



**PUBLIC WORKS DEPARTMENT**

**SPECIAL PROVISIONS  
FOR**

**ALEXANDRIA AND FIVE MILE  
SLOUGH CULVERT REPLACEMENT**

**PROJECT NO. WT19018**

**Prepared for  
City of Stockton**

**Dated December 3, 2021**

**ALEXANDRIA AND FIVE MILE SLOUGH CULVERT  
REPLACEMENT  
PROJECT NO. WT19018**

The special provisions contained herein have been prepared by or under the direction of the following Registered Persons.



---

REGISTERED CIVIL ENGINEER

## TABLE OF CONTENTS

<b>DIVISION I GENERAL PROVISIONS.....</b>	<b>1</b>
<b>SECTION 1 - SPECIFICATIONS AND PLANS .....</b>	<b>1</b>
1-1.01 SPECIFICATIONS .....	1
1-1.02 PLANS .....	2
1-1.03 TERMS AND DEFINITIONS .....	2
<b>SECTION 2 – BIDDING AND BID PROTESTS .....</b>	<b>2</b>
2-1.01 GENERAL.....	2
2-1.02 BID PROTEST .....	3
<b>SECTION 3 – CONTRACT AWARD AND EXECUTION .....</b>	<b>3</b>
<b>SECTION 4 – SCOPE OF WORK.....</b>	<b>3</b>
4-1.01 CHANGES AND EXTRA WORK .....	4
4-1.02 DIFFERING SITE CONDITIONS (23 CFR 635.109) .....	4
4-1.03 CLEANUP .....	4
<b>SECTION 5 – CONTROL OF WORK .....</b>	<b>5</b>
5-1.01 CONTRACT COMPONENTS.....	5
5-1.02 SUBCONTRACTING .....	5
5-1.03 COORDINATION WITH OTHER ENTITIES.....	5
5-1.03A PERMITS.....	5
5-1.04 SUBMITTALS .....	6
5-1.05 JOB SITE APPEARANCE .....	8
5-1.06 STAGING AREA .....	8
5-1.07 CONSTRUCTION STAKING .....	8
5-1.08 INCREASED OR DECREASED QUANTITIES .....	9
5-1.09 STOP NOTICE WITHHOLDS .....	9
5-1.10 RIGHTS IN LAND .....	10
5-1.11 AS-BUILT/RECORD DRAWINGS .....	10
5-1.12 NOTICE OF POTENTIAL CLAIM .....	10
5-1.13 RECORDS .....	11
5-1.14 NONCOMPLIANT AND UNAUTHORIZED WORK.....	11
5-1.15 PROPERTY AND FACILITY PRESERVATION.....	11

**5-1.16 PRE-CONSTRUCTION SURVEY ..... 12**

**5-1.17 COOPERATION..... 14**

**SECTION 6 – CONTROL OF MATERIALS..... 15**

**6-1-01 BLANK..... 15**

**6-1-02 BLANK..... 15**

**6-1-03 BLANK..... 15**

**6-1.04 BLANK..... 15**

**6-1.05 QUALITY ASSURANCE PROGRAM ..... 15**

**6-1.06 TESTING..... 16**

**6-1.07 PRE-QUALIFIED AND TESTED SIGNING AND DELINEATION MATERIAL  
..... 16**

**SECTION 7 – LEGAL RELATIONS AND RESPONSIBILITY TO THE PUBLIC..... 17**

**7-1.01 GENERAL..... 17**

**7-1.02 MAINTAINING PUBLIC CONVENIENCE AND SAFETY ..... 17**

**7-1.03 TRENCH SAFETY ..... 17**

**7-1.04 PUBLIC CONVENIENCE..... 18**

**7-1.05 PUBLIC SAFETY ..... 18**

**7-1.06 INDEMNIFICATION AND INSURANCE ..... 19**

**7-1.07 BLANK..... 19**

**7-1.08 LEAD COMPLIANCE PLAN..... 19**

**SECTION 8 – PROSECUTION AND PROGRESS ..... 20**

**8-1.01 TIME OF COMPLETION ..... 20**

**8-1.02 LIQUIDATED DAMAGES ..... 21**

**8-1.03 PROGRESS SCHEDULE ..... 21**

**8-1.04 PRE-CONSTRUCTION MEETING..... 23**

**8-1.05 POST-CONSTRUCTION MEETING ..... 23**

**SECTION 9 – PAYMENT ..... 24**

**9-1.01 SCHEDULE OF VALUES ..... 24**

**9-1.02 DESCRIPTION OF WORK..... 24**

**9-1.03 QUANTITIES..... 29**

**9-1.04 UNSATISFACTORY PROGRESS ..... 31**

**9-1.05 MOBILIZATION..... 32**

**9-1.06 INCREASE OR DECREASE QUANTITIES..... 32**

**9-1.07 STOP NOTICE ..... 32**

**9-1.08 QUANTITIES..... 33**

**9-1.09 ALTERNATIVE DISPUTE RESOLUTION ..... 33**

**DIVISION II GENERAL CONSTRUCTION ..... 33**

**SECTION 10 – GENERAL CONSTRUCTION ..... 33**

**10-1.01 ORDER OF WORK ..... 33**

**10-1.02 ALTERNATIVE EQUIPMENT ..... 35**

**10-1.03 INSPECTIONS ..... 35**

**10-1.04 OBSTRUCTIONS..... 35**

**10-1.05 SYSTEM OUTAGE REQUEST, CITY OF STOCKTON FACILITIES..... 36**

**10-1.06 BLANK..... 37**

**10-1.07 SHEETING AND SHORING..... 37**

**10-1.08 SURFACE RESTORATION ..... 38**

**SECTION 11 – BLANK..... 38**

**SECTION 12 – TEMPORARY TRAFFIC CONTROL..... 38**

**12-1.01 MAINTAINING TRAFFIC ..... 39**

**12-1.02 TRAFFIC CONTROL SYSTEM FOR LANE CLOSURE ..... 41**

**12-1.03 TYPE K TEMPORARY RAILING ..... 43**

**12-1.04 TEMPORARY PAVEMENT DELINEATION ..... 44**

**12-1.05 CONSTRUCTION AREA SIGNS ..... 44**

**12-1.06 MAINTAINING EXISTING AND TEMPORARY ELECTRICAL SYSTEMS.. 45**

**12-1.07 BARRICADES AND CHANNELIZERS..... 45**

**12-1.08 PAYMENT ..... 46**

**SECTION 13 – WATER POLLUTION CONTROL..... 46**

**13-1.01 GENERAL..... 46**

**SECTION 14 – ENVIRONMENTAL STEWARDSHIP..... 47**

**14-1.01 CONSTRUCTION SITE WASTE MATERIALS MANAGEMENT ..... 47**

**14-1.02 AIR POLLUTION CONTROL..... 49**

**14-1.03 DUST CONTROL, APPLY WATER, SITE MAINTENANCE, AND CLEANUP ..... 49**

**14-1.04 SOUND CONTROL REQUIREMENTS ..... 50**

**14-1.05 PRE-CONSTRUCTION MIGRATORY BIRD SURVEY ..... 51**

**14-1.06 CULTURAL RESOURCES ..... 51**

<b>SECTION 15 – EXISTING FACILITIES .....</b>	<b>52</b>
<b>15-1.01 EXISTING FACILITIES .....</b>	<b>52</b>
<b>SECTION 16 – BLANK.....</b>	<b>54</b>
<b>DIVISION III EARTHWORK AND LANDSCAPE .....</b>	<b>54</b>
<b>SECTION 17 – EARTHWORK AND LANDSCAPE.....</b>	<b>54</b>
<b>17-1.01 CLEARING AND GRUBBING.....</b>	<b>54</b>
<b>SECTION 18 – BLANK.....</b>	<b>55</b>
<b>SECTION 19 – EARTHWORK.....</b>	<b>55</b>
<b>19-1.01 ROADWAY EXCAVATION .....</b>	<b>55</b>
<b>19-1.02 TRENCH EXCAVATION AND BACKFILL .....</b>	<b>55</b>
<b>19-1.03 DEWATERING .....</b>	<b>58</b>
<b>SECTION 20 – LANDSCAPE .....</b>	<b>59</b>
<b>20-1.01 PLANTING AND IRRIGATION .....</b>	<b>59</b>
<b>SECTION 21 – EROSION CONTROL .....</b>	<b>60</b>
<b>DIVISION IV SUBBASES AND BASES .....</b>	<b>60</b>
<b>SECTION 26 – AGGREGATE BASE .....</b>	<b>60</b>
<b>26-1.01 AGGREGATE BASE .....</b>	<b>60</b>
<b>DIVISION V SUBSURFACE AND PAYMENT .....</b>	<b>61</b>
<b>SECTION 39 – ASPHALT CONCRETE .....</b>	<b>61</b>
<b>39-1.01 ASPHALT CONCRETE .....</b>	<b>61</b>
<b>DIVISIONS VI STRUCTURES .....</b>	<b>62</b>
<b>SECTION 51 – CONCRETE STRUCTURES.....</b>	<b>62</b>
<b>51-4.01 PRECAST CONCRETE MEMBERS.....</b>	<b>62</b>
<b>51-4.02 CONCRETE FORMING .....</b>	<b>74</b>
<b>SECTION 52 – REINFORCEMENT .....</b>	<b>77</b>
<b>52-1.01 REINFORCEMENT .....</b>	<b>77</b>
<b>DIVISION VII DRAINAGE FACILITIES.....</b>	<b>82</b>
<b>SECTION 71 – EXISTING DRAINAGE FACILITIES .....</b>	<b>82</b>
<b>71-1.01 EXISTING DRAINAGE FACILTIES .....</b>	<b>82</b>
<b>DIVISION VIII – MISCELLANEOUS CONSTRUCTION .....</b>	<b>82</b>
<b>SECTION 72 – SLOPE PROTECTION.....</b>	<b>82</b>
<b>72-1.01 SLOPE PROTECTION.....</b>	<b>82</b>
<b>SECTION 73 – CONCRETE CURBS AND SIDEWALKS .....</b>	<b>83</b>

<b>73-1.01 CONCRETE CURBS, SIDEWALKS, AND WHEELCHAIR RAMPS .....</b>	<b>83</b>
<b>DIVISION IX – TRAFFIC CONTROL DEVICES .....</b>	<b>84</b>
<b>SECTION 84 – MARKINGS.....</b>	<b>84</b>
<b>84-1.01 TRAFFIC STRIPES, PAVEMENT MARKINGS, AND PAVEMENT MARKERS .....</b>	<b>84</b>
<b>DIVISION X ELECTRICAL WORK – NOT USED.....</b>	<b>87</b>
<b>DIVISION XI MATERIALS .....</b>	<b>87</b>
<b>SECTION 90 – CONCRETE .....</b>	<b>87</b>
<b>90-1.01 MINOR CONCRETE .....</b>	<b>87</b>

**SPECIAL PROVISIONS  
FOR  
ALEXANDRIA AND FIVE MILE SLOUGH CULVERT REPLACEMENT  
PROJECT NO. WT19018**

**DIVISION I GENERAL PROVISIONS**

**SECTION 1 - SPECIFICATIONS AND PLANS**

**1-1.01 SPECIFICATIONS**

The work described herein shall be done in accordance with the current City of Stockton, Department of Public Works Standard Specifications and Plans, and the latest Editions of the State of California, Department of Transportation Standard Specifications and Standard Plans, California MUTCD, as referenced therein, and in accordance with the following Special Provisions. To the extent the California Department of Transportation Standard Specifications implement the STATE CONTRACT ACT, (or certain provisions of the Public Contracts code which are inapplicable to charter cities) they shall not be applicable.

In case of conflict or discrepancy between any of the Contract Documents, the order of documents listed below shall be the order of precedence, with the first item listed having the highest precedence.

1. Contract, Including Change Orders (changes last in time are first in precedence)
  - a. Project Special Provisions
  - b. Project Plans
  - c. City of Stockton Standard Specifications
  - d. City of Stockton Standard Drawings
  - e. Revised Caltrans Standard Specifications
  - f. Caltrans Standard Specifications
  - g. Revised Caltrans Standard Plans
  - h. Caltrans Standard Plans
  - i. Supplemental Project Information

Should it appear that the work to be done or any of the matters relative thereto are not sufficiently detailed or explained in the special provisions, Standard Specifications, or the plans, the contractor shall apply to the Engineer in writing for such further explanations as may be necessary and shall conform to them as part of the contract. In the event of any doubt or question arising respecting the true meaning of these specifications, the special provisions, Standard Specifications, or the plans, reference shall be made to the Engineer, whose decision thereon shall be final. With regards to discrepancies or conflicts between written dimensions given on drawings and the scaled measurements, the written dimensions shall govern. With regards to discrepancies or conflicts between large-scale drawings and small-scale drawings, the larger scale shall govern. With regards to discrepancies or conflicts between detailed drawings and referenced standard drawings



or plans, the detailed drawings shall govern. In the event where provisions of codes, safety orders, contract documents, referenced manufacturer's specifications or industry standards are in conflict, the more restrictive and higher quality shall govern.

### **1-1.02 PLANS**

The bidder's attention is directed to the provisions in Section 1-1.03 "Definitions", of the Standard Specifications and Section 1-1.07 "Definitions", of the Caltrans Specifications.

See "Instructions to Bidders" for complete instructions and documentation forms.

### **1-1.03 TERMS AND DEFINITIONS**

Wherever in the Standard Specifications, Special Provisions, Notice to Contractors, Proposal, Contract, or other contract documents the following terms are used, the intent and meaning shall be interpreted as follows:

City or Owner -	City of Stockton
Director -	Director of Public Works, City of Stockton
Standard Specifications -	Current City of Stockton, Standard Plans and Specifications, inclusive of all current revisions, and amendments, unless otherwise stated.
Caltrans Specifications -	State of California, Department of Transportation, Current Standard Plans and Specifications, inclusive of all current revisions, and amendments, unless otherwise stated.
Laboratory -	City of Stockton Department of Public Works Laboratory, Consultant's or Contractor's laboratory
Department -	Department of Public Works, City of Stockton
Engineer -	City Engineer, City of Stockton, acting either directly or through properly authorized Engineer agents and consultants.
California MUTCD	Latest edition of California Manual on Uniform Traffic Control Devices (MUTCD), and any amendments and revisions thereto.
Working Day	defined as any eight-hour day, except as follows: Saturday, Sunday, and City recognized holidays.

## **SECTION 2 – BIDDING AND BID PROTESTS**

### **2-1.01 GENERAL**

The bidder's attention is directed to the "Notice to Contractors" for the date, time and location of the mandatory pre-bid meeting, if applicable. Refer to the City of Stockton's Bid Flash webpage: <http://www.stocktongov.com/services/business/bidflash/default.html>  
The bidder's attention is directed to the provisions in Section 2, "Bidding," of the Standard

Specifications and these special provisions for the requirements and conditions which the bidder must observe in the preparation for the submission of the bid.

The Bidder's Bond form mentioned in the last paragraph in Section 2-1.34, "Bidder's Security," of the Standard Specifications will be found following the signature page of the Proposal.

In conformance with Public Contract Code Section 7106, a Non-collusion Affidavit is included in the Proposal. Signing the Proposal shall also constitute signature of the Non-collusion Affidavit.

The contractor, sub recipient or subcontractor shall not discriminate on the basis of race, color, national origin, or sex in the performance of this contract. The contractor shall carry out applicable requirements of Title 49 CFR (Code of Federal Regulations) part 26 in the award and administration of US DOT assisted contracts. Failure by the contractor to carry out these requirements is a material breach of this contract, which may result in the termination of this contract or such other remedy, as the recipient deems appropriate. Each subcontract signed by the bidder must include this assurance.

## **2-1.02 BID PROTEST**

In case of Bid protests, attention is directed to the provisions in Section 2-1.51, "Bid Protests" of the Standard Specifications. The party filing the protest must have submitted a bid for the work. A subcontractor of a bidder may not submit a bid protest.

A copy of bid protests is to be sent to the following address:

Attention: Mohammad Sadiq, P.E.  
City of Stockton  
Public Works Department  
22 E. Weber Avenue, Room 301  
Stockton, CA 95202

## **SECTION 3 – CONTRACT AWARD AND EXECUTION**

The bidder's attention is directed to the provisions in Section 3, "Contract Award and Execution," of the Caltrans Specifications and these Special Provisions.

The award of the contract, if it be awarded, will be to the lowest responsible bidder whose proposal complies with all the requirements prescribed.

## **SECTION 4 – SCOPE OF WORK**

Attention is directed to the provisions in Section 4, "Scope of Work" of the Standard Specifications, Caltrans Specifications, and these Special Provisions.

At no time shall construction begin without receiving notice that the contract has been approved by the City Attorney or an authorized representative. The Contractor shall follow the sequence of construction and progress of work as specified in Section 10-1.01, "Order

of Work", of these Special Provisions.

The Contractor shall diligently prosecute all work items to completion.

Full compensation for any additional costs occasioned by compliance with the provisions in this section shall be considered as included in the prices paid for the various contract items of work, and no additional work compensation will be allowed therefore.

Bidders will be required to carefully examine these special provisions and attachments to judge for themselves as to the nature of the work to be done and the general conditions relative thereto and the submission of a proposal hereunder shall be considered prima-facie evidence that the bidder has made the necessary investigation and is satisfied with respect to the conditions to be encountered, the character, quantity and quality of the work performed. For work to be completed, contractors are advised to visit and review the job site prior to the submission of their bid. Bids not presented on the City forms shall be cause for considering the bid as non-responsive.

Bidders must be thoroughly competent and capable of satisfactorily performing the work covered by the proposal, and when requested shall furnish such statements relative to previous experience on similar work, the plan or procedure proposed, and the organization and the equipment available for the contemplated work, and any other as may be deemed necessary by the City Engineer in determining such competence and capability.

It shall be understood that the Contractor shall be required to perform and complete the proposed work in a thorough and diligent manner, and to furnish and provide in connection therewith all necessary labor, tools, implements, equipment, materials and supplies. The Contractor is responsible to take all necessary precautions and use best practices in the industry to perform all work required to complete the project.

#### **4-1.01 CHANGES AND EXTRA WORK**

Attention is directed to the provisions in Section 4-1.05A "Changes and Extra Work" of the Standard Specifications and these Special Provisions.

#### **4-1.02 DIFFERING SITE CONDITIONS (23 CFR 635.109)**

Attention is directed to the provisions in Section 4-1.06, "Differing Site Conditions," of the Caltrans Specifications and the Standard Specifications. Contractor shall notify the Engineer if he/she finds physical conditions differing materially from contract documents.

#### **4-1.03 CLEANUP**

The Contractor's attention is directed to Sections 4-1.13, "Cleanup," of the Caltrans Specifications.

The Contractor shall conduct and cause all working forces at the site to maintain the site in a neat orderly manner throughout the construction operations. The work shall be conducted in a manner that will control the dust. When ordered to provide dust control,

the Contractor shall use water to reduce the dusty conditions all to the satisfaction of the Engineer. During construction, the Contractor shall remove all rubbish and debris as it is generated. The Contractor shall inspect project ingress/egress points and roadways regularly for signs of tracked sediment. Areas requiring cleaning should be swept daily. Upon completion of the work, the Contractor shall remove all equipment, debris, and shall leave the site in a neat, clean condition all to the satisfaction of the Engineer.

## **SECTION 5 – CONTROL OF WORK**

Attention is directed to the Instruction to Bidders, provisions in Section 5 “Control of Work” of the Standard Specifications, Caltrans Specifications and these Special Provisions.

### **5-1.01 CONTRACT COMPONENTS**

Attention is directed to the provisions in Section 5-1.02, "Contract Components" of the Standard Specifications. If a discrepancy found or confusion arises, submit a Request for Information (RFI).

### **5-1.02 SUBCONTRACTING**

Attention is directed to the provisions in Section 5-1.13A, "Subcontracting," of the Standard Specifications, and Caltrans Specifications.

Pursuant to the provisions of Section 1777.1 of the Labor Code, the Labor Commissioner publishes and distributes a list of contractors ineligible to perform work as a subcontractor on a public works project. This list of debarred contractors is available from the Department of Industrial Relations web site at: <http://www.dir.ca.gov/DLSE/Debar.html>

### **5-1.03 COORDINATION WITH OTHER ENTITIES**

#### **5-1.03A PERMITS**

The Contractor shall procure all permits and licenses, pay all charges and fees, and give all notices necessary and incident to the due and lawful prosecution of the work. The Environmental Quality Act (Public Resources Code, Sections 21000 to 21176, inclusive) may be applicable to permits, licenses and other authorizations which the Contractor must obtain from local agencies in connection with performing the work of the contract. The Contractor shall comply with the provisions of those statutes in obtaining the permits, licenses and other authorizations and they shall be obtained in sufficient time to prevent delays to the work. In the event that the City has obtained permits, licenses or other authorizations, applicable to the work, in conformance with the requirements in the Environmental Quality Act, the Contractor shall comply with the provisions of those permits, licenses and other authorizations. The following is a non-inclusive list of the required permits and/or licenses:

- Contractor’s License. At a minimum the Contractor shall possess at the time of bid and maintain throughout the duration of the contract, a valid California Class A.

