid is based on a content of 3 percent. The basis of payment shall be the net weight of emulsified recycling agent used to produce CIRACP complete in-place. The Contractor shall furnish the Engineer with certified weighmaster certificates showing the weight of each load delivered to the Work site and the weight remaining on the Work site after completion. Payment will be made for the difference between the weight delivered to the Work site and the weight of emulsified
recycling agent remaining on the Work site after completion of CIRACP. The provisions of 3-2.2.2 and 3-2.2.3 of the Special Provisions shall not apply to this Bid item.

900-1.10 PAYMENT.

The lump sum price in the Bid for “CIRACP MIX DESIGN, SAMPLING, AND TESTING” shall be considered full compensation for all work necessary to develop the CIRACP mix design(s), and to perform all sampling and testing, determine gradations, obtain measurements, record test results, and prepare and submit mix designs.

Payment for CIRACP will be made at the Contract Unit Price for "CIR AC PAVEMENT, 3" THICK."

The Contract Unit Price shall include preparing and implementing a quality control program, JITT including payment for the instructor and training materials, producing and placing CIRACP, constructing and reconstructing test strips, re-working material in overlapping adjacent milled widths, fog seal coat and sand, curing, protection and maintenance of the CIRACP, and other incidental and appurtenant work for which no separate Bid item is listed in the Bid.

No payment will be made for test strips which have been rejected or for removal of rejected test strips.

Payment for emulsified recycling agent will be made at the Contract Unit Price per ton for “EMULSIFIED RECYCLING AGENT.” The Contract Unit Price shall include furnishing and incorporating the emulsified recycling agent into the CIRACP.

No separate or additional payment will be made for any corrective or repair work.
SPECIAL PROVISIONS

AMENDMENTS TO THE “GREENBOOK”

STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION

PART 10   CSI DIVISION AS INCLUDED AND AMENDED

(In no case will Division 1 be used. Part 1 of the 2009 SSPWC suffices and can be modified where required)

Delete the following Division and add the following:

DIVISION 2, SITE WORK.

(The boiler plate Division 2 shall be deleted in its entirety. Site work “specialty items” and “other specialty items” not covered in the Greenbook or other CSI Divisions shall be inserted here. If there are none, delete this Division in its entirety.)

(Do not include any of Divisions 3-16 that do not pertain to the project. Insert CSI Division specifications that do apply where appropriate. It is very important to remove any conflicts between CSI and Greenbook.)