- Business License. Contractor shall possess prior to the execution of the contract and maintain throughout the duration of the contract, a valid City of Stockton business license.
- City of Stockton Encroachment Permit (No Fee)
- Stockton Municipal Utilities Department Right-of-Entry Permit (Contractor pays)
- California Department of Fish and Wildlife (CDFW) Streambed Alteration Agreement (Fish and Game Code Section 1602)
- Central Valley Flood Protection Board (CVFPB) Encroachment Permit
- Regional Water Quality Control Board (RWQCB) Clean Water Act Section 401 Water Quality Certification
- United States Army Corps of Engineers (USACE) Clean Water Act Section 404 Permit
- San Joaquin County Multi-Species Habitat Conservation & Open Space Plan (SJMSCP)

#### **5-1.04 SUBMITTALS**

The following is a list of anticipated submittals for the project. The list is provided to aid the Contractor in determining the scope of work, but is not intended to be all inclusive and additional submittals may be required:

- 1) Baseline Progress Schedule (Critical Path Method)
- 2) Water Pollution Control Program
- 3) Pre-construction survey
- 4) Temporary Traffic Control (includes Pedestrian Detour Plan)
- 5) Contractor Safety Plan
- 6) Portland Cement Concrete Mix Design
- 7) Staging Agreement with private property owners (if applicable)
- 8) City of Stockton Encroachment Permit
- 9) City's Construction and Demolition Debris Recycling Report
- 10) List of submittals
- 11) Product submittals
- 12) Lead Compliance Plan
- 13) A Schedule of Values
- 14) Dewatering Plan
- 15) Shoring Plan
- 16) System Outage Request and Plan (if applicable)
- 17) Notice to Residents
- 18) Thermoplastic Striping
- 19) Rebar Submittal
- 20) RSP Submittal
- 21) HMA Submittal

The Contractor shall transmit each submittal to the Engineer for review and approval with the submittal form approved by the Engineer. Submittals shall be sequentially numbered on the submittal form. Resubmittals shall be identified with the original number and a sequential resubmittal suffix letter. The original submittal shall be numbered X. The first resubmittal shall be numbered X-a and so on. Identify on the form the date of the submittal, Contractor, Subcontractor or supplier; pertinent drawing and detail number, and/or special provision number, as appropriate. The Contractor shall sign the form certifying that review, approval, verification of Products required, field dimensions, adjacent construction work, and coordination of information is in accordance with the requirements of the work and contract documents. Any incomplete submittals will be returned for resubmittal.

Schedule submittals to expedite the Project, and deliver to Engineer at the Engineer's office, see Section 10-1.01, "Order of Work," of these Special Provisions.

For each submittal for review, allow 15 calendar days excluding delivery time to and from the Contractor.

Identify variations from Contract Documents and Product or system limitations that may be detrimental to successful performance of the completed Work.

When revised for resubmission, identify all changes made since previous submission.

Distribute copies of reviewed submittals as appropriate. Instruct parties to promptly report any inability to comply with requirements.

Submittals not requested either in the Contract Documents or in writing from the Engineer will not be recognized or processed.

Within 10 calendar days after Notice of Award submit a complete list of all submittals to be submitted and the dates when they will be submitted. **All submittals shall be submitted within 15 calendar days from the date the Notice of Award; otherwise project working days will commence, with or without issuance of the Notice to Proceed.**

Wherever called for in the Contract Documents, or where required by the Engineer, the Contractor shall furnish to the Engineer for review, 1 set, plus one reproducible copy, of each shop drawing submittal. The term "Shop Drawings" as used herein shall be understood to include detail design calculations, shop drawings, fabrication and installation drawings, erection drawings, list, graphs, catalog sheets, data sheets, and similar items. Whenever the Contractor is required to submit design calculations as part of a submittal, such calculations shall bear the signature and seal of an engineer registered in the appropriate branch and in the state of California, unless otherwise directed.

Normally, a separate submittal form shall be used for each specific item or class of material or equipment for which a submittal is required. Transmittal of a submittal of

various items using a single form will be permitted only when the items taken together constitute a manufacturer's "package" or are so functionally related that expediency indicates review of the group or package as a whole. A multi-page submittal shall be collated into sets, and each set shall be stapled or bound, as appropriate, prior to transmittal to the Engineer.

Except as may otherwise be indicated herein, the Engineer will return prints of each submittal to the Contractor with their comments noted on the submittal. The Contractor shall make complete and acceptable submittals to the Engineer by the second submission of a submittal item. The City reserves the right to withhold monies due to the Contractor to cover additional costs of the Engineer's review beyond the second submittal.

If a submittal is returned to the Contractor marked "NO EXCEPTIONS TAKEN", formal revision and resubmission of said submittal will not be required.

If a submittal is returned to the Contractor marked "MAKE CORRECTIONS NOTED", formal revision and resubmission of said submittal will not be required.

#### **5-1.05 JOB SITE APPEARANCE**

Attention is directed to Section 4-1.13 "Cleanup" of the Caltrans Specifications, Section 5-1.31 "Job Site Appearance" of the Standard Specifications, and these Special Provisions.

The Contractor shall maintain a neat appearance to the work.

Broken concrete and debris developed during clearing and grubbing shall be disposed of concurrently with its removal. Contractor shall pay to the City of Stockton the sum of Two Hundred Fifty Dollars (\$250) for every calendar day where debris has remained on the job site overnight.

Full compensation for conforming to the provisions in this section shall be considered as included in the prices paid for the various contract items of work involved, and no additional compensation will be allowed therefore.

#### **5-1.06 STAGING AREA**

Attention is directed to Section 5-1.36E, "Use of Private Property," of the Standard Specification and these Special Provisions. The street right-of-way shall be used only for activities that are necessary to perform the required work. The Contractor shall not occupy the right-of-way or allow others to occupy the right-of-way for material storage or other purposes that are not necessary to perform the required work.

#### **5-1.07 CONSTRUCTION STAKING**

Section 5-1.26, "Construction Surveys", of the Standard Specifications is deleted, and replaced with the following:

1. The Contractor shall be responsible for all construction survey stakes

necessary to construct the project in accordance to the lines, grades, sections, stage construction/traffic handling, and traffic signalization, pavement delineation plan described in the plans and specifications.

2. Contractor shall be responsible referencing all existing monumentation within the limits of the project prior to removal of any existing monuments. Monument referencing shall be reviewed and approved by the engineer prior to commencing of the work.
3. The Contractor shall employ a Land Surveyor registered in the State of California or an appropriately registered Civil Engineer to perform such survey work. All stakes and marks set by the Contractor's Land Surveyor or Civil Engineer shall be carefully preserved by the Contractor. In case such stakes and marks are destroyed or damaged, they will be promptly replaced, at the direction of the Engineer at no additional cost to the City. Copies of all field notes and cut sheets shall be provided to the City at no additional cost to the City.

Full compensation for conforming to the provisions in this section shall be considered as included in the lump sum price paid for Construction Staking, and no additional compensation will be allowed therefore.

#### **5-1.08 INCREASED OR DECREASED QUANTITIES**

The City reserves the right to make such alterations, deviations, additions to, or omissions from the plans and specifications, including the right to increase or decrease the quantity of any item or portion of the work or to omit any item or portion of the work, as may be deemed by the Engineer to be necessary or advisable and to require such extra work as may be determined by the Engineer to be required for the proper completion or construction of the whole work contemplated, without adjustment in the unit price as bid.

Attention is directed to Section 4-1.01, "Changes and Extra Work," of these Special Provisions. Any such changes will be set forth in a contract change order, which will specify the work to be done in connection with the change made, adjustment of contract time, if any, and the basis of compensation for such work. A contract change order will not become effective until approved by the City Manager and / or City Council.

#### **5-1.09 STOP NOTICE WITHHOLDS**

Section 9-1.16E(4) "Stop Notice Withholds" of the Standard Specifications is amended to read as follows:

"The City of Stockton, by and through the Department of Public Works, may at its option and at any time retain out of any amounts due the Contractor, sums sufficient to cover claims, filed pursuant to Section 3179 et seq. of the Code of Civil Procedures."



### **5-1.10 RIGHTS IN LAND**

All work, equipment parking, or any other activity associated with the project shall be confined to the project limits within the street rights-of-way. The Contractor's use of any other property exclusively in connection with this project shall be by a written agreement between the property owner and the Contractor. A certified copy of any such agreement shall be furnished to the Engineer prior to the use of such property by the Contractor.

Full compensation for conforming to the provisions in this section shall be considered as included in prices paid for the various contract items of work involved, and no additional compensation will be allowed therefore.

### **5-1.11 AS-BUILT/RECORD DRAWINGS**

The Contractor shall maintain a complete set of drawings on-site for the purpose of keeping up to date all field modifications. This plan set shall be available for review by the project Inspector and the Engineer. These plans shall be provided to the Inspector after the completion of construction at the Post-Construction Meeting and prior to the final payment. All revisions, modifications, and/or changes shall be marked clearly. Notes and dimensions shall be in red and be clear and legible. These plans will be used by the Engineer to mark up the original plan sheets with the revisions made during construction.

A list shall be maintained of any trees removed during the course of construction by the Contractor or his Subcontractor, identifying the location, size, and species (common name). This list shall be submitted at the Post-Construction Meeting.

Full compensation for furnishing the As-Built/Record Drawings shall be considered included in the prices paid for the various bid items of work, and no additional compensation will be considered therefore.

### **5-1.12 NOTICE OF POTENTIAL CLAIM**

The Contractor shall not be entitled to the payment of any additional compensation for any cause, or for the happening of any event, thing, or occurrence, including any act or failure to act, by the Engineer, unless he/she has given the Engineer due written notice of potential claim as hereinafter specified. However, compliance with this section shall not be a prerequisite for matters within the scope of the protest provisions under "Changes" or "Time of Completion" or within the notice provisions in "Liquidated Damages". The written notice of potential claim shall set forth the items and reasons which the Contractor believes to be eligible for additional compensation, the description of work, the nature of the additional costs and the total amount of the potential claim. If based on an act or failure to act by the Engineer, written notice for potential claim must be given to the Engineer prior to the Contractor commencing work. In all other cases, written notice for potential claims must be given to the Engineer within 15 days after the happening of the event, thing or occurrence giving rise to the potential claim.

It is the intention of this Section that potential differences between the parties of this Contract be brought to the attention of the Engineer at the earliest possible time so that appropriate action may be taken and settlement may be reached. The Contractor hereby

agrees that he shall have no right to additional compensation for any claim that may be based on any act or failure to act by the Engineer or any event, thing or occurrence for which no written notice of potential claim was filed.

### **5-1.13 RECORDS**

The Contractor shall maintain cost accounting records for the contract pertaining to, and in such a manner as to provide a clear distinction between, the following 6 categories of costs of work during the life of the contract:

- A. Direct costs of contract item work.
- B. Direct costs of changes in character in conformance with Sections 4-1.05B and 9-1.15, "Work-Character Changes," of the Caltrans Specifications.
- C. Direct costs of extra work in conformance with Section 4-1.01, "Changes and Extra Work," of these Special Provisions.
- D. Direct costs of work not required by the contract and performed for others.
- E. Direct costs of work performed under a notice of potential claim in conformance with the provisions in Section 5-1.43, "Potential Claims and Dispute Resolution," of the Caltrans Specifications.
- F. Indirect costs of overhead.

Cost accounting records shall include the information specified for daily extra work reports in Section 5-1.27, "Records," of the Caltrans Specifications. The requirements for furnishing the Engineer completed daily extra work reports shall only apply to work paid for on a force account basis.

The cost accounting records for the contract shall be maintained separately from other contracts, during the life of the contract, and for a period of not less than 3 years after the date of acceptance of the contract. If the Contractor intends to file claims against the Department, the Contractor shall keep the cost accounting records specified above until complete resolution of all claims has been reached.

### **5-1.14 NONCOMPLIANT AND UNAUTHORIZED WORK**

Attention is directed to Section 5-1.30, "Noncompliant and Unauthorized Work," of Caltrans Specifications.

### **5-1.15 PROPERTY AND FACILITY PRESERVATION**

Attention is directed to Section 5-1.36, "Property and Facility Preservation," of Caltrans Specifications and these Special Provisions. Due care shall be exercised to avoid injury to existing highway improvements or facilities, utility facilities, adjacent property, and roadside trees shrubs and other plants that are not to be removed. Roadside trees, shrubs and other plants that are not to be removed, and pole lines, fences, signs, markers and monuments, buildings and structures, conduits, pipelines under or above ground, sewer and water lines, all highway facilities and any other improvements or facilities within or adjacent to the highway shall be protected from injury or damage, and if ordered by the Engineer, the Contractor shall provide and install suitable safeguards, approved by the Engineer, to protect the objects from injury or damage. If the objects are injured or

damaged by reason of the Contractor's operations, the objects shall be replaced or restored at the Contractor's expense.

The facilities shall be replaced or restored to a condition as good as when the Contractor entered upon the work, or as good as required by the plans and specifications accompanying the contract, if any of the objects are a part of the work being performed under the contract. The Engineer may make or cause to be made those temporary repairs that are necessary to restore to service any damaged highway facility. The cost of the repairs shall be borne by the Contractor and may be deducted from any moneys due or to become due to the Contractor under the contract. The fact that any underground facility is not shown upon the plans shall not relieve the Contractor of the responsibility under this Section of these Special Provisions. It shall be the Contractor's responsibility, pursuant thereto, to ascertain the location of those underground improvements or facilities which may be subject to damage by reason of the Contractor's operations.

Full compensation for furnishing all labor, materials, tools, equipment, and incidentals, and for doing all the work involved in protecting or repairing property as specified in this Section shall be considered as included in the prices paid for the various contract items of work and no additional compensation will be allowed therefor.

**5-1.16 PRE-CONSTRUCTION SURVEY**

Attention is directed to Section 5-1.36D, "Survey Monuments" of the Caltrans Specifications and these Special Provisions. The Contractor shall perform a pre-construction survey of all existing structures, pavements, and other aboveground facilities within the project limits prior to beginning any work, noting their condition by means of photographs and video tapes supplemented by written documentation, where applicable.

Color photographs shall be taken with a digital camera at locations that are appropriate to show pre-existing conditions. Each photograph shall show the date and time the photograph was taken and clearly labeled showing the location, viewing direction, and any special features noted. Digital files of each photograph and a copy of videotapes shall be submitted to the Engineer.

**Preserving and Perpetuating Survey Monuments**

The contractor shall exercise due caution and shall carefully preserve bench marks, control points, reference points and all survey monuments, and shall bear all expenses for replacement and/or error caused by his/her unnecessary loss or disturbance. The contractor shall consult with a licensed land surveyor or civil engineer licensed to practice land surveying in California prior to beginning construction to ensure that any preconstruction corner records, as required by the State of California Professional Land Surveyor' ACT have been filed with the County Surveyor, pursuant to Section 8771(a-f) of the California Business and Profession Code.

Action by:	Action:
<i>Contractor's Land Surveyor</i>	1. Identifies existing survey monuments. 2. Lists all existing survey monuments.

	<p>3. Ties out / performs construction staking of survey monuments.</p> <p>4. Indicates survey monuments on construction plans.</p> <p>5. Files all pre-construction Corner Records or Records of Survey with San Joaquin County. The Corner Records or Record of Survey will show monuments within the area of construction reasonably subject to removal or disturbance not shown on a recent record document (recent record document is a filed survey map or corner record document completed with acceptable modern survey methods that includes survey ties from monuments within the construction area to monuments outside of the construction area).</p> <p>6. Submits copies of pre-construction Corner Records or Records of Survey filed with San Joaquin County to City Engineer/Project Manager</p>
<i>Contractor</i>	<p>7. Preserves/perpetuates all survey monumentation during construction, including, but not limited to, those listed.</p> <p>8. Restores survey monuments disturbed by construction.</p>
<i>Contractor's Land Surveyor,</i>	<p>9. Files all post-construction Corner Records and Records of Survey with San Joaquin County for all monuments disturbed during construction</p> <p>10. Submits copies of Corner Records or Records of Survey filed with San Joaquin County to City Engineer/Project Manager.</p>

Monuments set shall be sufficient in number and durability and efficiently placed so as not to be readily disturbed, to assure, together with monuments already existing, the perpetuation or facile reestablishment of any point or line of the survey.

When monuments exist that control the location of subdivisions, tracts, boundaries, roads, streets, or highways, or provide horizontal or vertical survey control, the monuments shall be located and referenced by or under the direction of a licensed land surveyor or registered civil engineer prior to the time when any streets, highways, other rights-of-way, or easements are improved, constructed, reconstructed, maintained, resurfaced, or relocated, and a corner record or record of survey of the references shall be filed with the county surveyor. Monuments shall be reset in the surface of the new construction, a suitable monument box placed thereon, or permanent witness monuments set to perpetuate their location if any monument could be destroyed, damaged, covered, or otherwise obliterated, and a corner record or record of survey filed with the county surveyor prior to the recording of a certificate of completion for the project. Sufficient controlling monuments shall be retained or replaced in their original positions to enable property, right-of-way and easement lines, property corners, and subdivision and tract

boundaries to be reestablished without devious surveys necessarily originating on monuments differing from those that currently control the area. It shall be the responsibility of the governmental agency or others performing construction work to provide for the monumentation required by this section. It shall be the duty of every land surveyor or civil engineer to cooperate with the governmental agency in matters of maps, field notes, and other pertinent records. Monuments set to mark the limiting lines of highways, roads, streets or right-of-way or easement lines shall not be deemed adequate for this purpose unless specifically noted on the corner record or record of survey of the improvement works with direct ties in bearing or azimuth and distance between these and other monuments of record.

The decision to file either the required corner record or a record of survey pursuant to subdivision shall be at the election of the licensed land surveyor or registered civil engineer submitting the document.

Full compensation for pre-construction survey shall be included in the contract price for the various items of work involved, and no additional compensation will be allowed therefore.

#### **5-1.17 COOPERATION**

Should construction be under way by other forces or by other contractors within or adjacent to the limits of the work specified or should work of any other nature be under way by other forces within or adjacent to those limits, the Contractor shall cooperate with all the other contractors or other forces to the end that any delay or hindrance to their work will be avoided. The right is reserved to perform other or additional work at or near the site (including material sources) at any time, by the use of other forces. When 2 or more contractors are employed on related or adjacent work, or obtain materials from the same material source, as provided in Section 6, "Control of Materials" of the Caltrans Specifications, each shall conduct their operations in such a manner as not to cause any unnecessary delay or hindrance to the other. Each contractor shall be responsible to the other for all damage to work, to persons or property caused to the other by their operations, and for loss caused the other due to unnecessary delays or failure to finish the work within the time specified for completion.

The Contractor shall protect from damage any utility facilities that are to remain in place, be installed, relocated, adjusted, or otherwise rearranged.

The Contractor should note that the following utility companies and other agencies maintain facilities within the project area and may have forces in the project area or adjacent thereto:

- PG&E
- AT&T and other phone companies
- City of Stockton Municipal Utilities Department
- Comcast Cable Company
- California Water Service Company

The Contractor shall verify the horizontal and vertical locations of all existing utilities prior to start of construction. The Contractor shall be responsible for the repair and replacement of these or any other facilities damaged during construction. A minimum of forty-eight (48) hours or two (2) working days prior to beginning construction, the Contractor shall notify Underground Services Alert (USA), telephone (800) 227-2600, to have existing facilities marked in the field.

Installation and/or relocation of the aforementioned utilities and other agencies' facilities will require coordination with the Contractor's operations. The Contractor shall make necessary arrangements with the utility company and other agencies through the Engineer, and shall submit a schedule of work, verified by a representative of the utility company or other agency, to the Engineer. The Contractor shall notify the Engineer in writing one (1) month and again one (1) week prior to preparing the site for the utility relocation work or work to be done by other agencies.

The Contractor shall take care to avoid working in any area of the project, which may conflict with the work underway by the utility companies. The Contractor's construction schedule shall be prepared to avoid utility work.

The Contractor shall cooperate completely with all utility companies having facilities within the project area.

Attention is directed to the possible existence of underground facilities not known to the City or in a location different from that which is shown on the plans or in these Special Provisions. The Contractor shall take steps to ascertain the exact location of all underground facilities prior to doing work that may damage such facilities or interfere with their service.

Payment for complying with this Special Provision shall be included in the various items of work, and no additional compensation will be allowed therefore.

## **SECTION 6 – CONTROL OF MATERIALS**

Attention is directed to the provisions in Section 6, "Control of Materials," of the Standard Specifications, and these Special Provisions.

### **6-1-01 BLANK**

### **6-1-02 BLANK**

### **6-1-03 BLANK**

### **6-1.04 BLANK**

### **6-1.05 QUALITY ASSURANCE PROGRAM**

Refer to Instruction to Bidders.

### **6-1.06 TESTING**

Testing of materials and work shall conform to the provisions in Section 6, "Control of Materials" of the Caltrans Specifications and these special provisions. Whenever the provisions of Section 6 of the Caltrans Specifications refer to tests or testing, it shall mean tests to assure the quality and to determine the acceptability of the materials and work. Contractor's attention is directed to the City's Quality Assurance Program in Instructions to Bidder Package.

The Engineer will deduct the costs for testing of materials and work found to be unacceptable, as determined by the tests performed by the Department and the costs for testing of material sources identified by the Contractor which are not used for the work, from moneys due or to become due to the Contractor. The amount deducted will be determined by the engineer.

The Contractor shall hire an independent, local testing laboratory certified to be capable to perform the testing.

Full compensation for testing shall be considered as included in the prices paid for the various contract items of work, and no additional compensation will be allowed therefore.

### **6-1.07 PRE-QUALIFIED AND TESTED SIGNING AND DELINEATION MATERIAL**

The California Department of Transportation maintains the list of Prequalified and Tested signing and delineation materials and products. Approval of pre-qualified and tested products and materials shall not preclude the Engineer from sampling and testing any of the signing and delineation materials or products at any time.

None of the listed signing and delineation materials and products shall be used in the work unless such material or product is listed on the California Department of Transportation's List of Approved Traffic Products. A Certificate of Compliance shall be furnished as specified in Section 6, "Control of Materials", of the Caltrans Specifications for signing and delineation materials and products. Said certificate shall also certify that the signing and delineation material or product conforms to the pre-qualified testing and approval of the California Department of Transportation, Division of Traffic Operations, and was manufactured in accordance with the approved quality control program.

For those categories of materials included on the list of Prequalified and Tested Signing and Delineation Materials, only those products shown within the listing may be used in the work. Other categories of products, not included on the list of Prequalified and Tested Signing and Delineation Materials, may be used in the work provided they conform to the requirements of the Standard Specifications.

Materials and products will be considered for addition to said approved pre-qualified and tested list if the manufacturer of the material or product submits to the Division of Traffic Operations of the California Department of Transportation a sample of the material or product. The sample shall be sufficient to permit performance of all required tests. Approval of such materials or products will be dependent upon a determination as to

compliance with the Specifications and any test the California Department of Transportation may elect to perform. The list of approved pre-qualified and tested signing and delineation materials and products can be found at the California Department of Transportation Web Site:

<https://dot.ca.gov/-/media/dot-media/programs/engineering/documents/mets/signing-and-delineation-materials-a11y.pdf>

## **SECTION 7 – LEGAL RELATIONS AND RESPONSIBILITY TO THE PUBLIC**

### **7-1.01 GENERAL**

Attention is directed to Section 7 “Legal Relations and Responsibility to the Public” of the Caltrans Specifications, Standard Specifications, and these Special Provisions.

### **7-1.02 MAINTAINING PUBLIC CONVENIENCE AND SAFETY**

Attention is directed to Sections 7-1.03, "Public Convenience", 7-1.04, "Public Safety", and Section 12, "Temporary Traffic Control", of the Caltrans Specifications. Attention is also directed to Part 6 of the California MUTCD and Sections 7-1.03, "Public Convenience", 7-1.04, "Public Safety", of Standard Specifications, and Section 12-1.01, “Maintaining Traffic” of these Special Provisions. Nothing in these Special Provisions shall be construed as relieving the Contractor from his responsibility as provided in said sections and Part 6 of the California MUTCD.

### **7-1.03 TRENCH SAFETY**

Attention is directed to Sections 7-1.02K(6)(b), "Excavation Safety” of the Standard Specifications and these Special Provisions.

If required, the Contractor shall furnish all labor, equipment, and materials required to design, construct, and remove all shoring, lagging, cribbing, piling, and/or other types of support for the wall of any open excavation required for the construction of this project.

In making excavations for the project, the Contractor shall be fully responsible for providing and installing adequate sheeting, shoring, and bracing, as may be necessary as a precaution against slides or cave-ins and to fully protect all existing improvements of any kind from damage.

Any open trench must be protected & flagged from the public at the end of each day.

The Contractor shall be solely responsible for any damages which may result from his failure to provide adequate shoring to support the excavations under any or all of the conditions of loading which may exist or which may arise during the construction project. Nothing herein shall be deemed to allow the use of shoring, sloping, or protective system



less effective than that required by the Construction Safety Orders of the Division of Industrial Safety.

Full compensation for conforming to the provisions in this section shall be included in the prices paid for various bid items, and no additional compensation will be made therefore.

#### **7-1.04 PUBLIC CONVENIENCE**

Contractor's attention is directed to the Section 12-1.01 "Maintaining Traffic" of these Special Provisions, Section 7-1.03 "Public Convenience" of the Standard Specifications, and these Special Provisions.

The Contractor shall notify San Joaquin Regional Transit District (SJRTD) a minimum of five (5) working days prior to beginning work. The Contractor shall coordinate with SJRTD if any bus stops and bus routes are affected.

The Contractor shall inform the City Fire Department, City Police Department, City Traffic Department, Municipal Utilities Department (MUD), and all affected utilities no later than three (3) working days before work is to begin.

The Contractor shall provide the City with the name and telephone number (business, home and mobile) of three (3) representatives available at all times during the duration of the contract. Said names and telephone numbers shall be provided to the City of Stockton Public Works, Fire, and Police Departments.

The Contractor shall circulate printed form letters, approved by the Engineer, explaining the project to be done and the length of time inconvenience will be caused by the project and deliver same to the residents and businesses to be affected at least three (3) working days before work is to commence on their street. In addition, the Contractor shall provide temporary "No Parking" signs posted three (3) working days in advance of the work. Such signs shall be placed no further than fifty (50) feet apart. The additional "No Parking" signs shall be removed upon completion of the work and the opening of the street to traffic. It shall be the Contractor's responsibility to remove any vehicles obstructing his operations.

The Contractor shall attend Lincoln Unified School District (LUSD) board and coordination meetings as requested.

Full compensation for conforming to the provisions in this section shall be included in the prices paid for various bid items, and no additional compensation will be made therefore.

#### **7-1.05 PUBLIC SAFETY**

Contractor's attention is directed to the Section 12-1.01 "Maintaining Traffic" of these Special Provisions, Section 7-1.04 "Public Safety" of the Standard Specifications, and these Special Provisions. Nothing in the specifications voids the contractor's public safety responsibilities.

All safety devices, their maintenance, and use shall conform to the latest requirements of

OSHA and shall conform to the applicable provisions of the Part 6 "Temporary Traffic Control", of the **California MUTCD**. It shall be the complete responsibility of the Contractor to protect persons from injury and to avoid property damage. Adequate barricades, construction signs, flashers, and other such safety devices, as required, shall be placed and maintained during the progress of the construction work, until the project is completed. Whenever required, flaggers shall be provided to control traffic.

The Contractor shall provide for the proper routing of vehicles and pedestrian traffic in a manner that will hold congestion and delay of such traffic to practicable minimum by furnishing, installing, and maintaining all necessary temporary signs, barricades, and other devices and facilities, as approved by the City Traffic Engineer. As the work progresses, the Contractor shall relocate, subject to the City Traffic Engineer's approval, such devices and facilities as necessary to maintain proper routing. The Contractor shall notify the City Traffic Engineer a minimum of three (3) working days prior to the relocation of any traffic control devices.

When work is not in progress on a trench or other excavation that requires closure of an adjacent lane, the traffic cones or portable delineators used for the lane closure shall be placed off of and adjacent to the edge of the traveled way. The spacing of the cones or delineators shall be not more than the spacing used for the lane closure.

Full compensation for furnishing, installing, moving, and removing of all necessary traffic control devices including, but not limited to, signing, striping, barricades, and flagging shall be included in the bid item for "Traffic Control Detours and Access", as shown on the bid schedule, and no additional compensation will be allowed therefor.

#### **7-1.06 INDEMNIFICATION AND INSURANCE**

Attention is directed to Section 7-1.05 "Indemnification" and Section 7-1.06, "Insurance" of the Standard Specifications, and Instruction to Bidders for this project.

Indemnification and Insurance shall conform to an Exhibit, which is attached to this project bid package and incorporated by this reference.

Full compensation for conforming to the requirements of this section shall be considered as included in the prices paid for the various contract items of work involved, and no additional compensation will be allowed therefore.

#### **7-1.07 BLANK**

#### **7-1.08 LEAD COMPLIANCE PLAN**

Attention is directed to Section 7-1.02K(6)(j)(ii) "Lead Compliance Plan, of the Caltrans Specifications.

A lead compliance plan for worker health and safety must be prepared by a Certified Industrial Hygienist (CIH) and must be submitted and implemented prior to the start of construction activities. This plan is needed in order to comply with California

Occupational Safety and Health Administration (Cal OSHA) regulations addressing aurally deposited lead for projects involving soil disturbance, and to minimize worker exposure to lead in contaminated soil, and lead chromate or lead while handling paint and thermoplastic residue.

Allow 7 days for the Engineer's review. Obtain authorization for the plan before starting any activity that presents the potential for lead exposure.

The plan shall include items listed in 8 CA of Regs § 1532.1(e)(2)(B). Obtain authorization for the plan before starting any activity that presents the potential for lead exposure. Contractor shall provide a safety training program to employees who have no prior training, including City employees. The safety training program shall comply with 8 CA Code of Regs § 1532.1 and the provided lead compliance plan. Contractor shall submit copies of air monitoring or job site inspection reports made by or under the direction of the CIH under 8 CA Code of Regs § 1532.1 within 10 days after the date of monitoring or inspection.

Supply personal protective equipment, training, and washing facilities required by your lead compliance plan for five City employees.

Full compensation for conforming to the requirements of this section shall be considered as included in the prices paid for the various contract items of work involved, and no additional compensation will be allowed therefore.

## **SECTION 8 – PROSECUTION AND PROGRESS**

Attention is directed to the provisions in Section 8 of the Standard Specifications, and these Special Provisions.

### **8-1.01 TIME OF COMPLETION**

Attention is directed to the provisions in Sections 8-1.05, "Time", and 8-1.07, "Delay" of the Standard Specifications, and these Special Provisions.

The contract for the performance of the work and the furnishing of materials shall be executed within ten (10) days after the approval thereof by the City Attorney. The City will issue the Notice to Proceed following execution of the contract.

Submittals shall be delivered to the Engineer within thirty (30) calendar days of execution of contract. Contract shall not start any work on the job site until the Engineer approves the submittals. Refer to section 5-1.04, "Submittals" of these Special Provisions. The Contractor shall only enter the jobsite prior to approval of the above submittals for purposes of measuring field dimensions and locating utilities.

**The Contractor shall diligently prosecute the contract work to completion within eighty (80) working days.** The days to finish the punch list, provided by the City, are included in the Original Working Days.

Notice to Proceed will not be issued until all complete submittals have been reviewed at least once. Correction indicated on submittals shall be considered as changes necessary to meet the requirements of the Contract Documents and shall not be taken as the basis for changes to the contract requirements. The Engineer's review of Contractor Shop Drawing submittals shall not relieve the contractor of the entire responsibility for the correctness of details and dimensions. The Contractor shall assume all responsibility and risk for any misfits due to error in Contractor submittals. The Contractor shall be responsible for the dimension and the design of adequate connections and details.

Prior to Notice to Proceed, the Contractor shall indicate in writing when all the traffic signal hardware and equipment, which makes the traffic signal and communication system operational, will be delivered to the project site. Based on the indicated delivery date, the date to commence the work will be issued by the City. If by any unforeseen action, the established delivery date cannot be made, the Contractor shall provide the City with a letter from the manufacturer indicating the reason why the delivery date cannot be met. The letter shall also indicate the revised delivery date. The City reserves the right to either accept the reason or to reject it. A letter from vendor is not acceptable.

### **8-1.02 LIQUIDATED DAMAGES**

Attention is directed to the provisions in Section 8-1.10, "Liquidated Damages", of the Caltrans Specifications, Standard Specifications, and these Special Provisions.

The Contractor shall pay liquidated damages to the City of Stockton in the amount of \$3,500 (thirty five hundred dollars) per day for each and every calendar day that the work, with the exception of the maintenance period, remains incomplete after the expiration of the contract working days specified in these Special Provisions.

Full compensation for any costs required to comply with the provisions in this section shall be considered to be included in the prices paid for the various contract items of work, and no additional compensation will be allowed therefore.

### **8-1.03 PROGRESS SCHEDULE**

#### **GENERAL**

#### **Summary**

Comply with Section 8-1.02, "Schedule," of the Caltrans Specifications, except you must:

1. Use Microsoft Project

The Contractor is responsible for assuring that all activity sequences are logical and that each schedule shows a coordinated plan for complete performance of the work.

#### **Definitions**

**Contract completion date:** The current extended date for completion of the contract shown on the weekly statement of working days furnished by the Engineer as specified in Section 8-1.05, "Time," of the Caltrans Specifications.

**Critical path:** The longest sequence of tasks that must be completed to successfully conclude a project, from start to finish.

**Data date:** The day after the date through which a schedule is current. Everything occurring earlier than the data date is "as-built" and everything on or after the data date is "planned."

**Float:** The difference between the earliest and latest allowable start or finish times for an activity.

**Milestone:** An event activity that has zero duration and is typically used to represent the beginning or end of a certain stage of the project.

**Near critical path:** A chain of activities with total float exceeding that of the critical path but having no more than 10 working days of total float.

**Time-scaled network diagram:** A graphic depiction of a Critical Path Method (CPM) schedule comprised of activity bars with relationships for each activity represented by arrows. The tail of each arrow connects to the activity bar for the predecessor and points to the successor.

**Total float:** The amount of time that an activity or chain of activities can be delayed before extending the scheduled completion date.

## **Submittals**

### **General Requirements**

Submit to the Engineer baseline, monthly updated, and final updated schedules, each consistent in all respects with the time and order of work requirements of the contract. Perform work in the sequence indicated on the current accepted schedule.

Each schedule must show:

1. Calculations using critical path method to determine controlling activities.
2. Duration activities less than 20 working days.
3. Each required constraint. Constraints other than those required by the special provisions may be included only if authorized.

The Engineer's review and acceptance of schedules does not waive any contract requirements and does not relieve the Contractor of any obligation or responsibility for submitting complete and accurate information. Correct rejected schedules and resubmit them within 7 days of notification by the Engineer, at which time a new review period of 7 days will begin.

Errors or omissions on schedules do not relieve the Contractor from finishing all work within the time limit specified for completion of the contract. If, after a schedule has been accepted by the Engineer, either you or the Engineer discovers that any aspect of the schedule has an error or omission, the Contractor must correct it on the next updated schedule.

### **Baseline Schedule**

Submit to the Engineer a baseline schedule within 20 days of approval of the contract. Allow 20 days for the Engineer's review after the baseline schedule and all support data that are submitted. Beginning the week the baseline schedule is first submitted, meet with the Engineer weekly to discuss and resolve schedule issues until the baseline schedule is accepted. The baseline schedule must include the entire scope of work and must show how the Contractor plans to complete all work contemplated. Multiple critical paths and near-critical paths must be kept to a minimum. A total of not more than 50 percent of the baseline schedule activities must be critical or near critical, unless otherwise authorized by the Engineer. The baseline schedule must not extend beyond the number of working days originally provided in these special provisions.

### **Updated Schedule**

Submit an updated schedule and meet with the Engineer to review contract progress on or before the 1st day of each month, beginning one month after the baseline schedule is accepted. Allow 15 days for the Engineer's review after the updated schedule and all support data are submitted, except that the review period will not start until any previous month's required schedule is accepted. Updated schedules that are not accepted or rejected within the review period are considered accepted by the Engineer.

The updated schedule must show:

1. Date of the 21st day of the month or other date established by the Engineer
2. Changes from approved revised schedules

### **Final Updated Schedule**

Submit a final updated schedule with actual start and finish dates for the activities within 30 days after completion of contract work. Provide a written certificate with this submittal signed by the Contractor's project manager or an officer of the company stating, "To my knowledge and belief, the enclosed final updated schedule reflects the actual start and finish dates of the actual activities for the project contained herein." An officer of the company may delegate in writing the authority to sign the certificate to a responsible manager.

### **8-1.04 PRE-CONSTRUCTION MEETING**

The City of Stockton Public Works Department will schedule a pre-construction meeting with the Contractor following award of the contract and prior to commencing work (Contact 209-937-8299). The City will issue the Notice to Proceed following execution of the Contract. This meeting will be held in the City of Stockton, Public Works Department.

### **8-1.05 POST-CONSTRUCTION MEETING**

The Contractor shall attend a post-construction meeting that will be arranged by the Public Works Department (Contact 209-937-8299) after completion of work and prior to acceptance and final payment. The project Design Engineer and the project Inspector

will also attend this meeting. The purpose of the meeting will be to discuss the project and any related issues that can help improve future Public Works construction projects. This meeting will be held in the City of Stockton, Public Works Department.

## **SECTION 9 – PAYMENT**

All measurements and payments for this work shall conform to all applicable provisions on Section 9, "Measurement and Payment" of the Standard Specifications, Instructions to Bidders, and these special provisions.

No partial payment will be made for any materials that are furnished on hand, but not yet installed or incorporated in the work. The work to be performed consists of furnishing all labor, materials, tools, transportation, supplies, equipment, appurtenances, fuel, and power, unless specifically excepted, necessary, or required to install concrete box culvert and headwalls, as further delineated on the plans and described in these Special Provisions.

All other work as may be necessary as indicated on the plans, in the specifications, and as required by the Engineer.

Upon completion of all of the work included herein, including approved contract change orders as appropriate, the Contractor may request that the Engineer file a Notice of Completion for the purposes of relief of maintenance and release of retention.

All materials designated to be removed shall become the property of the Contractor, unless otherwise noted, and shall be disposed in accordance with local, State, laws and ordinances.

Full compensation for performing the work in these Special Provisions shall be included in the prices paid for the various contract items of work, and no additional compensation will be allowed therefore.

### **9-1.01 SCHEDULE OF VALUES**

Submit a schedule of values within 15 days after Contract approval. Value schedules for each lump sum bid item shall be prepared and submitted to the Engineer as set forth in Section 9-1, "Lump Sum Contracts", of the Standard Specifications and Section 9-1.16B, "Schedule of Values," of the Caltrans Specifications. Unless otherwise approved by the Engineer, materials on hand, but not incorporated into the work, shall not be included for measurement or for purposes of payment.

### **9-1.02 DESCRIPTION OF WORK**

The work to be performed consists of furnishing all labor, materials, tools, transportation, supplies, equipment, appurtenances, fuel, and power, unless specifically excepted, necessary, or required to construct concrete box culvert, supply and placement of large

boulders, concrete sidewalk, concrete curb and gutter, asphalt concrete, and signage and striping improvements, as further delineated on the plans and described in these Special Provisions.

The work shall include, but not be limited to, the following:

1. Mobilization/ General Conditions  
By lump sum. All costs connected with general conditions/ mobilization of Contractor's operations as described in Section 9 of the Caltrans Specifications will be paid for at the Contract price.
2. Stormwater Pollution BMP's  
By lump sum. Includes preparing, developing, obtaining approval of, permit fees, permit renewal fees, revisions and amendments to the projects Stormwater Pollution Prevention Program (SWPPP), as described in these Special Provisions and in accordance with the State's Construction General Permit. It also includes providing labor, materials, tools, equipment and incidentals for doing all the work involve in BMP's.
3. Construction Staking  
By lump sum. The Contractor shall provide construction staking as needed to accurately construct the project improvements as described in Section 5 of the Caltrans Standard Specifications and these Special Provisions. In addition, doing all the work involved in establishing the lines and grades as specified in these Special Provisions and Standard Specifications.
4. Traffic Control Detours and Access  
By lump sum. Includes designing, providing, erecting and maintaining traffic control and signage as indicated on the plans, described in Section 12 of the Caltrans Standard Specifications, and described the California MUTCD and these Special Provisions. Also includes performing all the work related to safe management of pedestrian, bicycle and vehicular traffic during construction of the project, including Traffic Control Plans and flaggers.
5. Cofferdams  
By lump sum. All costs connected with coffer dams for Contractor's operations, including temporary bypass piping and nuisance pump, as described in Section 9 of the Caltrans Specifications will be paid for at the Contract price.
6. Clearing and Grubbing  
By lump sum. All costs connected with clearing and grubbing as described in Section 17-2 of the Caltrans Specifications will be paid for at the Contract price.
7. Miscellaneous Landscape Work  
By lump sum. Includes providing all the labor, material, tools, equipment, and incidentals for repair and/or replacement of landscaping as indicated on the Plans and described in these Special Provisions.



8. Temporary Construction Fencing  
By the linear foot. Includes providing all the labor, material, tools, equipment, and incidentals for construction of temporary fences as indicated on the Plans, described in Section 15 of the Caltrans Standard Specifications, and described in these Special Provisions.
9. Remove and Offhaul of Existing Sediment (Class II Landfill)  
By the cubic yard. Includes providing all labor, materials, tools, equipment, and incidentals as indicated on the Plans to remove and offhaul existing sediment, described in Section 15 of the Caltrans Standard Specifications, and described in these Special Provisions.
10. Remove and Dispose of Existing Arch CMP Culvert  
By the linear foot. Includes providing all labor, materials, tools, equipment, and incidentals as indicated on the Plans to remove and dispose of existing arch CMP culvert, described in Section 15 and Section 71 of the Caltrans Standard Specifications, and described in these Special Provisions.
11. Remove and Dispose of Existing Wood Headwall  
By the unit. Includes providing all labor, materials, tools, equipment, and incidentals as indicated on the Plans to remove and dispose of existing wood headwall, described in Section 15 of the Caltrans Standard Specifications, and described in these Special Provisions.
12. Remove and Dispose of Existing Wood Fence  
By the linear foot. Includes providing all labor, materials, tools, equipment, and incidentals as indicated on the Plans to remove and dispose of existing wood fence, described in Section 15 of the Caltrans Standard Specifications, and described in these Special Provisions.
13. Remove and Dispose of Existing Asphalt Concrete  
By square foot. Includes providing all the labor, material, tools, equipment, and incidentals as indicated on the Plans for removing and disposing of existing pavement and subbase, described in Section 15 of the Caltrans Standard Specifications, and described in these Special Provisions.
14. Remove and Dispose of Existing Concrete  
By square foot. Includes excavating, removing existing concrete sidewalk, off haul, stones, truncated domes, existing driveways, including steel plates, under sidewalk drain, wheel chair ramps, base and debris, loading and removing waste materials from the site and performing the work as indicated on the Plans, described in Section 15 of the Caltrans Standard Specifications, and described in these Special Provisions.
15. Remove and Dispose of Existing Curb and Gutter  
By linear foot. Includes excavating, removing existing concrete curb and gutter, off haul, base and debris, loading and removing waste materials from the site and performing the work as indicated on the Plans, described in Section 15 of the Caltrans Standard Specifications, and described in these Special Provisions.

16. Remove and Dispose of Existing Dirt/Lawn  
By square foot. Includes providing all the labor, material, tools, equipment, and incidentals for removing existing landscape as indicated on the Plans and described in these Special Provisions.
  
17. Remove Existing Striping  
By linear foot. Includes providing all the labor, material, tools, equipment, and incidentals for removing existing striping as indicated on the Plans and described in these Special Provisions.
  
18. Remove Existing Tree  
By the unit. Includes providing all the labor, material, tools, equipment, and incidentals for removing existing tree as indicated on the Plans, described in Section 15 of the Caltrans Standard Specifications, and described in these Special Provisions.
  
19. Sawcut  
By the linear foot. Includes providing all the labor, material, tools, equipment, and incidentals for saw cutting asphalt concrete as indicated on the Plans, described in Section 15 of the Caltrans Standard Specifications, and described in these Special Provisions.
  
20. Earthwork/ Rough Grading  
By the square foot. Includes providing all labor, materials, tools, equipment, and incidentals as indicated on the Plans to perform earthwork and grading as indicated on the Plans, and as described in these Special Provisions.
  
21. Install 12" Asphalt Concrete Deeplift  
By the square foot. Includes supplying and placing asphalt binder, supplying, preparing, placing and compacting asphalt concrete deeplift and constructing to the elevations, thickness and locations as indicated on the Plans, described in Section 39 of the Caltrans Standard Specifications, and described in these Special Provisions.
  
22. Install Concrete  
By the square foot. Includes providing and placing and compacting aggregate base and concrete sidewalks, including all grading necessary for installation of concrete sidewalk, to finished grade, disposal of all excess material, all sawcuts, reinforcements where required, grading under concrete, providing and grading aggregate base subbase, backfill, compaction, watering, expansion joint filler, concrete and curing compound, grooving, and for doing all the work involved in furnishing and placing concrete sidewalks, complete in place, as shown on the plans, as specified in the Standard Specifications and these Special Provisions, as indicated on the Plans, described in Section 73 of the Caltrans Standard Specifications, and described in these Special Provisions.
  
23. Install Curb and Gutter

By the linear foot. Includes providing and placing and compacting aggregate base, supplying concrete to the site, forming, reinforcing, placing concrete, removing forms, curing, finishing, loading and removing waste materials from the site, and constructing the facilities for concrete curb and gutter, as indicated on the Plans, described in Section 73 of the Caltrans Standard Specifications, and described in these Special Provisions.

24. Repair or Replace Dirt/Lawn

By the square foot. Includes providing all the labor, material, tools, equipment, and incidentals for repair and/or replacement of dirt/lawn as indicated on the Plans and described in these Special Provisions.

25. Install 72"x42" Concrete Box Culvert

By the linear foot. Includes providing all the labor, material, tools, equipment, and incidentals for installation of new concrete box culvert as indicated on the Plans and described in these Special Provisions.

26. Install Concrete Headwall and Apron

By the unit. Includes providing all the labor, material, tools, equipment, and incidentals for installation of new concrete headwalls and aprons as indicated on the Plans and described in these Special Provisions.

27. Install Class III Rock Slope Protection

By the ton. Includes providing all the labor, material, tools, equipment, and incidentals for installation of Class III rock slope protection as indicated on the Plans, described in Section 72-2 of the Caltrans Standard Specifications, and described in these Special Provisions.

28. Curb Paint (Red)

By the linear foot. Includes cleaning surface, providing and painting curbs and installing marker at the locations indicated on the Plans, described in section 85 of the Caltrans Standard Specifications and described in these Special Provisions.

29. 6" Thermoplastic - Yellow

By the linear foot. All thermoplastic shall be provided by the Contractor. Manufacturer and specifications shall be submitted for approval and shall conform to the specifications contained herein. All thermoplastic supplied shall conform to the local air pollution regulations. Traffic line markings shall be reflectorized and shall conform to these Special Provisions, Section 84 "Markings".

30. 4" Thermoplastic - White

By the linear foot. All thermoplastic shall be provided by the Contractor. Manufacturer and specifications shall be submitted for approval and shall conform to the specifications contained herein. All thermoplastic supplied shall conform to the local air pollution regulations. Traffic line markings shall be reflectorized and shall conform to these Special Provisions, Section 84 "Markings".

31. Install Wood Fence

By the linear foot. Includes providing all the labor, material, tools, equipment, and incidentals for construction of a new wood fence as indicated on the Plans and described in these Special Provisions.

32. 10" Storm Drain Pipe

By the linear foot. Plastic pipe (10" diameter) shall conform to the provisions in Section 64, " Plastic Pipe," of the Caltrans Specifications and these special provisions. Includes initial backfill, trench backfill (AB or slurry), concrete collars, trench paving, and connections at maintenance holes, complete in place, as indicated on the Plans, these Special Provisions, and the City of Stockton Standard Plans and Specifications.

**ADD ALTERNATE**

1. Install Class V Rock Slope Protection at Existing Pump Station Outfall

By the ton. Includes providing all the labor, material, tools, equipment, and incidentals for installation of large boulders as indicated on the Plans, described in Section 72-2 of the Caltrans Standard Specifications, and described in these Special Provisions.

**9-1.03 QUANTITIES**

The **following** estimate of the quantities of work to be done and materials to be furnished are **approximate only**, and are intended as a basis for the comparison of bids. The City does not expressly or by implications agree that the actual amount of work will correspond therewith, but reserves the right to increase or decrease the amount of any class or portion of the work without increase or decrease in the unit price bid or to omit portions of the work that may be deemed necessary or expedient by the Engineer.

City of Stockton – Alexandria and Five Mile Slough Culvert Replacement WT19018

<b>ITEM NO.</b>	<b>ITEM DESCRIPTION</b>	<b>UNIT S</b>	<b>EST. QTY</b>
1	MOBILIZATION /GENERAL CONDITIONS	LS	1
2	STORMWATER POLLUTION BMP'S	LS	1
3	CONSTRUCTION STAKING	LS	1
4	TRAFFIC CONTROL DETOURS AND ACCESS	LS	1
5	COFFERDAMS	LS	1
6	CLEARING AND GRUBBING	LS	1
7	MISCELLANEOUS LANDSCAPE WORK	LS	1
8	TEMPORARY CONSTRUCTION FENCING	LF	490
9	REMOVE AND OFFHAUL OF EXISTING SEDIMENT (CLASS II LANDFILL)	CY	190
10	REMOVE AND DISPOSE OF EXISTING ARCH CMP CULVERT	LF	90
11	REMOVE AND DISPOSE OF EXISTING WOOD HEADWALL	EA	1
12	REMOVE AND DISPOSE OF EXISTING WOOD FENCE	LF	13
13	REMOVE AND DISPOSE OF EXISTING ASPHALT CONCRETE	SF	926
14	REMOVE AND DISPOSE OF EXISTING CONCRETE	SF	301
15	REMOVE AND DISPOSE OF EXISTING CURB AND GUTTER	LF	75
16	REMOVE AND DISPOSE OF EXISTING DIRT/LAWN	SF	1,221
17	REMOVE EXISTING STRIPING	LF	28
18	REMOVE EXISTING TREE	EA	4
19	SAWCUT	LF	191
20	EARTHWORK/ ROUGH GRADING	SF	3,759
21	INSTALL 12" ASPHALT CONCRETE DEEPLIFT	SF	836
22	INSTALL CONCRETE	SF	301

City of Stockton – Alexandria and Five Mile Slough Culvert Replacement WT19018

23	INSTALL CURB AND GUTTER	LF	75
24	REPAIR OR REPLACE DIRT/LAWN	SF	878
25	INSTALL 72"x42" CONCRETE BOX CULVERT	LF	85
26	INSTALL CONCRETE HEADWALL AND APRON	EA	2
27	INSTALL CLASS III ROCK SLOPE PROTECTION	TON	90
28	CURB PAINT (RED)	LF	58
29	6" THERMOPLASTIC - YELLOW	LF	52
30	4" THERMOPLASTIC - WHITE	LF	10
31	INSTALL WOOD FENCE	LF	13
32	10" STORM DRAIN PIPE	LF	102

**ADD ALTERNATE**

ITEM NO.	ITEM DESCRIPTION	UNIT S	EST. QTY
1	INSTALL CLASS V ROCK SLOPE PROTECTION AT EXISTING PUMP STATION OUTFALL	TON	130

Each bidder shall bid each item on the Base Bid Schedule. Failure to bid an item shall be just cause for considering the bid as non-responsive. The City reserves the right to include or delete any Schedule or portion thereof, or to reject all bids.

**Official bid documents, including plans and specifications are available online at [http://www.stocktongov.com/services/business/bidflash/pw.html?dept=Public\\_Works](http://www.stocktongov.com/services/business/bidflash/pw.html?dept=Public_Works).**

All bids submitted for this project, must conform to the requirements of the official bid documents, including plans and specifications.

**9-1.04 UNSATISFACTORY PROGRESS**

If the number of working days charged to the contract exceeds 75 percent of the working days in the current time of completion and the percent working days elapsed exceeds the percent work completed by more than 15 percentage points, the City will withhold 10 percent of the amount due on the current monthly estimate.

The percent working days elapsed will be determined from the number of working days charged to the contract divided by the number of contract working days in the current time

of completion, expressed as a percentage. The number of contract working days in the current time of completion shall consist of the original contract working days increased or decreased by time adjustments approved by the Engineer.

The percent work completed will be determined by the Engineer from the sum of payments made to date plus the amount due on the current monthly estimate, divided by the current total estimated value of the work, expressed as a percentage.

When the percent of working days elapsed minus the percent of work completed is less than or equal to 15 percentage points, the funds withheld shall be returned to the Contractor with the next monthly progress payment.

Funds kept or withheld from payment, due to the failure of the Contractor to comply with the provisions of the contract, will not be subject to the requirements of Public Contract Code 7107 or to the payment of interest pursuant to Public Contract Code Section 10261.5.

#### **9-1.05 MOBILIZATION**

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

Full compensation for mobilization shall be considered as included in the lump sum price paid for Mobilization/General Conditions, and no additional compensation will be allowed therefore.

#### **9-1.06 INCREASE OR DECREASE QUANTITIES**

The City reserves the right to make such alterations, deviations, additions to, or omissions from the plans and specifications, including the right to increase or decrease the quantity of any item or portion of the work or to omit any item or portion of the work, as may be deemed by the Engineer to be necessary or advisable and to require such extra work as may be determined by the Engineer to be required for the proper completion or construction of the whole work contemplated, without adjustment in the unit price as bid. Section 9-1.06B and Section 9-1.06C of the Caltrans Specifications shall not apply.

Any such changes will be set forth in a contract change order, which will specify, in addition to the work to be done in connection with the change made, adjustment of contract time, if any, and the basis of compensation for such work. A contract change order will not become effective until approved by the Public Works Director. City Manager and/or City Council approval may be necessary depending on the amount of the change order.

#### **9-1.07 STOP NOTICE**

Section 9-1.16E (4), "Stop Notice Withholds," of the Caltrans Specifications is amended to read as follows:

At its option, the Department of Public Works may at any time retain from the amounts due to the Contractor sufficient amount to cover claims which are filed pursuant to Section 3179 et seq of the Code of Civil Procedures.

### **9-1.08 QUANTITIES**

The estimate of the quantities of work to be done and materials to be furnished are approximate only, and are intended as a basis for the comparison of bids. The City does not expressly or by implications agree that the actual amount of work will correspond therewith, but reserves the right to increase or decrease the amount of any class or portion of the work without increase or decrease in the unit price bid or to omit portions of the work that may be deemed necessary or expedient by the Engineer.

For the estimate of quantities of work, refer to plans.

Each bidder shall bid each item, including all alternative bid(s). Failure to bid an item shall be just cause for considering the bid as non-responsive. Line item costs should include all Contractor's overhead and profit and indirect costs. Bids not presented on City forms shall be cause for considering the bid as non-responsive. The basis of contract award will be the lower bidder for the Base Bid. It is the City's sole discretion to add, or not add, the Alternative Bid(s) to the Base Bid contract.

**Official bid documents, including plans and specifications are available online at <http://www.stocktongov.com/services/business/bidFlash/default.html>**

All bids submitted for this project must conform to the requirements of the official bid documents, including plans and specifications.

### **9-1.09 ALTERNATIVE DISPUTE RESOLUTION**

Section 5-1.43E, "Alternative Dispute Resolution," and Section 9-1.22 "Arbitration," of the Caltrans Standard Specification is deleted from this Contract in its entirety.

## **DIVISION II GENERAL CONSTRUCTION**

### **SECTION 10 – GENERAL CONSTRUCTION**

#### **10-1.01 ORDER OF WORK**

The order of work shall conform to the Contractor's approved project schedule described in Section 8-1.03, "Progress Schedule", of these Special Provisions.

Contractor's attention is directed to the Public Safety, Public Convenience, and Maintaining Traffic sections of these Special Provisions. Nothing in this section shall be construed as to relieve the Contractor of his/her responsibility to stage the work in a manner which complies with the requirements of these sections.

**All permits and approvals as may be required for this project shall be secured or ordered immediately after award of the contract or their acquisition timing determined, such that the same is not a cause for delay. The cost of the permits**



**shall be included in the total bid costs.**

At those locations exposed to public traffic where guard railings or barriers are to be constructed, reconstructed, or removed and replaced, the Contractor shall schedule operations so that at the end of each working day there shall be no post holes open nor shall there be any railing or barrier posts installed without the blocks and rail elements assembled and mounted thereon.

Before obliterating any pavement delineation (traffic stripes, pavement markings, and pavement markers) that is to be replaced on the same alignment and location, as determined by the Engineer, the pavement delineation shall be referenced by the Contractor, with a sufficient number of control points to reestablish the alignment and location of the new pavement delineation. The references shall include the limits or changes in striping pattern, including one- and 2-way barrier lines, limit lines, crosswalks and other pavement markings.

The Contractor shall stage and sequence the work as follows:

1. The Resident Engineer shall coordinate with SJCOG on performing pre-construction bird survey 30 days prior to start of construction.
2. Upon award of the Construction Contract by Stockton's City Council (Notice of Award) the Contractor shall prepare all project submittals for City review as set forth in Section 5-1.04, "Submittals" of these Special Provisions.
3. The contractor orders all items required, after all submittals are approved by the Engineer, for this project which may have long lead times to assure that their acquisition is not the cause for any delays. The Contractor shall furnish the Engineer with statements from the vendors that the orders for said equipment has been received and accepted by said vendors. These statements shall be furnished within ten (10) working days of the Notice to Proceed date.
4. Obtain all necessary permits.
5. Prior to the start of construction, the Contractor shall submit to the Engineer for approval a detailed "Traffic Control Plan" which also addresses pedestrian detours. The Traffic Control Plan shall be prepared in accordance with the provisions in Section 12-1.01," Maintaining Traffic" of these special provisions.
6. Prior to the start of construction, the Contractor shall verify the location and depth of all existing utilities and underground facilities within the project limits. The Contractor shall notify the Engineer of any discrepancies between the conditions in the field and the plans.
7. The Contractor shall develop and implement a Water Pollution Control Program (WPCP), which specifies Best Management Practices (BMPs) that will prevent all construction pollutants from contacting storm water and with the intent of keeping all products of erosion from moving off site into

receiving waters. The Contractor shall inspect and maintain all BMPs.

At the end of each working day if a difference in excess of 2 inches exists between the elevation of the existing pavement and the elevation of excavations within 4 feet of the traveled way, material shall be placed and compacted against the vertical cuts adjacent to the traveled way. During excavation operations, native material may be used for this purpose; however, once placing of the topsoil commences, topsoil material shall be used. The material shall be placed to the level of the elevation of the top of existing pavement and tapered at a slope of 1:4 (vertical:horizontal) or flatter to the bottom of the excavation.

Minor deviations from these requirements may be allowed by the Engineer, if in the opinion of the Engineer, the prosecution of the contract will be better served and the work expedited. Any Contractor request for such deviations shall not be adopted without the Engineer's prior written approval.

Full compensation for conforming to such requirements will be considered as included in the prices paid for the various contract items of work, and no additional compensation will be allowed therefore.

#### **10-1.02 ALTERNATIVE EQUIPMENT**

The City reserves the right to order discontinuance of any equipment in use. This will be determined at the discretion of the Engineer on the basis that the use of said equipment would prohibit obtaining the best possible end result.

Additional installation equipment may be requested by the Engineer for the above reason. Failure to comply with the Engineer's request concerning equipment use or removal will be deemed sufficient cause for shutting down all work until the requirements are met. Days lost for this type of shutdown will be charged as working days.

#### **10-1.03 INSPECTIONS**

All work under this contract shall be under the control and inspection of the City Engineer or his appointed representative. The Contractor shall notify the Public Works Department three (3) working days in advance of any construction.

#### **10-1.04 OBSTRUCTIONS**

Attention is directed to Section 5-1.36, "Property and Facility Preservation" of Caltrans Specifications, Sections 7-1.05, "Indemnification" and Section 7-1.06, "Insurance", of the Standard Specifications and Section 15, "Existing Facilities", of the Caltrans Specifications and these Special Provisions.

The Contractor's attention is directed to the existence of certain underground facilities that may require special precautions be taken by the Contractor to protect the health, safety, and welfare of workers and of the public. Facilities requiring special precautions include, but are not limited to, conductors of petroleum products, oxygen, chlorine, and toxic or flammable gases, natural gas in pipelines six (6) inches or greater in diameter, or pipelines operating at pressures greater than 415 KPa (gage); underground electric

supply system conductors or cables with potential to ground of more than 300 V, either directly buried or in duct or conduit, which do not have concentric grounded or other effectively grounded metal shields on sheaths.

The Contractor shall notify the Engineer and the appropriate regional notification center for operators of subsurface installations at least two (2) working days, but not more than fourteen (14) calendar days, prior to performing any excavation or other work close to any underground pipeline, conduit, duct, wire, or other structure. Regional notification centers include, but are not limited to, the following:

Notification Center	Telephone Number
Underground Service Alert – Northern California (USA)	(811) 227-2600 (800) 227-2600
South Shore Utility Coordinating Council (DICS)	(800)-541-3447

Relocations or repairs necessitated because of existing facilities, which are not shown on the plans or are shown at substantially different locations than existing, may be paid as extra work in accordance with Section 4-1.01, “Changes and Extra Work”, of the these Special Provisions, but only if the Engineer rules that the Contractor exercised due diligence in his operation. Due diligence may be determined by the Engineer by reviewing surface and subsurface conditions that were existing prior to exposing the facility and determining the absence of any signs sufficient to warn a diligent Contractor of the possible existence of a facility in the area.

Immediately upon encountering unknown existing facilities, the Contractor shall notify the Engineer in writing of the situation, request coverage of the work as extra work, and aid the Engineer in determining due diligence. Failure to do so may result in forfeiture of any rights to receive extra work compensation under Section 8-1.07, "Delay", of the Standard Specifications. Should the Contractor stop work, no compensation will be made for any "down time" prior to written notifications being received by the Engineer or his representative.

Delays due to encountering unexpected facilities shall be determined and compensated in accordance with the provisions of Section 8-1.07, "Delay", of the Standard Specifications, and as herein modified. Delays due to encountering unexpected facilities shall be compensated as additional contract working days to the contractor. Contractor shall submit a written request to the Engineer requesting time extension due to the delay. No other compensation is allowed.

Payment for complying with this Special Provision shall be included in the various items of work, and no additional compensation will be allowed therefore.

**10-1.05 SYSTEM OUTAGE REQUEST, CITY OF STOCKTON FACILITIES**

Modifications to existing facilities, the construction of new facilities, and the connection of new to existing facilities may require the temporary outage or bypass of treatment processes, equipment, utilities, or other facilities. In addition to the Construction Schedule required under these Special Provisions, the Contractor shall submit a System Outage Request (SOR) and a detailed outage plan and time schedule for all construction

activities, which will make it necessary to remove a tank, pipeline, channel, electrical circuit, control circuit, equipment, structure, road, or other facilities from service.

The SOR and outage plan shall be submitted to the Engineer and other affected utilities for review and acceptance a minimum of two (2) weeks in advance of the time that such outage is needed. The outage plan shall be coordinated with the construction schedule specified in these Special Provisions and shall meet the restrictions and conditions specified in this section. The detailed plan shall describe the Contractor's method for preventing bypassing of other facilities; the length of time required to complete said operation; any necessary temporary power, controls, instrumentation, or alarms required to maintain control, monitoring, and alarms for the affected facilities; and the labor, plant, and equipment which the Contractor shall provide in order to ensure proper operation.

In addition, the outage plan shall describe the Contractor's contingency plan that shall be initiated in the event that his temporary facilities fail, or it becomes apparent that the time constraints described in the approved outage plan cannot be met. The contingency plan shall conform to all specified outage requirements. All costs for preparing and implementing both the outage and contingency plans shall be borne by the Contractor with no additional compensation therefore.

The Contractor shall provide, Monday through Friday, at least three (3) working days prior to the actual shutdown, written confirmation of the shutdown date and time, or written notification that the schedule for performing the work has changed, or revisions to the outage plan are required.

Operations of the City's facilities and utilities are critical to the public health and safety of the citizens of Stockton. Sufficient facilities to serve the needs and demands of the City shall remain in service at all times. The City and/or affected utility owner shall be the sole judge of its needs and the facilities that must remain in service to provide adequate service.

The Contractor shall coordinate and cooperate with the City and utilities to establish the Contractor's schedule for work at the entire project facilities. The approved project schedule shall be subject to change, as it pertains to site work and shutdowns, when required by the City/utilities to accommodate unforeseen or emergency situations in the operation of the affected facilities.

Payment for complying with this Special Provision shall be included in the various other items of work, and no additional compensation will be allowed therefore.

#### **10-1.06 BLANK**

#### **10-1.07 SHEETING AND SHORING**

Attention is directed to the Section 10-1.02E, "Excavation" of the Caltrans Specifications. Excavations shall be adequately shored and braced so that the earth will not slide, move, or settle, and so that all existing improvements of any kind will be fully protected from damage.

Attention is called to Article 6 of "Construction Safety Orders" of the California Division of Industrial Safety, which applies to all open excavations made in the earth's surface, including trenches.

Trenches over five (5) feet in depth requires a permit from California Division of Industrial Safety and shall be evaluated for stability prior to personnel entering the trench. Where trenches are deeper than five (5) feet, the Contractor shall comply with the California Occupational Safety and Health Administration (CAL OSHA) requirements pertaining to trench safety.

The Contractor shall furnish, install, and maintain such sheet piling, timbering, lagging, and bracing as indicated on the standard drawings or any additional precautions not specifically set forth as necessary to support the sides of the trench. The protection of adjacent structures from movement of the ground and the elimination of the element of danger to life, property, or to existing improvements is the intent of this requirement.

Additional supports requested by the Engineer shall in no way relieve the Contractor of his responsibility for the sufficiency of his precautions.

All such piling, timbering, lagging, and bracing shall, unless otherwise required by the Engineer, be removed during backfilling in such a manner as to prevent any movement of the ground or damage to the piping or other structures.

Full compensation for complying with these provisions shall be included in the contract prices paid for the various items of work, and no additional compensation will be allowed therefore.

#### **10-1.08 SURFACE RESTORATION**

Surface restoration shall consist of restoring all areas within the limits of work to their original existing condition prior to construction or to the condition shown on the plans or specified in the Specifications.

The Contractor shall restore all paved areas, such as driveways, curb and gutter, sidewalk, roadway surfaces, ditches, etc., landscaped areas, and all other improvements disturbed or damaged by his operations.

Payment for the restoration of damaged areas, for which specific bid items are not provided, shall be included in the prices paid for various items of work and no additional compensation will be allowed therefore.

#### **SECTION 11 – BLANK**

#### **SECTION 12 – TEMPORARY TRAFFIC CONTROL**

Attention is directed to Part 6 of the California MUTCD, and Sections 12, "Temporary Traffic Control", of the Caltrans Specifications, Standard Specifications, and these

Special Provisions.

**12-1.01 MAINTAINING TRAFFIC**

Attention is directed to Part 6 of the California MUTCD, Sections 7-1.03, "Public Convenience", 7-1.04, "Public Safety", Section 12-4 "Maintaining Traffic", of the Caltrans Specifications, and Section 10-1.01, "Order of Work", of these Special Provisions. Nothing in these Special Provisions shall be construed as relieving the Contractor from the responsibilities specified in these sections.

The Contractor shall furnish, and maintain in good working order, all barricades and flashers, and provide flaggers as necessary to protect pedestrians, bicyclists, and vehicular traffic. The Contractor shall furnish and maintain all barricades, flashers, and any detour signs twenty-four (24) hours a day, including covering or removing signs during non-construction hours.

The Contractor shall provide adequate and continuous ingress and egress for all adjacent properties; except for the limited period of time it is necessary to perform work at a specific property. The Contractor shall diligently prosecute all work directly impacting businesses to completion. The Contractor shall coordinate limited closures with tenants or owners, as required by these Special Provisions, and as directed by the Engineer. The Contractor shall cover signal heads with traffic jackets, signs and other traffic control devices that may conflict with any detours.

The Contractor shall submit to the City Engineer a detailed "Traffic Control Plan" for review and approval. The "Traffic Control Plan" shall be submitted, reviewed and approved by the City Traffic Engineer prior to the Pre-Construction Meeting.

The "Traffic Control Plan" shall conform to the typical traffic control details included in the Caltrans Plans, Part 6 of the California MUTCD, and the requirements of Section 12-1.02, "Traffic Control System for Lane Closure", of these Special Provisions. The Traffic Control Plan shall include, but not be limited to, detailed requirements for the following:

- ◆ Traffic control devices, including signs and markings.
- ◆ Construction routes, phasing and/or staging of both the roadway and sidewalk areas.
- ◆ Employee, Customer, and Business/Delivery access to adjacent property.
- ◆ Emergency vehicles access.
- ◆ Bus, refuse collection, and mail delivery access.
- ◆ Any parking zones to be removed on a temporary basis.
- ◆ Pedestrian and bicyclist access.

The Traffic Control Plan shall consider the impacts of changes in traffic volumes and capacities related to the construction activities, and their impact on vehicular and bicycle traffic and pedestrian operations, on roadway pavements, including provisions to restore construction-damaged pavements.

### **Traffic Lane and Sidewalk Closures**

Lanes and sidewalks may be closed only as indicated in the Section 12, of these Special Provisions. Except for work required under Section 7-1.03 "Public Convenience" and Section 7-1.04, "Public Safety" of the Standard Specifications, work that interferes with public traffic shall be performed only as indicated. Traffic lane and sidewalk closures shall conform to the following requirements:

Lane closure, a maximum of one lane in each direction of travel, not less than twelve (12) feet wide, shall be permitted only between the hours of 9:00 a.m. and 3:30 p.m. Any lane closures other than specified shall be approved by the City Traffic Engineer.

Standard working hours shall be 8:00 a.m. to 5:00 p.m. Any extended working hours require the approval of the Engineer.

Personal vehicles of the Contractor's employees shall not be parked on the traveled way or shoulders, including any section closed to public traffic.

Adequate ingress and egress shall be maintained throughout the project limits for fire, police, and other emergency vehicles. The Contractor shall provide adequate ingress and egress for residences, property owners, and abutting business owners to their respective properties except when performing work at their specific locations.

Also, the Contractor shall provide adequate signing, barricades and flashers or portable flashing beacons, flaggers, and other equipment and personnel necessary to adequately control and direct traffic in a safe manner. The Contractor shall maintain all barricades, flashers and detour signs twenty-four (24) hours a day, including covering signs during non-construction hours. The Contractor shall also provide the City with the names and telephone numbers of three (3) representatives available at all times.

Except as otherwise allowed by the City Traffic Engineer, "long term" and temporary closures shall be removed and the full width of the traveled way shall be open for use by public traffic when construction operations are not actively in progress during the working period or successive working periods.

The contractor shall provide for pedestrian and wheelchair access to at least one (1) intersection corner within each block and the abutting sidewalk facilities along each block, at all times. Simultaneous closure of both intersection corners to pedestrian traffic within the same block is not allowed.

The contractor shall maintain at least one (1) north/south crosswalk and one (1) east/west crosswalk open to pedestrian and wheelchair access, where exists, at each intersection at all times.

Whenever Contractor's vehicles or equipment are parked within six (6) feet of a traffic lane, the area shall be closed with fluorescent traffic cones or portable delineators placed on a taper in advance of the parked vehicles or equipment and along the edge of the traffic lane at twenty-five (25) foot intervals to a point not less than twenty-five (25) feet

past the last vehicle or piece of equipment. A minimum of nine (9) cones or portable delineators shall be used for the taper. A W20-1 (Road Work Ahead) sign shall be mounted on a portable sign stand with flags. The sign shall be placed where directed by the City Traffic Engineer.

### **Temporary Pedestrian Access Routes**

Attention is directed to Section 12-4.04, "Temporary Pedestrian Access Routes" of the updated Caltrans Specification and these Special Provisions.

When a pedestrian circulation path is temporarily closed by construction, alterations, maintenance operations, or other conditions, contractor shall submit a work plan for a temporary pedestrian access route complying with Caltrans Specification Section 12-4.04A(3) and sections 6D.01, 6D.02, and 6G.05 of the MUTCD, and State Standard plans T30, T31, T32, T33, and T34 shall be provided. The work plan must be sealed and signed by an engineer who is registered as a civil engineer in the State.

Whenever possible work should be done in a manner that does not create a need to detour pedestrians from existing pedestrian routes. Extra distance and additional pedestrian street crossings add complexity to a trip and increase exposure of risk to accidents. The alternate pedestrian routes shall be accessible and detectable, including warning pedestrians who are blind or have low vision about sidewalk closures. Proximity-actuated audible signs are a preferred means to warn pedestrians who are blind or have low vision about sidewalk closures.

The surface shall be skid-resistant and free of irregularities. Pedestrian walkways shall be maintained in good condition, and shall be suitable for wheelchair use. Walkways shall be kept clear of obstructions.

The Contractor shall cause the least possible disruption to the affected properties and restore suitable pedestrian access immediately following completion of the active work in progress.

At least one (1) continuous walkway along one (1) side of the street shall be available at all times. At locations where work is actively in progress, the pedestrian walkway within a single block may be temporarily closed at one (1) end of the block along one (1) side of the street. Pedestrians shall be rerouted to the walkway on the opposite side of the street.

Minor deviations from the requirements of this section, which do not significantly change the cost of the work, may be permitted upon the written request of the Contractor if, in the opinion of the Engineer, public traffic will be better served and the work expedited. These deviations shall not be adopted by the Contractor until the Engineer has approved them in writing. All other modifications will be made by contract change order.

### **12-1.02 TRAFFIC CONTROL SYSTEM FOR LANE CLOSURE**

A traffic control system shall consist of closing traffic lanes in accordance with the details shown on the plans, the provisions of Section 12, "Temporary Traffic Control", of the Caltrans Specifications, and Standard Specifications, and these Special Provisions.



The provisions in this section will not relieve the Contractor from the responsibility to provide additional devices or take the measures that may be necessary to comply with the provisions in Section 7-1.04, "Public Safety", of the Standard Specifications and these Special Provisions.

During traffic striping operations and pavement marker placement operations using bituminous adhesive, traffic shall be controlled, at the option of the Contractor, with either stationary or moving type lane closures. During all other operations, traffic shall be controlled with stationary type lane closures. The Contractor's attention is directed to the provisions in Sections 84-2.03, "Construction", of the Caltrans Specifications.

If any component in the traffic control system is displaced, or ceases to operate or function as specified, from any cause, during the progress of the work, the Contractor shall immediately repair the component to its original condition or replace the component, and shall restore the component to its original location.

When lane closures are made for work periods only, at the end of each work period, all components of the traffic control system, except portable delineators placed along open trenches or excavation adjacent to the traveled way shall be removed from the traveled way and shoulder. If the Contractor so elects, the components may be stored at selected central locations, approved by the Engineer, within the limits of the highway right-of-way.

Each vehicle used to place, maintain, and remove components of a traffic control system shall be equipped with a Type II flashing arrow sign, which shall be in operation when the vehicle is being used for placing, maintaining, or removing the components. Vehicles equipped with Type II flashing arrow signs not involved in placing, maintaining, or removing the components when operated within a stationary type lane closure shall only display the caution display mode. The sign shall be controllable by the operator of the vehicle while the vehicle is in motion. The flashing arrow sign shown on the plans shall not be used on the vehicles which are doing the placing, maintaining, and removing of components of a traffic control system, and shall be in place before a lane closure requiring its use is completed.

The Contractor shall pay fully the cost of furnishing all flaggers, including transporting flaggers, to provide for passage of public traffic.

Attention is directed to Part 6 of the California MUTCD. Nothing in these Special Provisions shall be construed as relieving the Contractor from his responsibility as provided in Part 6 of California MUTCD.

Full compensation for furnishing all labor (including flagging costs), materials (including signs), tools, equipment, and incidentals, and for doing all the work involved in lane closures, including placing, removing, storing, maintaining, moving to new locations, replacing, and disposing of the components of the traffic control system, as shown on the plans, as specified in the Caltrans Specifications and these Special Provisions, and as directed by the Engineer, shall be included in the lump sum price paid for "Traffic Control Detours and Access", and no additional work compensation will be allowed therefor.

Adjustments in compensation for traffic control system will be made only for increased or decreased traffic control system required by changes ordered by the Engineer and will be made on the basis of the cost of the increased or decreased traffic control necessary.

### **12-1.03 TYPE K TEMPORARY RAILING**

The Contractor shall install temporary railing (Type K) between a lane open to public traffic and an excavation, obstacle, or storage area when the following conditions exist:

- A. Excavations - the near edge of the excavation is twelve (12) feet or less from the edge of the lane, except:
  - 1. Excavations covered with sheet steel or concrete covers of adequate thickness to prevent accidental entry by traffic or the public.
  - 2. Excavations less than one (1) foot deep.
  - 3. Trenches less than one (1) foot wide for irrigation pipe or electrical conduit, or excavations less than one (1) foot in diameter.
  - 4. Excavations parallel to the lane for the purpose of pavement widening or reconstruction.
  - 5. Excavations in side slopes, where the slope is greater than 1:4 (vertical:horizontal).
  - 6. Excavations protected by existing barrier or railing.
- B. Temporarily Unprotected Permanent Obstacles - the work includes the installation of a fixed obstacle together with a protective system, such as a sign structure together with protective railing, and the Contractor elects to install the obstacle prior to installing the protective system; or the Contractor, for the Contractor's convenience and with permission of the Engineer, removes a portion of an existing protective railing at an obstacle and does not replace such railing complete in place during the same day.
- C. Storage Areas - material or equipment is stored within twelve (12) feet of the lane and the storage is not otherwise prohibited by the provisions of the Standard Specifications and these Special Provisions.

The approach end of temporary railing, installed in conformance with the provisions in this section, "Public Safety", and in Section 7-1.04, "Public Safety", of the Caltrans Specification, shall be offset a minimum of fifteen (15) feet from the edge of an open traffic lane. The temporary railing shall be installed on a skew toward the edge of the traffic lane of not more than one (1) foot transversely to ten (10) feet longitudinally with respect to the edge of the traffic lane.

If the fifteen (15) feet minimum offset cannot be achieved, the temporary railing shall be installed on the 10 to 1 skew to obtain the maximum available offset between the approach end of the railing and the edge of the traffic lane, and an array of temporary crash cushion modules shall be installed at the approach end of the temporary railing.

Temporary Railing shall conform to the provisions in Section 12-3.20, "Type K Temporary Railing", of the Caltrans Specifications. Temporary Railing, conforming to the details shown on Caltrans Standard Plan T3A and T3B, may be used.

Full compensation for furnishing all labor, materials, tools, equipment, and incidentals, and for doing all the work involved in installing and maintaining Type K Temporary Railing, as shown on the plans, as specified in the Caltrans Specifications and these Special Provisions, and as directed by the Engineer, shall be included in the lump sum price paid for "Traffic Control Detours and Access", and no additional work compensation will be allowed therefor.

#### **12-1.04 TEMPORARY PAVEMENT DELINEATION**

Temporary pavement delineation shall be furnished, placed, maintained, and removed in conformance with the provisions in Section 12-6 "Temporary Pavement Delineation" of the Caltrans Specifications and these Special Provisions. Nothing in these Special Provisions shall be construed as reducing the minimum standards specified in the California MUTCD or as relieving the Contractor from the responsibilities specified in Section 7-1.04, "Public Safety", of the Caltrans Specifications, Standard Specifications, and these Special Provisions. Whenever the work causes obliteration of existing pavement delineation, temporary or permanent pavement delineation shall be in place prior to opening the traveled way to public traffic. Laneline or centerline pavement delineation shall be provided at all times for traveled ways open to public traffic.

The Contractor shall perform the work necessary to establish the alignment of temporary pavement delineation, including required lines or marks. Surfaces to receive temporary pavement delineation shall be dry and free of dirt and loose material. Temporary pavement delineation shall not be applied over existing pavement delineation or other temporary pavement delineation. Temporary pavement delineation shall be maintained until superseded or replaced with a new pattern of temporary pavement delineation or permanent pavement delineation.

Temporary pavement markers, including underlying adhesive and removable traffic tapes which are applied to the final layer of surfacing or existing pavement to remain in place or which conflicts with a subsequent or new traffic pattern for the area, shall be removed when no longer required for the direction of public traffic, as determined by the Engineer.

#### **12-1.05 CONSTRUCTION AREA SIGNS**

Construction area and informational signs shall be furnished, installed, maintained, and removed when no longer required in accordance with the provisions in Section 12, "Temporary Traffic Control", of the Caltrans Specifications, Standard Specifications, and these Special Provisions.

The Contractor shall notify the appropriate regional notification center for operators of subsurface installations at least two (2) working days, but not more than fourteen (14) calendar days, prior to commencing any excavation for all the sign posts.

All excavations required to install all the signs shall be performed by hand methods without the use of power equipment, except that power equipment may be used if it is

determined there are no utility facilities in the area of the proposed post holes. The post hole diameter, if backfilled with Portland cement concrete shall be at least 4 inches greater than the longer dimension of the post cross section.

Sign substrates for stationary mounted construction informational signs may be fabricated from fiberglass reinforced plastic, as specified under "Pre-qualified and Tested Signing and Delineation Materials" elsewhere in these Special Provisions.

Type IV reflective sheeting for sign panels for portable signs shall conform to the requirements specified under "Pre-qualified and Tested Signing and Delineation Materials" elsewhere in these Special Provisions.

The Contractor shall maintain accurate information on the signs. Signs that are no longer required shall be immediately covered and removed. Signs that convey inaccurate information shall be immediately replaced or the information shall be corrected. Covers shall be replaced when they no longer cover the signs properly. The Contractor shall immediately restore to the original position and location any sign that is displaced or overturned, from any cause during the progress of work.

#### **12-1.06 MAINTAINING EXISTING AND TEMPORARY ELECTRICAL SYSTEMS**

Maintaining existing electrical systems and communication systems shall conform to the provisions of Section 87, "Electrical Systems," of the Caltrans Specifications and these Special Provisions. Existing traffic signal systems and communication systems shall be kept in effective operation for the benefit of the traveling public during the progress of the work, except when shut down is permitted. The traffic signal shutdowns shall be limited to the hours of 9:00 a.m. to 3:30 p.m., and shall be permitted only during the switch over from existing to new controller operation, unless prior approval is obtained from the Engineer. Contractor required to obtain authorization at least three (3) working days before interrupting communication between an existing system and the traffic management center (TMC).

**Temporary standards with signal equipment may be required during the construction of the new installation. The Contractor shall provide temporary equipment if deemed necessary by the Contractor or Engineer.** The cost of the temporary systems shall be included in the lump sum price paid for the various contract items of work involved and no additional compensation shall be allowed therefor.

#### **12-1.07 BARRICADES AND CHANNELIZERS**

Barricades shall be furnished, placed and maintained at the locations shown on the approved Traffic Control Plan (TCP), specified in Part 6 of the California MUTCD, in the Standard Specifications or in these Special Provisions or where designated by the Engineer. Barricades shall conform to the provisions in Section 12, "Temporary Traffic Control," of the Standard Specifications and these Special Provisions.

Attention is directed to Section 6-1.07 "Pre-qualified and Tested Signing and Delineation Material" of these special provisions regarding retroreflective sheeting for barricades.

Construction area sign and marker panels conforming to the provisions in Part 6 of the California MUTCD and Section 12, "Temporary Traffic Control," of the Caltrans Specifications, Standard Specifications, and these Special Provisions shall be installed on barricades in a manner determined by the Engineer at the locations shown on the plans and the TCP. Where provided, pedestrian barricades and channelizing devices shall comply with sections 6F.63, 6F.68, and 6F.71 of the MUTCD.

Channelizers shall conform to the provisions in Section 12, "Temporary Traffic Control," of the Standard Specifications, Caltrans Specifications, and these special provisions.

Channelizers shall conform to the provisions in Section 6-1.07 "Pre-qualified and Tested Signing and Delineation Material" of these Special Provisions.

At the time of completion of the project, certain channelizers shall be left in place as determined by the Engineer.

When no longer required for the work as determined by the Engineer, channelizers (except channelizers to be left in place) and underlying adhesive used to cement the channelizer bases to the pavement shall be removed. Removed channelizers and adhesive shall become the property of the Contractor and shall be removed from the site of work.

#### **12-1.08 PAYMENT**

Full compensation for all work under Section 12, "Temporary Traffic Control", shall be considered as included in the lump sum price paid for "Traffic Control Detours and Access", and no additional work compensation will be allowed therefore.

### **SECTION 13 – WATER POLLUTION CONTROL**

#### **13-1.01 GENERAL**

Attention is directed to Sections 13, "Water pollution Control", of the Caltrans Specifications, these Special Provisions, and as directed by the Engineer.

The Contractor shall develop and implement a Water Pollution Control Program (WPCP), which specifies Best Management Practices (BMPs) that will prevent all construction pollutants from contacting storm water and with the intent of keeping all products of erosion from moving off site into receiving waters. The Contractor shall inspect and maintain all BMPs.

Full compensation for water pollution control shall be considered as included in the lump sum price paid for "Stormwater Pollution BMP's", and no additional work compensation will be allowed therefore.

## **SECTION 14 – ENVIRONMENTAL STEWARDSHIP**

Attention is directed to Sections 14, "Environmental Stewardship", of the Caltrans Specifications, these Special Provisions, and as directed by the Engineer.

### **14-1.01 CONSTRUCTION SITE WASTE MATERIALS MANAGEMENT**

Removal of existing traffic stripes and marking shall be per Caltrans Specifications Section 84-9, "Existing Markings".

Where grinding or other methods approved by the Engineer are used to remove thermoplastic traffic stripes and pavement markings, the removed residue, including dust, shall be tested for lead and chromium content. If the thermoplastic grindings are found to be hazardous, the materials shall be disposed of at a Class 1 facility.

Residue from removing traffic stripes and pavement markings may contain lead from the paint or thermoplastic. The average lead concentrations are less than 1,000 mg/kg total lead and 5 mg/L soluble lead. This residue:

1. Is a nonhazardous waste
2. Does not contain heavy metals in concentrations that exceed thresholds established by the Health and Safety Code and 22 CA Code of Regs
3. Is not regulated under the Federal Resource Conservation and Recovery Act (RCRA), 42 USC § 6901 et seq.

Submit a lead compliance plan under section 7-1.02K(6)(j)(ii) "Lead Compliance Plan", of the Caltrans Specifications.

### **Earth Material Containing Lead**

This section includes specifications for handling, removing, and disposing of earth material containing lead.

Submit a lead compliance plan.

If earth material is disposed of:

1. Disclose the lead concentration of the earth material to the receiving property owner when obtaining authorization for disposal on the property
2. Obtain the receiving property owner's acknowledgment of lead concentration disclosure in the written authorization for disposal
3. You are responsible for any additional sampling and analysis required by the receiving property owner

If you choose to dispose of earth material at a commercial landfill:

1. Transport it to a Class III or Class II landfill appropriately permitted to receive the material
2. You are responsible for identifying the appropriately permitted landfill to receive

the earth material and for all associated trucking and disposal costs, including any additional sampling and analysis required by the receiving landfill

### **Soil Handling**

Excess soils must be handled as potential hazardous waste, or the excess soils must be tested for concentrations of lead prior to disposal.

### **Contaminated Soil**

Identify contaminated soil from spills or leaks by noticing discoloration, odors, or differences in soil properties. Soil with evidence of contamination must be sampled and tested by a laboratory certified by Environmental Laboratory Accreditation Program (ELAP).

If levels of contamination are found to be hazardous, handle and dispose of the soil as hazardous waste.

Prevent the flow of water, including ground water, from mixing with contaminated soil by using one or a combination of the following measures:

1. Berms
2. Cofferdams
3. Grout curtains
4. Freeze walls
5. Concrete seal course

If water mixes with contaminated soil and becomes contaminated, sample and test the water using a laboratory certified by ELAP. If levels of contamination are found to be hazardous, handle and dispose of the water as hazardous waste.

Upon completion of underground facilities and backfilling of the trenches in each portion of the work, the sub-grade shall be prepared by compacting to a relative compaction of not less than ninety-five (95) percent for a minimum depth of zero point five (0.5) feet below the grading plane (sub-grade plane) for a total width of the area to be paved.

All portland cement concrete flatwork shall be saw-cut a minimum of 3-1/2 inches deep prior to removal. All monolithic portland cement concrete shall be saw-cut a minimum of 8 inches deep prior to removal.

Existing asphalt concrete sections to be removed shall be neatly saw cut two and one-half (2-1/2) inches deep and excavated to a depth of fifteen (15) inches. The vertical edges of the pavement shall be neatly trimmed. All debris shall be removed. The top six inches of the sub-grade shall be compacted to 90% of the maximum density at near optimum moisture content.

### **Payment**

Full compensation for disposing, transporting, testing and preparation of lead compliance plan handling material contaminated, or potentially contaminated with aurally deposited

lead, except as otherwise provided, shall be considered as included in the prices paid for the various contract items of work involved and no additional compensation will be allowed therefor.

Payment for handling, removal, transporting, and disposal of pavement residue that is a nonhazardous waste is included in the prices paid for the various contract items of work involved and no additional compensation will be allowed therefor.

#### **14-1.02 AIR POLLUTION CONTROL**

Attention is directed to Section 14-9.02 “Air Pollution Control” of the Caltrans Specifications.

Comply with air pollution control rules, regulations, ordinances, and statutes that apply to work performed under the contract, including air pollution control rules, regulations, ordinances, and statutes provided in government code 11017 (Pub Cont Code 10231).

Do not burn material to be disposed of.

Full compensation for conforming to the requirements of this section shall be considered as included in the prices paid for the various contract items of work involved, and no additional compensation will be allowed therefor.

#### **14-1.03 DUST CONTROL, APPLY WATER, SITE MAINTENANCE, AND CLEANUP**

Dust control shall conform to any requirements set forth in the San Joaquin Valley Air Pollution Control District Construction Notification Form, the provisions in Section 14-9, “Air Quality” of the Caltrans Specifications, and these Special Provisions. Use of water except for recycled, reclaimed, or other non-potable water for the purpose of dust control or other construction uses unless for health or safety purposes is prohibited. All dust control operations shall be performed by the Contractor at the time, location and in the amount ordered by the Engineer. The application of either water or dust palliative shall be under the control of the Engineer at all times. Watering shall conform to the provisions of Section 13 “Water Pollution Control” of the Caltrans Specifications and these Special Provisions. Attention is also directed to Section 18 “Dust Palliatives” of the Caltrans Specifications.

During construction, the Contractor shall remove all rubbish and debris as it is generated. Upon completion of the work, the Contractor shall remove all equipment, debris, and shall leave the site in a neat, clean condition all to the satisfaction of the Engineer. A permit shall be obtained from the Municipal Utilities Department, or California Water Service, as applicable, for construction water obtained from City hydrants. This permit shall be approved by the City of Stockton Fire Department.

The Contractor shall conduct and cause all working forces at the site to maintain the site in a neat, orderly manner throughout the construction operations. The work shall be conducted in a manner that will control the dust. When ordered to provide dust control, the Contractor shall use water to reduce the dusty conditions all to the satisfaction of the Engineer. During construction, the Contractor shall remove all rubbish and debris as it is



generated. The Contractor shall pay to the City of Stockton the sum of Two Hundred Fifty Dollars (**\$250**) for every calendar day where debris has remained on the job site overnight. Upon completion of the work, the Contractor shall remove all equipment and debris, and shall leave the site in a neat, clean condition all to the satisfaction of the Engineer.

**14-1.04 SOUND CONTROL REQUIREMENTS**

The Contractor's attention is directed to Section 14-8.02 "Noise Control" of the Caltrans Specifications and the project specific equipment noise control measures listed in Table 14-1 below. Nothing in the Caltrans Specifications or these Special Provisions voids the Contractor's public safety responsibilities or relieves the Contractor from the responsibility to comply with other ordinances regulating noise level.

The Contractor shall comply with all local sound control and noise level rules, regulations and ordinances which apply to any work performed pursuant to the contract. 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 the muffler.

To minimize the construction impacts to residents, the Contractor is encouraged to select the bore method (directional drilling) over conventional trenching to install new conduits.

The noise level requirement shall apply to the equipment on the job or related to the job, including, but not limited to, trucks, transit mixers, or transient equipment that may or may not be owned by the Contractor. All equipment shall have sound-control devices that are no less effective than those provided on the original equipment. The use of loud sound signals shall be avoided in favor of light warnings except those required by safety laws for the protection of personnel.

**Project Specific Equipment Noise Control**

Table 8-1 summarizes noise levels produced by construction equipment that is commonly used on roadway construction projects. Construction equipment is expected to generate noise levels ranging from 70 to 90 dB at a distance of 50 feet, and noise produced by construction equipment would be reduced over distance at a rate of about 6 dB per doubling of distance. The noise levels generated by the boring machine would be lower than any equipment listed in the table.

**Table 14-1. Construction Equipment Noise**

<b>Equipment</b>	<b>Maximum Noise Level (dBA at 50 feet)</b>
Scrapers	89
Bulldozers	85
Heavy Trucks	88
Backhoe	80
Pneumatic Tools	85
Concrete Pump	82

---

*Source:* Federal Transit Administration 1995.

Further, implementing the following measures would minimize the temporary noise impacts from construction:

All equipment shall have sound-control devices that are no less effective than those provided on the original equipment. No equipment shall have an unmuffled exhaust.

As directed by the Engineer, the contractor shall implement appropriate additional noise mitigation measures as warranted. These could include, but are not specifically limited to, changing the location of stationary construction equipment, turning off idling equipment, rescheduling construction activity, notifying adjacent residents in advance of construction work, and installing acoustic barriers around stationary construction noise sources. Furthermore, construction activities shall be limited to the time period between 8:00 a.m. and 5:00 p.m.

Full compensation for conforming to the requirements of this section shall be considered as included in the prices paid for the various contract items of work involved, and no additional compensation will be allowed therefore.

#### **14-1.05 PRE-CONSTRUCTION MIGRATORY BIRD SURVEY**

The pre-construction migratory bird survey will be performed by San Joaquin Council of Government. The survey must be conducted to determine the presence of nesting migratory birds.

##### Pre-Construction Survey

The City Project Manager and the Contractor must coordinate with SJCOG to ensure that the survey takes place no more than 14 days prior to any construction activities if construction occurs during the nesting season (February 15 to September 1). If active nests are observed within 0.25 miles of the project, the contractor must coordinate with the SJCOG biologist to determine the need and applicability of any temporal restrictions, buffers, or monitoring for construction activities and/or consultation with the California Department of Fish and Game (CDFG 1994).

Contractor must request a copy of the preconstruction migratory bird survey report and should keep in in a place where it can be available upon request.

#### **14-1.06 CULTURAL RESOURCES**

If cultural materials are discovered during construction, including human remains, do not disturb the resources and immediately stop all work within a 60-foot radius of the discovery and within any nearby area suspected to overlie the discovery. Immediately notify all appropriate parties including the Caltrans District 10 Local Assistance archaeologist, the Local Assistance Engineer (DLAE), and the County Coroner if human remains are found. Do not move cultural materials or take them from the job site. Do not resume work within the discovery area until authorized. Additional protocols for human remains are given in the State Health and Safety Code Section §7050.5 and §5097.98.

Full compensation for doing all the work involved in cultural resources shall be considered as included in the contract prices paid for the various items of work and no additional compensation will be made therefore.

## **SECTION 15 – EXISTING FACILITIES**

### **15-1.01 EXISTING FACILITIES**

Contractor attention is directed to requirements of Section 5-1.15, "Property and Facility Preservation" of these Special provisions, and 7-1.05, "Indemnification" and 7-106 "Insurance", of the Caltrans Specifications.

The work shall be performed in connection with various existing highway facilities (i.e., traffic signals and streetlights, storm drain pipe, catch basins, sidewalk drains, roadway pavement, roadside signs, utility boxes, trees, fences, etc.) shall conform to the provisions in Section 15, "Existing Facilities", of the Caltrans Specifications and these Special Provisions.

All traffic control signs shall be maintained. If relocation is necessary to facilitate the construction, the Contractor shall notify the Public Works Department three (3) working days prior to said relocation, and request for approval as to where sign is to be temporarily relocated. Full compensation for performing such removal and reinstallation shall be considered as included in the various items of work and no additional compensation will be allowed therefore.

Fire hydrants, water valves, curb-stop boxes, and other utility facilities shall be unobstructed and accessible during the construction period.

Should the Contractor desire to have any alterations made in any utility or other improvement for Contractor's own convenience in order to facilitate Contractor's construction operations and for Contractor's sole benefit, Contractor shall make all necessary arrangements with the owners and bear all expense in connection therewith.

Removed highway facilities that are not to be salvaged shall become the property of the Contractor and shall be disposed of according to these special provisions, Section 15 "Existing Facilities" of Caltrans specifications, and as indicated on the plans.

Items of work under this section, "Existing Facilities", for which specific bid items are not provided, shall be considered as included in the prices paid for the various items of work of the bid schedule, and no additional compensation will be provided therefore.

Any contract adjustment that may be warranted due to differing site conditions will be made in accordance with the provisions of Section 4-1.01, "Changes and Extra Work", of these Special Provision.

Relocations or repairs necessitated because of existing facilities which are not shown on the plans, or are shown at substantially different locations than shown may be paid as

extra work in accordance with Section 4-1.01, “Changes and Extra Work”, of these Special Provisions, but only if the Engineer rules that the Contractor exercised due diligence in his operation. Due diligence may be determined by the Engineer by reviewing surface and subsurface conditions that were existing prior to exposing the facility, and determining the absence of any signs sufficient to warn a diligent Contractor of the possible existence of a facility in the area.

### **Utility Facilities**

Attention is directed to the possible existence of underground utilities not known to the City or in a location different from that which is shown on the plans or in these Special Provisions. The Contractor shall take steps to ascertain the exact location of such facilities prior to doing any work that may damage such facilities or interfere with their service.

### **Remove Existing Concrete**

Existing concrete sidewalk, gutter, curb and gutter, driveways, wheelchair ramps, and other concrete surfacing, where shown on the plans to be removed, shall be removed and disposed of. Concrete removal includes removal of any steel embedded in the concrete. Sawcut concrete ramps, walks, curbs, and gutters to be removed at the nearest joint or score line, at the locations indicated on the plans, and as designated by the Engineer.

### **Remove Existing Pavement**

Asphalt concrete pavement and aggregate base shall be removed by saw-cutting and excavation or cold planing to the lines, depths, and dimensions indicated on the plans and/or as directed by the Engineer.

### **Roadside Signs**

Unless otherwise shown on the plans, the Contractor shall maintain existing roadside signs in place. The Contractor shall replace or repair all signs damaged by his/her operations and under this contract by using new material. Such material shall be a replacement of the original in regards to type of sign, posts, and construction. Relocation of the existing signs shall be done the same day the sign is removed from its original location.

At the Contractor's option, existing signs may be temporarily removed in order to facilitate the Contractor's construction of other improvements included under this contract. Any sign which is removed or damaged by the Contractor shall be reinstalled at its original location using new unistrut posts in conformance with the Standard Specifications. Existing steel pipe sign posts shall be salvaged as directed by the Engineer. Each roadside sign shall be reinstalled on the same day that the sign is removed.

**All new non-mast arm mounted signs shall have High Intensity Prismatic (HIP) reflective sheeting (reflectivity; ASTM type III) and covered with anti-graffiti film. The anti-graffiti film shall be transparent overlay for use on signs. The reflective sheeting and anti-graffiti film shall be from same manufacturer and guaranteed for the same number years.**

Full compensation for any temporary removal and reinstallation of roadside signs and removing existing concrete and pavement shall be considered included in the various bid items, and no additional compensation will be allowed therefor.

## **SECTION 16 – BLANK**

## **DIVISION III EARTHWORK AND LANDSCAPE**

### **SECTION 17 – EARTHWORK AND LANDSCAPE**

#### **17-1.01 CLEARING AND GRUBBING**

Clearing and Grubbing shall conform to the requirements of Section 16, "Clearing and Grubbing", of the Standard Specifications, Section 17-2, "Clearing and Grubbing", of the Caltrans Specifications, and these Special Provisions.

Payment for removal of existing highway facilities for which specific bid items are not provided, shall be considered as included in the contract prices paid for various items of work, and no additional compensation will be provided therefore.

All materials removed shall be off hauled and disposed of by the Contractor.

Attention is directed to Section 19-1.03D, "Buried Man-Made Objects", of the Caltrans Specifications.

Existing underground structures, trash, debris, loose fill, tree roots, tree remains, organic surficial soil, and other rubbish shall be removed or otherwise disposed of so as to leave the areas that have been disturbed with a neat and finished appearance, free from debris. Depressions left from any removals shall be properly filled and compacted in accordance with these Special Provisions, and as directed by the Engineer.

The methods for removal of subsurface irrigation and utility lines will depend on the depth and location of the line in relation to planned improvement. Unless otherwise specified, remove the pipe and compact the soil in the trench according to the applicable portions of these Special Provisions.

Where loose, uncompacted fill occurs at the surface of the site, the materials shall be excavated to expose firm natural ground or previously compacted fill. The exposed surface shall then be prepared to receive fill in accordance with the applicable portions of these Special Provisions.

Nothing herein shall be construed as relieving the Contractor of his responsibility for final cleanup of the highway as provided in Section 4-1.13, "Cleanup", of the Caltrans Specifications.

Full compensation for "Clearing and Grubbing" shall be considered included in the contract lump sum price paid for "Clearing and Grubbing", and no additional

compensation will be allowed. All the work involved in clearing and grubbing, shall include the removal and disposal of all the existing materials as shown on the plans, as specified in the Standard Specifications, these Special Provisions, and as directed by the Engineer. Where it is required the contractor shall test the materials, according to Federal and State guidelines and regulations, before disposal.

## **SECTION 18 – BLANK**

## **SECTION 19 – EARTHWORK**

### **19-1.01 ROADWAY EXCAVATION**

Roadway excavation shall conform to the requirements of Section 19, "Earthwork", of the Standard Specifications, Caltrans Specifications, and these Special Provisions. Wherever relative compaction is specified, it shall be determined by ASTM D1557.

Surplus excavated material shall become the property of the Contractor and shall be disposed of outside the highway right-of-way in accordance with the provisions in Section 19-2.03B, "Surplus Material", of the Caltrans Specifications. All excavated material shall be loaded for off-haul from the site as it is generated. Material will not be allowed to accumulate within the right-of-way. If excavation exceeds 15 feet, or if groundwater is present, groundwater sampling will be required.

Full compensation for Roadway Excavation shall be considered included in the contract prices paid for the various items of work requiring "Earthwork/Rough Grading" and no additional compensation will be allowed.

### **19-1.02 TRENCH EXCAVATION AND BACKFILL**

Trench excavation, pipe bedding, and backfill shall conform to the requirements of Section 71, "Sanitary Sewer and Storm Sewers", of the Standard Specifications and City of Stockton Standard Plan Nos. R-36 through R-43, and any amendment and revisions, these Special Provisions, and as specified on the plans. Controlled Density Fill (CDF) shall be mandatory for trenches 8" wide or less. Contractor shall grind 3" deep, 12" each side of trench, and repave. If excavation exceeds 15 feet, or if groundwater is present, groundwater sampling will be required.

Water control shall conform to the provisions of Section 19-3.03B(5) "Water Control and Foundation Treatment" of the Caltrans Specifications and these Special Provisions. The Contractor shall construct and maintain all necessary ditches, cofferdams, channels, drains, sumps, and temporary protective works, and shall furnish, install, and maintain all necessary pumping and other equipment for controlling flows, including ground water in the pipe trenches and structure excavations, so that no foundation will contain any free water. Full compensation for water control shall be included in the contract prices paid for various items of work, and no additional compensation will be made therefore.

The Contractor shall do all excavation of whatever substance is encountered to the lines and grades shown on the plans. Where it becomes necessary to excavate beyond the

limits of normal excavation lines in order to remove boulders or other interfering objects, the void remaining after the removal of the boulders shall be backfilled with suitable material and density, as approved by the Engineer. The Contractor shall do such grading as is necessary to prevent surface water from entering the excavation. The Contractor shall remove and dispose of all water entering the excavation. Disposal of water shall be done in a manner to prevent damage or nuisance to adjacent properties.

Due to width limitations, proximity of existing utilities, structures, and access requirements, the Contractor may be required to provide a vertical, open trench, shoring system for portions of this project. Shoring of all trench excavations shall conform to the Sheeting and Shoring Section of these Special Provisions.

The amount of open trench or plated trench permitted at any one time shall not exceed fifty (50) feet or as allowed by the Engineer. Trench excavation shall be closed and all lanes shall be restored to traffic at the end of each workday. The Contractor shall furnish and install non-skid steel plates to span trench sections, which have not been backfilled. Non-skid trench plates shall have a manufactured surface with a coefficient of friction that equals or exceeds zero point thirty-five (0.35).

Approach and ending plates shall be attached to the roadway by a minimum of two (2) dowels predrilled into the corner of the plate and drilled a minimum of two (2) inches into the pavement. Interior plates are to be butted together. Fine graded asphalt concrete shall be compacted to form ramps with a maximum slope of eight and one-half percent (8.5%) with a minimum twelve- (12) inch taper to cover all exterior edges of the plates. When the plates are removed, the dowel holes in the pavement shall be backfilled with graded fines of asphalt concrete mix. A concrete slurry or equivalent slurry mix may be substituted with the approval of the Engineer.

All operations shall be carried out in an orderly fashion. Backfilling, compacting, and clean-up work shall be accomplished as the work is approved and traffic through the work shall be impeded or obstructed as little as possible.

The trench bottom shall be free of bumps or hollows and graded to provide uniform support along the length of pipe.

Excess excavated material shall become the property of the Contractor and shall be removed and disposed of away from the job site at the Contractor's expense. Full compensation for the removal and disposal of excess or unsuitable material shall be considered included in the contract unit prices paid for the various items of work and no additional compensation will be allowed therefore.

Pipe bedding and backfill shall be placed above and below the pipe to the lines and grades shown on the City of Stockton Standard Plans Nos. R-36 through R-43, as shown on the plans, and as specified in these Special Provisions.

Delete Section 19-3.03E, "Structure Backfill", of the Caltrans Specifications and substitute the following:

"Pipe bedding, envelope, and trench backfill material shall consist of imported material, free from vegetable matter and other deleterious substances and shall form a firm, stable base when compacted. The percentage composition weight by weight shall conform to the following grading:

<u>Sieve Size</u>	<u>Percentage Passing</u>
1"	100
¾"	90-100
No. 4	35-60
No. 30	10-30
No. 200	2-9

The material shall conform to the following quality requirements:

	<u>Requirements</u>
Resistance (R-value)	78 min.
Sand equivalent	25 min.

In no case shall native excavated material be used as pipe bedding, envelope, and trench backfill.

Bedding material shall be placed to approximately the same elevation on both sides of pipe to prevent unequal loading and displacement of the pipe. The difference in elevation of the bedding backfill on either side of pipe shall not exceed six (6) inches at any time.

Trench backfill shall consist of the trench area from the top of the pipe bedding to the ground surface, or if within a roadway, to the bottom of the roadway subgrade.

Backfill shall be compacted by impact, vibration, or by a combination of these methods, as approved by the Engineer. However, impact type compactors shall not be used around or over PVC pipe until backfill over the top of the pipe will permit compaction of the backfill material without deflecting or damaging the pipe. Jetting will not be permitted.

All backfill shall be placed in maximum eight (8) inch uncompacted lifts.

Compaction shall be determined by ASTM D1557.

The Contractor shall place temporary surfacing promptly after backfilling and shall maintain such surfacing until permanent paving work can be installed.

Temporary paving shall consist of asphalt cutback rolled to provide a smoother surface. All edges shall be contoured to provide a smooth transition between the existing grade and the cutback surface. The Contractor shall maintain the surface free of depressions, bumps, loose pieces, and other defects at all times. During wet weather, the Contractor shall provide a solid, non-skid surface over temporary pavement to protect the surface from damage by traffic.



Temporary pavement shall be replaced with permanent pavement, as soon as is practical after the trench is backfilled and as allowed by the Engineer.

Until the permanent pavement is placed, the base rock and temporary asphalt plant mix at the surface of the trench shall be maintained at all times. Continuous inspection and maintenance of the trench area will be required.

Any excavation shall also conform to the provisions in Section 100, "Street Opening and Pavement Restoration Regulations" of the Standard Specifications.

Full compensation for doing all the work involved in trench excavation, bedding and backfilling, and placement of temporary paving shall be considered as included in the contract prices paid for the various items of work requiring "Earthwork/Rough Grading" and no additional compensation will be made therefore.

### **19-1.03 DEWATERING**

Attention is directed to Section 19-3.03B, "Structure Excavation", of the Caltrans Specifications and these Special Provisions.

If an NPDES (National Pollutant Discharge Elimination System) is required for disposal of water from construction dewatering activities, it shall be obtained by the contractor prior to any dewatering activities. Contractor shall comply with SWRCB requirements for discharging water from any dewatering operation, including obtaining all necessary permits, testing, and/or monitoring.

Dewater the excavation if ground water is encountered. Continue dewatering before and during subsequent excavation to prevent damage to the work. Foundation must be free of water when footing concrete or pipes are placed.

The contractor shall dispose of the water so as not to cause damage to the public or private property, or to cause a nuisance or menace to the public or violate the law. Dewatering shall be installed and operated so that the groundwater level outside the excavation is not reduced to the extent which would cause damage or endanger adjacent structures or property. The static water level shall be drawn down a minimum of 1 foot below the bottom to excavations to maintain the undisturbed state of natural soils and allow the placement of any fill to the specified density. The control of groundwater shall be such that softening of the bottom of excavations, or formation of "quick" conditions or "Boils", does not occur.

Full compensation for doing all the work involved in dewatering and water control shall be considered included in the contract lump sum price paid for Cofferdams, and no additional compensation will be made therefore.

## **SECTION 20 – LANDSCAPE**

### **20-1.01 PLANTING AND IRRIGATION**

The work performed in connection with planting shall conform to the provisions of Section 5-1.36, "Property and Facility Preservation," Section 15, "Existing Facilities," and Section 20, "Landscape," of the Caltrans Specifications and these Special Provisions.

All trash, debris, rubble, concrete, and other foreign materials shall be removed from planting areas prior to modifying/repairing irrigation systems and planting.

Existing plants shall be maintained as directed by the Engineer. Payment for maintaining existing plants shall be considered as included in the various items of work and no additional compensation shall be allowed therefore.

Contractor shall furnish and install 8-inches minimum imported topsoil in planting areas. Existing on-site soil can be used if approved by the Engineer. The topsoil shall be free of subsoil, refuse, roots, rocks larger than 1/2" diameter, weeds and brush, nematodes or other objectionable material.

Contractor shall furnish and install sod equal to or better than the existing lawn. Final lawn (sod) acceptance shall be subject to the approval of the City. Where new concrete is to be constructed, existing turf at back of the walk, shall be adjusted to the new finished grade. Sod shall be a good quality bluegrass mix free of noxious weeds.

When transplanting existing low grow vegetation, contractor must properly transplant with vegetation without damaging the existing plants. If plants don't survive being uprooted and transplanted, then the contractor must provide new plants to match the existing vegetation.

Contractor shall install additives and mulch as required by the Engineer. Commercial fertilizer (granular) shall be a pelleted or granular form controlled-release only and shall be applied at the rates as recommended by the manufacturer. Three applications of commercial fertilizer (slow release) shall be applied as directed by the Engineer. The plant establishment period shall be no less than 90 calendar days. All plant materials furnished and installed under this contract shall be guaranteed against any and all poor, inadequate or inferior installation and workmanship for the guarantee period of one year. Any materials found to be in poor condition during the plant establishment period shall be replaced immediately. The Engineer shall be the sole judge as to whether the poor condition of the material is the result of improper installation or of poor maintenance. Material to be replaced within the guarantee period shall be replaced by the Contractor within 10 days of written notification by the Engineer.

The Contractor shall protect all irrigation improvements that are to remain. All disturbed irrigation shall be replaced, in kind, to the satisfaction of the Engineer or their representative. Contractor shall be responsible for the removal and relocation of existing irrigation systems, including replacement of sprinkler heads, valves, lines, controllers, connections, etc. and other work, materials, or equipment required completing the work.

All repairs shall be made with new materials. Pipe materials for irrigation systems shall be Schedule 40 PVC. Nipples shall be threaded. Sprinklers shall be the type, pattern and material and shall have the operating characteristics as that which is removed or disturbed by the work. Contractor shall coordinate with City Inspector to verify prior to abandoning, reconnecting, or covering any existing irrigation found in the project area. Existing irrigation mainlines and laterals shall be protected. Reroute as necessary.

The Contractor shall protect all landscaping improvements that are to remain. All disturbed landscaping shall be replaced, in kind, to the satisfaction of the Engineer or their representative. All existing landscape improvements shall be documented with photographs prior to demolition to ensure accurate replacement. If required to match new sidewalk grade, existing lawns shall be (1) raised by lifting existing turf and filling with tamped imported Clements loam, replacing and rolling the turf; or (2) lowered by lifting existing turf, removing sufficient soil to lower properly, replacing and rolling the turf.

Where new sidewalk or trail is to be constructed, the existing turf at the back of the walk, shall be adjusted to the new finished grade. The contractor has two options (1) remove the existing turf to adjust the grade and replace the existing turf with new turf or (2) lift the existing turf and by removing or adding sufficient soil to adjust the turf to the new grade. Turf to be placed shall be a good quality bluegrass mix free of noxious weeds. All landscaping shall be maintained in good health upon completion of the project.

Full compensation for furnishing all labor, materials, tools, equipment, and incidentals, and for doing all the work involved in restoring planting and irrigation systems, complete in place, including the maintenance period, shall be considered as included in the contract lump sum price paid for "Miscellaneous Landscape Work", and no additional compensation will be allowed therefore.

## **SECTION 21 – EROSION CONTROL**

Attention is directed to the provisions in Section 21, "Erosion Control" of the Caltrans Specifications.

Full compensation for furnishing all labor, materials, tools, equipment, and incidentals, and for doing all the work involved in erosion control, including the maintenance period, shall be considered as included in the prices paid for the various items of work requiring "Erosion Control" and no additional compensation will be allowed therefore.

## **DIVISION IV SUBBASES AND BASES**

### **SECTION 26 – AGGREGATE BASE**

#### **26-1.01 AGGREGATE BASE**

Unless otherwise indicated in these Special Provisions or indicated on the plans, aggregate base shall conform to the requirements of Section 26, "Aggregate Bases", of the Caltrans Specifications for Class 2 aggregate base.

Aggregate base shall be placed in lifts no greater than eight (8) inches in loose thickness and in a manner that avoids segregation, moisture conditioned as necessary, and compacted to at least ninety-five percent (95%) relative compaction.

Full compensation for furnishing all labor, materials, tools, equipment, and incidentals, and for doing all the work involved in construction of the various depths of aggregate base, complete in place, will be considered as included in the contract prices paid for various items of work requiring aggregate base, and other items of work, and no additional compensation will be allowed therefore.

## **DIVISION V SUBSURFACE AND PAYMENT**

### **SECTION 39 – ASPHALT CONCRETE**

#### **39-1.01 ASPHALT CONCRETE**

Attention is directed to the provisions of Section 39-2, "Hot Mix Asphalt", of the Caltrans Specifications, and Section 39 of the Standard Specifications.

If requested by the Engineer, the Contractor shall provide a ski on the paving machine.

If poor quality paving joints show deterioration or open areas that allow water through the paving within one (1) year of paving, the Contractor will be required to fog seal for the full joint length for a minimum six (6) foot wide pass. All costs for seal will be at no additional cost to the City of Stockton.

Asphalt concrete shall not be placed adjacent to the curb and gutter until the area behind the curb and gutter is fully backfilled and compacted. It shall be the Contractor's responsibility, based on weather predictions, to schedule his paving operations to avoid paving in the rain or fog. If the day's operations are canceled because of predicted rain or fog, a non-working day will be allowed regardless of actual working conditions. The Engineer will determine whether the day's operation shall be canceled due to predicted rain or fog.

Asphalt concrete shall not be placed on any surface, which contains ponded water or excessive moisture in the opinion of the Engineer.

If paving operations are in progress and rain or fog forces a shut down, loaded trucks in transit shall return to the plant, and no compensation will be allowed therefore.

The Contractor shall furnish and use canvas tarpaulins to cover all loads of asphalt from the time that the mixture is loaded until it is discharged from the delivery vehicle, unless otherwise directed in writing by the Engineer.

The area to which paint binder has been applied shall be closed to public traffic. Care shall be taken to avoid tracking binder material onto existing pavement surfaces beyond

the limits of construction.

No traffic shall be allowed on to the area to which paint binder has been applied with the exception of vehicles unloading asphalt concrete. All vehicles involved with the Contractor's operations shall turn around within the road right-of-way. Driveways and other private property shall not be used without prior written consent of the involved property owner, a dated copy of which shall be delivered to the Engineer prior to the use thereof.

Full compensation for furnishing all labor, materials, tools, equipment, and incidentals, and for doing all the work involved in constructing asphalt concrete, complete in place, shall be considered as included in the contract lump sum price paid for "Asphalt Concrete", and no additional compensation will be allowed therefore.

## **DIVISIONS VI STRUCTURES**

### **SECTION 51 – CONCRETE STRUCTURES**

#### **51-4.01 PRECAST CONCRETE MEMBERS**

Concrete box culvert and headwalls shall conform to the provisions in Section 51, "Concrete Structures," of the Caltrans Standard Specifications and these special provisions.

Refer to Sheets C7.1 and C7.2 of the project plans.

#### **General**

This section covers the furnishing and placing of cast-in-place concrete as indicated and as specified.

The publications referred to hereinafter form a part of these specifications to the extent referenced. The publications are referred to in the text by the basic designation only. The latest edition of referenced publications in effect at the time of the bid shall govern. In case of conflict between the requirements of this section and the listed standards, the requirements of this section shall prevail.

#### **A. References**

The editions of the specifications and standards referenced herein, published by the following organizations, apply to the work only to the extent specified by the reference. The latest version in effect at the time of bid shall apply.

1. American Concrete Institute (ACI)
2. American Society for Testing and Materials (ASTM)
3. Corps of Engineers Specifications (CRD)
4. California Building Code (CBC)

## B. Regulatory Requirements

Except as modified by the requirements specified herein and/or the details on the plans, concrete work shall conform to the California Building Code (CBC), Chapter 19, "Concrete", 2019 Edition.

The Contractor shall submit information to substantiate compliance with this specification. In addition, the following specific information shall be submitted.

- A. Certificates of compliance for Portland cement.
- B. Manufacturers technical literature that certify compliance with applicable standards as indicated in these specifications for admixtures, curing compounds, expansion joint filler, sealer and chemical hardener, and all other concrete products to be used.
- C. Concrete mix design.
- D. Proposed construction joint locations and pour sequences.
- E. Preliminary installation plan including concrete pours.

## **Materials**

### A. Portland Cement

Portland cement shall be either "Type IP (MS) Modified" or "Type II Modified". "Type IP (MS) Modified" cement shall conform to the specifications for Type IP (MS) cement in ASTM C595 and shall be comprised of an intimate mixture of "Type II Modified" cement and not more than 20% of a pozzolanic material. "Type II Modified" cement shall conform to the specifications of Type II cement in ASTM C150. In addition, for "Type IP (MS) Modified" and "Type II Modified" cement shall conform to the following requirements:

1. The cement shall not contain more than 0.60% by weight of alkalis, calculated as the percentage of Na<sub>2</sub>O plus 0.658 times the percentage of K<sub>2</sub>O when determined by either direct intensity flame photometry or by the atomic absorption method. The instrument and procedure used shall be qualified as to precision and accuracy in accordance with the requirements of ASTM C114.
2. The autoclave expansion shall not exceed 0.50%.
3. Mortar, containing the portland cement to be used and Ottawa sand, shall not expand in water more than 0.010% and shall not contract in air more than 0.048%.

Mineral admixtures may be used to replace a portion of the required portland cement in accordance with the provisions of Section 51-4.01 Precast Concrete Members; Materials; Paragraph B Mineral Admixture.

All cement used in the manufacture of cast-in-place concrete for exposed surfaces of like elements of a structure shall be from the same cement mill.

Cement shall be protected from exposure to moisture until used. Sacked cement shall be piled to permit access for tally, inspection, and identification of each shipment.

**B. Mineral Admixture**

1. Mineral admixture shall conform to ASTM C618, Type F or C.
2. Required use: For all liquid bearing concrete structures, the concrete shall conform with either:
  - a. Concrete containing "Type IP (MS) Modified" cement conforming to the provisions in Section 51-4.01 Precast Concrete Members; Materials; Paragraph A Portland Cement in an amount sufficient to satisfy the specified minimum cement content. The modified cement shall contain a minimum of 15%, by weight, pozzolanic material.
  - b. Concrete containing "Type II Modified" cement conforming to the provisions in Section 51-4.01 Precast Concrete Members; Materials; Paragraph A Portland Cement, in an amount not less than 85% of the amount required to satisfy the specified minimum cement content. The concrete shall also contain a mineral admixture in an amount not less than 15% by weight, of the amount of cement required to satisfy the specified minimum cement content.
3. Optional Use: At structures other than liquid bearing concrete structures, the Contractor will be permitted to replace up to 15% of the required Portland cement, other than "Type IP (MS) Modified", with a mineral admixture. The weight of the mineral admixture used shall be equal to or greater than the weight of Portland cement replaced.
4. Admixtures shall conform to ASTM C494, be of a type that increases workability and reduces water demand of concrete, but will not increase shrinkage. Admixtures shall be subject to approval as to type and amount used. Admixtures shall contain not more than 1% chloride ions.

**C. Concrete Aggregates**

Before beginning concrete work, the Contractor shall submit in writing to the Construction Manager the gradation of the primary aggregate nominal sizes which he proposes to furnish. If the primary coarse aggregate or the fine aggregate is separated into two or more sizes, the proposed gradation shall consist of the gradation for each individual size, and the proposed portions of each individual size, combined mathematically to indicate one proposed gradation. Such gradation shall meet the grading requirements shown in ASTM C33 for normal weight concrete and ASTM C330 for lightweight concrete.

In lieu of the use of ASTM C227 to determine alkali reactivity of the aggregates as specified therein, the alkali reactivity shall be "innocuous" as determined by ASTM C289.

Fine aggregate shall be washed clean, shall be uniformly screen graded, and shall contain not more than 2% by weight of deleterious materials such as shale, schist,

alkali, clay lumps, earth, loam, mica or similar materials. Fine aggregate shall be graded uniformly from fine to coarse.

Coarse aggregate shall consist of clean, hard, crushed rock or washed gravel, free from organic materials or soft or friable materials and shall not contain more than 2% by weight of shale or cherty material and not more than 15% by weight of elongated fragments. Work fragments are strictly prohibited.

D. Admixtures

ASTM C494, of a type that increases workability and reduces water demand of concrete, but will not increase shrinkage. Admixture shall be subject to approval as to type and amount used. Admixtures shall contain not more than 1% chloride ions.

E. Air-Entraining Agent

ASTM C260, subject to approval by the Engineer.

F. Water Used in Mixing Concrete

Potable, clean and free from deleterious amounts of acid, alkalis, organic or other materials.

G. Curing Membrane

Nonstaining paper conforming to ASTM C171, or 6 mil thick polyethylene film.

H. Curing Compound

ASTM C309, liquid membrane forming, with fugitive dye for identification. Compound shall be compatible with finish to be applied thereto. Curing compound and areas receiving it must be approved by the Construction Manager.

I. Bonding Compounds

Epoxy resin bonding compounds shall be used for all concrete repairs and shall be Degusa Admixtures, Inc. Concreive Liquid (LPL), Paste (LPL), or Paste (SPL), as applicable; or ChemCo Liquid (LWL), Paste (LWL), Paste (SWL), as applicable or approved equal.

Non-epoxy bonding compounds may be used for dry areas and shall be Intralock as manufactured by W.R. Meadows, Weld-Crete as manufactured by Larsen Products Corp, or equal.

J. Bonding compounds shall be applied in accordance with the manufacturer's instructions.

## **Properties and Proportions**

A. Concrete

All concrete shall be normal weight concrete unless otherwise specified herein. Normal weight concrete shall have a minimum density of 150 pounds per cubic foot. Light weight concrete shall have a maximum density of 110 pounds per cubic foot.



The Contractor shall be responsible that the concrete formulation meet all aspects of this specification i.e., 28 day compressive strength, etc. Provide concrete conforming to the following unless otherwise noted on the plans:

Location	28 Day Compressive Strength (psi)	Maximum Aggregate Size (inch)	Slump (±1")	Maximum Water-Cement Ratio (by weight)
Foundations	4,000	1	4	0.60
Headwall Aprons	4,000	1	4	0.45
Headwalls, CIP Culvert	6,000	1	4	0.40

The quantity of cement to obtain the strength is the sole responsibility of the Contractor. To assure durable concrete using local materials, a minimum weight of cement/yd<sup>3</sup> (excluding all other cementitious materials) shall be used for the following:

1. Foundations, Aprons = 564 lbs
2. Headwalls, CIP Culvert = 705 lbs

In no case shall the maximum aggregate size used exceed 20% of a members thickness, nor 3/4 of the clear distance between reinforcing.

**Laboratory Tests and Mix Designs**

A. General

Compression tests of concrete shall be performed by a qualified testing laboratory retained and paid by the contractor. Mill tests and manufacturer's certification of compliance with ASTM Specifications may be submitted to the City in lieu of testing of cement and aggregate analysis.

B. Mix Designs

Contractor shall employ an approved testing laboratory who shall determine mix designs to fulfill the specified requirements for strength, aggregate size and workability of concrete, and such designs shall be used in proportioning all structural concrete. Mix designs shall be submitted for review by the Construction Manager.

Mix designs shall be made in accordance with ACI 211.1.

Cover and clear distances between reinforcing bars shown on the plans shall be considered in determining the aggregate size for mix designs and may result in an aggregate size smaller than the maximum aggregate size allowed elsewhere in this specification.

A list of where the mix designs are to be used shall accompany the designs.

Review shall not be considered unqualified approval, and shall not relieve the Contractor of his responsibility to furnish concrete of proper consistency and specified strengths.

### **Mixing**

Ready mixed concrete shall be mixed and transported in accordance with ASTM C94.

Concrete shall be mixed only in quantities for immediate use and shall be placed within 1 1/2 hours after the introduction of water to the mixture. Concrete which has set shall be discarded and shall not be retempered.

Indiscriminate addition of water to increase slump shall be prohibited. If concrete arrives at the project with slump below that suitable for placing, water may be added only if neither the maximum permissible water-cement ratio nor the maximum slump is exceeded. Additional water shall be added to the concrete one time only, upon immediate delivery of the concrete to the job site. The water must be incorporated by additional mixing equal to at least half of the total mixing required. Any addition of water above that permitted by the limitation of water-cement ratio must be accompanied by a quantity of cement sufficient to maintain the proper water-cement ratio. Such addition must be approved by the Construction Manager.

### **Conveying and Placing Concrete**

#### A. Notification

Notify the Construction Manager at least two working days in advance of placing concrete.

#### B. Preparation Before Placing

Hardened concrete and foreign materials shall be removed from the inner surfaces of the conveying equipment.

Formwork shall have been completed; excess water shall have been removed; reinforcement shall have been secured in place; expansion joint materials, anchors, and other embedded items shall have been positioned; and the entire preparation shall have been approved on the day before the placing of concrete.

Semiporous subgrades shall be sprinkled sufficiently to eliminate suction and extremely porous subgrades shall be sealed in an approved manner.

Before placing of any concrete, all forms shall be thoroughly cleaned, washed out with water, and made tight. Before reinforcing steel is placed on top of and/or adjacent to forms which have been sealed, the surface sealer shall be wiped off so that none may be traced over, or in any other way come in contact with the reinforcing steel. Bottoms of forms shall be cleaned and wet down before placing concrete.

All incrustation shall be removed from forms and reinforcing steel at construction joints.

Before depositing new concrete on or against hardened concrete, retighten forms and roughen surface of hardened concrete as follows. Concrete which has been

placed longer than 3 1/2 hours, but less than 6 1/2 hours, prepare by removing all laitance from concrete by wire brushing. Concrete which has been placed longer than 6 1/2 hours, prepare by sand blasting to roughen surfaces to a 1/4-inch amplitude and remove curing compounds previously applied to the construction joint. Thoroughly clean off foreign matter and laitance, and moisten with water.

### C. Placement

Concrete shall be handled from the mixer to the place of final deposit as rapidly as practicable by methods which will prevent separation or loss of ingredients.

Conveying equipment shall be of size and design to ensure a continuous flow of concrete at the delivery end.

Concrete shall be deposited continuously, or in layers of such thickness that no concrete will be deposited on concrete which has hardened sufficiently to cause the formation of seams, planes, or weakness within the section, or visible pour lines in the finish surface.

All concrete shall be consolidated by vibration so that the concrete is thoroughly worked around the reinforcement, around the embedded items, and into corners of forms, eliminating all air or stone pockets which may cause honeycombing, pitting, or planes of weakness. All mechanical vibrators shall have a minimum frequency of 7,000 rpm and shall be operated by competent workers. Over-vibration and use of vibrators to transport concrete within forms shall not be allowed. Vibrators shall be inserted and withdrawn at many points, from 18 to 30-inch apart, for 5 to 15 seconds duration. A spare vibrator shall be kept on the job site during all concrete placing operations. Particular care shall be given at exposed concrete surfaces.

Concrete for horizontal members and sections shall not be placed until the concrete in the supporting vertical members or sections has been consolidated and settlement due to bleeding has occurred.

Free fall placement of concrete is limited to 6 ft.

## **Repair of Surface Defects**

### A. Repair of Surface Defects

All form tie holes shall be filled and repairable defective areas patched and cured immediately after the forms have been removed. Remove fins and burrs.

### B. Removal

After forms have been removed, any concrete which is not formed as shown on the plans, or does not meet the approval of the Construction Manager shall be removed and replaced. Defective surfaces may be repaired and patched in accordance with the following procedure. All conditions requiring patches and completed patches will be inspected. Patches disapproved as not restoring the quality and appearance of the surrounding work shall be removed and replaced so as to match the surrounding work.

### C. Repair Procedure

All honeycombed and other defective concrete shall be removed to sound concrete, but in no case to a depth of less than 1-inch. The area to be patched and an area of at least 6-inch wide surrounding it shall be dampened to prevent absorption of water from the patching mortar. A bond of neat Portland cement, water, and if permitted, some fine sand passing a No. 30 sieve, shall be mixed to the consistency of thick cream and shall then be well brushed into the surface. Other concrete bonding agents may be used when approved.

The patching mixture shall be made of the same materials and of approximately the same proportions as used for the concrete, except that the coarse aggregate shall be omitted and the mortar shall consist of not more than 1 part cement to 2 1/2 parts sand by damp loose volume. White Portland cement shall be substituted for a part of the gray Portland cement on exposed concrete in order to produce a color matching the color of the surrounding concrete, as determined by a trial patch.

The quantity of mixing water shall be no more than necessary for handling and placing. The patching mortar shall be mixed in advance and allowed to stand with frequent manipulation with a trowel, without addition of water, until it has reached the stiffest consistency that will permit placing.

After surface water has evaporated from the areas to be patched, the bond coat shall be well brushed into the surface. When the bond coat begins to lose the water sheen, the premixed patching mortar shall be applied. The mortar shall be thoroughly consolidated into place and struck off so as to leave the patch slightly higher than the surrounding surface. To permit initial shrinkage, it shall be left undisturbed for at least one hour before being finally finished. The patched area shall be kept damp for 7 days.

Before proceeding with any patch work, the Contractor is responsible for establishing trial patch areas to develop the approved patching color and the method of applying and surface-texturing the patching material.

### **Formed Surface Finishes**

Formed surfaces shall be finished as soon as practicable after form removal and repair of surface defects. Finishes shall be as follows:

#### **A. Finish A**

Finish A shall be a grout clean finish in accordance with ACI 301, Section 10.3.2. To identify any surface air pockets and other defects, surfaces shall be lightly sandblasted prior to sacking. For interior areas not exposed to moisture or weather, water used in the mortar shall be mixed with a PVA bonding compound as recommended by the manufacturer. Finish A shall be provided for all painted surfaces and unpainted surfaces as follows: surfaces of stair wells, interior surfaces of equipment rooms, operations areas, structures exposed to view, and permanently exposed (i.e. not covered) vertical and sloped surfaces, such as pipe chases or valve vaults. The interior walls and above grade exterior walls of the retention basin shall have Finish A.

## **Related Surfaces**

### A. Finishing of Unformed Surfaces

1. Related Unformed Surfaces: Tops of walls or buttresses, horizontal offsets, and similar unformed surfaces occurring adjacent to formed surfaces shall be struck smooth after concrete is placed and shall be floated to a texture reasonably consistent with that of the adjacent formed surfaces. Final treatment of formed surfaces shall continue uniformly across the unformed surfaces.

## **Protection and Curing**

### A. General

Freshly deposited concrete shall be protected from premature drying and excessively hot or cold temperatures, and shall be maintained without drying at a relatively constant temperature for the period of time necessary for the hydration of the cement and proper hardening of the concrete.

### B. Initial Curing

Initial curing shall immediately follow the finishing operation. Concrete shall be kept continuously moist at least overnight. One of the following materials or methods shall be used.

1. Ponding or continuous sprinkling.
2. Absorptive mat or fabric kept continuously wet.
3. Sand or other covering kept continuously wet.
4. Curing compounds shall be applied in accordance with the recommendations of the manufacturer and shall not be used on any surfaces against which additional concrete or other cementitious finishing materials are to be bonded, or on surfaces to be coated, waterproofed, moistureproofed, tiled, roofed, or on surfaces on which such curing is prohibited by these specifications.

### C. Final Curing

Immediately following the initial curing and before the concrete has dried, additional curing shall be accomplished by one of the following materials or methods.

1. Continuing the method used in initial curing.
2. Waterproof paper covering.
3. Other moisture-retaining coverings as approved.

### D. Duration of Curing

The final curing shall continue until the cumulative number of days or fractions thereof, not necessarily consecutive, during which temperature of the air in contact with the concrete is above 50°F has totaled 7 days. If high early strength of concrete has been used, the final curing shall continue for a total of 3 days. Rapid drying at the end of the curing period shall be prevented.

E. Formed Surfaces

Steel forms heated by the sun and all wood forms in contact with the concrete during the final curing period shall be kept wet. If forms are to be removed during the curing period, one of the above curing materials or methods shall be employed immediately. Such curing shall be continued for the remainder of the curing period.

F. Protection from Mechanical Injury

During the curing period, the concrete shall be protected from damaging mechanical disturbances, particularly load stresses, heavy shock, and excessive vibration. All finished concrete surfaces shall be protected from damage caused by construction equipment, materials, or methods, and by rain or running water. Self-supporting structures shall not have form supports removed until the concrete strength has met the requirements of Section 51-4.02, concrete forming.

**Construction Joints**

A. General

Concrete in each unit of construction shall be placed continuously. Before new concrete is placed on or against concrete which has set, forms shall be retightened, and the surface of the set concrete shall be cleaned of foreign matter. Concrete surfaces on which new concrete is placed shall not be wetted. Watertight joints, where required, shall be provided with approved Waterstops.

B. Construction

Construction joints shall be formed as specified. A rough surface of exposed concrete aggregates shall be produced using a surface retardant at construction joints, including joints between slab and topping concrete. The limit of the treated surfaces shall be 1-inch away from the joint edges. Within 24 hours after placing, retarded surface mortar shall be removed either by high pressure water jetting or stiff brushing or combination of both so as to expose aggregate. A rough surface of exposed aggregate may also be produced by abrasive blasting followed by high pressure water jetting. Abrasive blasting, if used, shall remove ¼-inch of laitance film and shall expose coarse aggregate to ensure adequate bond and watertightness at the construction joints.

Provide submittal of shop drawings for construction joint layout as specified and necessary for construction purposes.

C. Locations

Construction joint locations shall be as follows:

1. Walls exceeding 60 feet in length shall be cast in panels not to exceed 50 feet in length. Where the number of panels is three or more, the panels shall be cast in an alternating pattern, unless 5 days have elapsed between casting of adjoining panels.
2. Joints in beams or girders shall be located at or near the quarter points between permanent supports.
3. Joints in the members of a floor system, if needed, shall be made at or near

the outer quarters of the span.

4. Joints in walls and columns shall be at the underside of floors, slabs, beams or girders and at the tops of footings or floor slabs. Joints in columns shall be perpendicular to the axis.
5. Unless otherwise noted on the plans, water treatment structure foundation slabs shall be cast in panels not to exceed 50 feet in length or not to exceed 2,500 ft<sup>2</sup> in area. Panels shall be cast in checkerboard patterns. Minimum lapsed time between placing adjacent panels shall be 24 hours.

Reinforcing steel and welded wire fabric shall be continued across construction joints unless shown otherwise on the plans. Girders and floor slabs shall not be constructed over columns or walls until at least 1 hour has elapsed to allow for shrinkage in the column or wall. No joint will be allowed between a slab and a beam or girder unless otherwise specified. Joints shall be perpendicular to the main reinforcement.

### **Inserts and Embedments**

#### A. Inserts

Where pipes, castings or conduits are to pass through structures, the Contractor shall place such pipes or castings in the forms before placing the concrete; or the Contractor may provide openings in the concrete for subsequent insertion of such pipes, casting or conduits. Such openings shall be provided with waterstops and V-shaped construction joint and shall have a slight flare to facilitate grouting and permit the escape of entrained air during grouting.

#### B. Embedments

Gate frames, gate thimbles, special castings, channels or other miscellaneous metal parts that are to be embedded in the concrete shall be set and secured in the forms prior to concrete placement. Unless otherwise specified, anchor bolts and inserts shall be embedded in concrete as shown. The Contractor shall provide inserts, anchors or other bolts necessary for the attachment of piping, valves, metal parts and equipment. Nailing blocks, plugs, strips, and the like necessary for the attachment of trim, finish and similar work shall be provided. Voids in sleeves, inserts and anchor slots shall be filled temporarily with readily removable material to prevent the entry of concrete into the voids. Operators or sleeves for gate or valve stems shall be positioned to clear reinforcing steel, conduit and other embedments, and to align accurately with equipment.

### **Modification of Existing Concrete**

Existing concrete shall be removed and the remaining surfaces resurfaced as specified. Subgrade materials under removed concrete shall meet the project specification for subgrade. The remaining concrete shall be protected from damage. Where possible, clean lines shall be made by sawing surfaces at least ½-inch deep and chipping through the existing concrete. The concrete may be broken out after initial saw cuts in the event thickness prevents cutting through. Where it is not possible to use a saw, the initial cuts shall be made with chipping hammers. These cuts shall be sufficient to prevent damage to the remaining concrete. In general, an opening in existing concrete shall be oversized

1-inch on all sides and built back to the correct dimension with an epoxy grout. Cut or broken concrete surfaces shall be resurfaced with an epoxy grout. Concrete surfaces to be coated shall be dry. Where new concrete adjoins existing concrete surfaces, or surfaces which have been cut, such surfaces shall be cleaned by abrasive blasting to remove laitance, loose coatings and foreign materials, and coated with the bonding compound just prior to the placement of the new concrete. Bonding compounds shall be as specified in section 51-4.01, precast concrete members. Unless otherwise specified, continuity of reinforcing steel shall be obtained across the joint either by exposing existing bars to provide sufficient laps with new bars or by welding existing bars with new bars. Welding of reinforcing steel shall conform to section 52-1.01– reinforcement. Where shown, dowels shall be drilled and set into existing concrete with epoxy. Epoxy shall conform to section 52-1.01– reinforcement.

### **Field Sampling and Tests**

Field sampling and testing will be performed by the Contractor's independent testing lab. Samples of aggregates and concrete shall be taken at random locations and at such times as to represent the quality of the materials and work throughout the project. The City will provide the necessary labor, materials and facilities for sampling the aggregate and for casting, handling and storing the concrete samples at the site of work.

### **Special Inspection**

Special inspection is required as defined in CBC Chapter 17.

### **Defective Work**

Defective concrete work shall be removed and replaced at Contractor's expense.

Trench excavation and backfill shall conform to Section 19-3, "Structure Excavation and Backfill," of the Caltrans Standard Specifications.

The contract price paid per lineal foot for Install 72"x42" Concrete Box Culvert shall include full compensation for furnishing all labor, materials, tools, equipment, and incidentals, for doing all work involved in installing the concrete box culvert, complete in place, as shown on the plans, as provided in the Standard Specifications and these special provisions, and as directed by the Engineer.

The contract price paid per unit for Install Concrete Headwall shall include full compensation for furnishing all labor, materials, tools, equipment, and incidentals, for doing all work involved in installing the concrete headwalls, complete in place, as shown on the plans, as provided in the Standard Specifications and these special provisions, and as directed by the Engineer.

Full compensation for excavation and backfill shall be considered as included in the prices paid for the various contract items of work, and no additional compensation will be allowed therefore.



## 51-4.02 CONCRETE FORMING

### General

This section specifies the work necessary to furnish, place, and remove all formwork for cast-in-place concrete.

1. American Concrete Institute (ACI) Publications:  
*ACI-347 Recommended Practice for Concrete Formwork*
2. International Conference of Building Officials (ICBO) Publications:  
*CBC California Building Code 2016 Edition*
3. U.S. Product Standard (PS) Publications:  
*PS-1 Product Standard for Construction and Industrial Plywood*

The Contractor shall comply fully with the requirements of Section 1717 of the Construction Safety Orders, State of California, Department of Industrial Relations, regarding the design of concrete forms, falsework and shoring, and the inspection of same prior to placement of concrete. Where the said Section 1717 requires the services of a civil engineer registered in the State of California to approve design calculations and working drawings of the falsework or shoring system, or to inspect such system prior to placement of concrete, the Contractor shall employ a registered civil engineer for these purposes, and all costs therefore shall be included in the price named in the Contract for completion of the work as set forth in the Contract Documents.

Except as modified by the requirements specified herein and/or the details on the drawings, concrete formwork shall conform to the California Building Code (CBC), Chapter 19, "Concrete", 2019 Edition, the American Concrete Institute – 347 (ACI-347) Guide to Formwork for Concrete Guide to Formwork for Concrete, APA Concrete Forming Design/Construction Guide.

The Contractor shall submit information to substantiate compliance with this specification. In addition, the following specific information shall be submitted.

1. Mill Affidavits

The Contractor shall submit mill affidavits stating the grade and physical properties of form materials before the materials are delivered to the site. The affidavits shall demonstrate that the materials and procedures comply with the specifications of this section.

### Materials

- A. Forms for Exposed Finish Concrete

Unless otherwise indicated, construct formwork for exposed concrete surfaces with plywood, metal, metal-framed plywood faced, or other acceptable panel-type materials, to provide continuous, straight, smooth, exposed surfaces. Furnish in largest practicable sizes to minimize number of joints and to conform to joint system shown on the contract drawings. Provide form material with sufficient

thickness to withstand pressure of newly-placed concrete without bow or deflection.

Use plywood complying with PS-1 "B-B (Concrete Form) Plywood", Class I, Exterior Grade or better, mill-oiled and edge-sealed, with each piece bearing legible inspection trademark.

**B. Forms for Unexposed Finish Concrete**

Form concrete surfaces which will be unexposed in finished structure with plywood, lumber, metal, or other acceptable material as determined by the Construction Manager. Provide lumber dressed on at least 2 edges and one side for tight fit.

**C. Form Ties**

Provide factory-fabricated, adjustable-length, removable or snap-off metal form ties, designed to prevent deflection, and to prevent spalling concrete surfaces upon removal. Ties shall be provided with a tightly fitting washer at midpoint.

Unless otherwise shown, provide ties so that portion remaining within concrete after removal of exterior parts is at least 1 ½-inch from the outer concrete surface. Unless otherwise indicated, provide form ties which will leave a cone-shaped depression at the surface at least 1-inch diameter and 1 ½-inch deep to allow filling and patching.

**D. Form Coatings**

Provide commercial formulation form-coating compounds that will not bond with, stain, nor adversely affect concrete surfaces, and will not impair subsequent treatments of concrete surfaces.

**Installation of Forms**

**A. General**

Design, erect, support, brace and maintain formwork to support vertical and lateral loads that might be applied until such loads can be supported by concrete structure. Construct formwork so concrete members and structures are of correct size, shape, alignment, elevation, and position.

Design formwork to be readily removable without impact, shock, or damage to cast-in-place concrete surfaces and adjacent materials.

Construct forms in compliance with ACI 347, to sizes, shapes, lines and dimensions shown, and to obtain accurate alignment, location, grades, level and plumb work in finished structures. Provide for openings, offsets, sinkages, keyways, recesses, moldings, rustications, reglets, chamfers, blocking, screeds, bulkheads, anchorages and inserts, and other features required in work. Use selected materials to obtain required finishes. Solidly butt joints and provide back-up at joints to prevent leakage of cement paste.

Fabricate forms for easy removal without hammering or prying against concrete surfaces. Provide crush plates or wrecking plates where stripping may damage cast concrete surfaces. Provide top forms for inclined surfaces where slope is too

steep to place concrete with bottom forms only. Kerf wood inserts for forming keyways, reglets, recesses, and the like, to prevent swelling and for easy removal.

Provide temporary openings where interior area of formwork is inaccessible for cleanout, for inspection before concrete placement, and for placement of concrete. Securely brace temporary openings and set tightly to forms to prevent loss of concrete mortar. Locate temporary openings on forms at inconspicuous locations.

Chamfer all exposed corners and edges with  $\frac{3}{4}$ -inch chamfers unless otherwise noted on the contract drawings, using wood, metal, PVC or rubber chamfer strips fabricated to produce uniform smooth lines and tight edge joints. Fillets are not required unless otherwise noted on the contract drawings.

**B. Exposed Surface Form Tolerances**

Forms for exposed concrete surfaces shall be designed and constructed so that the formed surface of the concrete does not undulate excessively in any direction between studs, joists, form stiffeners, form fasteners, or wales. Undulations exceeding either  $\frac{3}{32}$ -inch or  $\frac{1}{270}$  of the center to center distance between studs, joists, form stiffeners, form fasteners or wales will be considered to be excessive. Should any form or forming system, even though previously approved for use, produce a concrete surface with excessive undulations, its use shall be discontinued until modifications satisfactory to the Construction Manager have been made. Portions of concrete structures with surface undulations in excess of the limits herein may be rejected by the Construction Manager.

**C. Form Ties**

Install factory-fabricated, adjustable-length, removable or snapoff metal form ties, designed and spaced to prevent form deflection, and to prevent spalling concrete surfaces upon removal.

**D. Provisions for Other Trades**

Provide openings in concrete formwork to accommodate work of other trades. Determine size and location of openings, recesses and chases from trades providing such items. Accurately place and securely support items built into forms.

**E. Cleaning and Tightening**

Thoroughly clean forms and adjacent surfaces to receive concrete. Remove chips, wood, sawdust, dirt, or other debris just before concrete is placed. Retighten forms and bracing after concrete placement if required to eliminate mortar leaks and maintain proper alignment.

**Preparation of Form Surfaces**

A. Coat contact surfaces of forms with a form-coating compound before reinforcement is placed.

B. Thin form-coating compounds only with thinning agent of type, and in amount, and under conditions of form-coating compound manufacturer's directions. Do not allow excess form-coating material to accumulate in forms or to come into contact with concrete surfaces against which fresh concrete will be placed. Apply

in compliance with manufacturer's instructions.

- C. Coat steel forms with a non-staining, rust-preventative form oil or otherwise protect against rusting. Rust-stained steel formwork is not acceptable.

### **Removal of Forms**

- A. Formwork not supporting weight of concrete, such as sides of beams, walls, columns, and similar parts of the work, may be removed after cumulatively curing at not less than 50°F for 24 hours after placing concrete, provided concrete is sufficiently hard to not be damaged by form removal operations, and provided curing and protection operations are maintained.
- B. Formwork supporting weight of concrete, such as beam soffits, joints, slabs and other structural elements, may not be removed in less than 14 days and until the concrete has attained the 28-day design compressive strength. Determine potential compressive strength of in-place concrete by testing field-cured specimens representative of concrete location or members.
- C. Form facing material may be removed 4 days after placement, only if shores and other vertical supports have been arranged to permit removal of form facing material without loosening or disturbing shores and supports.

### **Re-use of Forms**

- A. Clean and repair surfaces of forms to be re-used in work. Split, frayed, delaminated, or otherwise damaged form facing material will not be acceptable for exposed surfaces. Apply new form coating compound as specified for new formwork.
- B. When forms are extended for successive concrete placement, thoroughly clean surfaces, remove fins and laitance, and tighten forms to close joints. Align and secure joint to avoid offsets. Do not use "patched" forms for exposed concrete surfaces.

Full compensation for furnishing and installing formwork shall be considered as included in the contract price paid for the various contract items requiring formwork, and no additional compensation will be allowed therefore.

## **SECTION 52 – REINFORCEMENT**

### **52-1.01 REINFORCEMENT**

Reinforcing steel reinforcement shall conform to the provisions in Section 52, "Reinforcement", of the Caltrans Specifications. All rebar shall be Grade 60.

This section covers the furnishing and installing of reinforcing steel for cast-in-place concrete work as shown and noted on the plans and as specified.

### **General**

The publications referred to hereinafter form a part of these specifications to the extent

referenced. The publications are referred to in the text by the basic designation only. The latest edition of referenced publications in effect at the time of the bid shall govern. In case of conflict between the requirements of this section and the listed standards, the requirements of this section shall prevail.

#### A. References

The editions of the specifications and standards referenced herein, published by the following organizations, apply to the work only to the extent specified by the reference. The latest version in effect at the time of bid shall apply.

1. American Concrete Institute (ACI)
2. American Society for Testing and Materials (ASTM)
3. Concrete Reinforcing Steel Institute (CRSI)
4. American Welding Society (AWS)

#### B. Regulatory Requirements

Except as modified by the requirements specified herein and/or the details on the plans, concrete reinforcing work shall conform to the 2019 Edition of California Building Code (CBC), Chapter 19, "Concrete" and the requirements of the CRSI Manual of Standard Practice.

The Contractor shall submit information to substantiate compliance with this specification. In addition, the following specific information shall be submitted.

#### C. Shop Drawings

Submit shop and placement drawings of all reinforcing for review.

Placement drawings shall show the locations and spacing of reinforcing in the various parts of the structure with details as required, all in accordance with ACI 315. Cutting and bending lists submitted without placement drawings will be returned without review as incomplete. Placement drawings shall not be reproduced, marked up copies of the design drawings. Placement drawings shall be complete so that placement of the reinforcing may proceed without reference to the plans.

Review shall not act to relieve the Contractor from responsibility for accuracy of the fabrication details and placing diagrams. Dimensions and locations shall be verified prior to the preparation of shop drawings.

No work shall be done except from reviewed drawings which must be kept at all work locations.

#### D. Mill Affidavits

Mill affidavits, stating the grades and physical and chemical properties of the reinforcing steel, and conformance with ASTM specifications, shall be submitted before delivery of the steel to the job site.

At the completion of the work, one complete set of placement bending diagrams shall be delivered to the Construction Manager for record purposes.

Deliver reinforcement bundled and tagged to identify placement and certify testing.

Reinforcing steel shall be transported to the building site, stored and covered in a manner which will insure that no damage shall occur to it from moisture, dirt, grease, or any other cause that might impair bond to concrete. A sufficient supply of approved reinforcing steel shall be stored on the site at all times to insure that there will be no delay of the work. Identification of steel shall be maintained after bundles are broken.

Contractor shall check structural, civil, mechanical, and electrical drawings for anchor bolt schedules and locations, anchors, inserts, conduits, sleeves, and any other items which are required to be cast in concrete, and shall make necessary provisions as required so that reinforcing steel will not interfere with the placement of such embedded items.

## **Materials**

### A. Reinforcing Bars

New, deformed, billet steel bars, conforming to ASTM A615. Deliver bars new and free from rust and mill scale in original bundles with mill tags intact. Grade 60 for all bars.

Reinforcing bars to be welded shall be weldable steel ASTM A706, Grade 60 for all bars.

### B. Epoxy

Epoxy shall be used to drill and bond reinforcement dowels into existing concrete. Epoxy shall be Hilti RE SOO-SD, Simpson "SET-XP", or an approved equal. The approved equal shall be equal in materials, strength, and intended use.

### C. Accessories

Reinforcement accessories, consisting of spacers, ties, and similar items shall be provided as required for spacing, assembling, and supporting reinforcement in place. Accessories shall be reinforcing steel or precast concrete blocks conforming to the applicable requirements of the *CRSI Manual of Standard Practice*.

### D. Tie Wire

Tie wire for reinforcement shall be No. 16 gage or heavier, where noted or specified, black or galvanized steel wire, conforming to ASTM A82.

### E. Welding Electrodes

AWS A5.1, grade E70XX for welding grade 40 reinforcing steel and E90XX for welding grade 60.

### F. Bar Lock Reinforcing Couplers

Reinforcing couplers shall be Dayton L Series Bar Lock couplers or an approved equal. The approved equal shall be equal in materials, strength, and intended use.

### **Execution**

Fabrication of steel reinforcement shall be in accordance with the details shown on the plans. Where specific details are not shown or noted, comply with the applicable requirements of ACI 315.

Bars shall be accurately bent, cut and placed as indicated on the plans. Bars shall be bent cold; heating of bars will not be permitted. Bars shall not be bent or straightened in any manner that will injure the material. All reinforcing bars shall be bent in an approved fabricating shop. Field bending of reinforcement shall not be permitted.

### **Placing**

#### A. General

Reinforcing steel shall be placed in accordance with the plans and the applicable requirements of the latest edition of the CRSI *Manual of Standard Practice* and the California Building Code, Chapter 19, "Concrete." Install reinforcement accurately and secure against movement, particularly under the weight of workmen and the placement of concrete.

#### B. Reinforcing Supports

Bars and welded wire fabric layers shall be supported on precast concrete blocks wire tied to reinforcement and accurately placed. Spacing of blocks and accessories shall conform with CRSI's *Recommended Practice for Placing Bar Supports*. No wood will be permitted inside forms. Precast concrete blocks shall be used to support footing and slab reinforcing on ground and slab and beam reinforcement on horizontal form work.

#### C. Placing and Tying

All reinforcing shall be set in place, spaced, and rigidly and securely tied or wired with No. 16 gage steel tie wire at all splices and at crossing points and intersections in the position shown, or as directed by the Construction Manager. Point ends of wire away from forms.

#### D. Spacing

Bars shall be spaced as indicated on the plans. Where not shown, the clear spacing for main longitudinal reinforcement shall be not less than 1.5 times the nominal bar diameter, or 1 ½-inch, or 1 1/3 times the maximum size aggregate, whichever is greater. For all other parallel bars, where spacing is not shown, the minimum clear spacing shall not be less than the nominal bar diameter, or 1-inch, or 1 1/3 times the maximum size aggregate, whichever is less. The clear distance limitations above also apply between the bars being spliced at a contact lap splice and adjacent bars.

#### E. Splices

Except for temperature bars in slabs and horizontal wall reinforcing, no splicing will be allowed for reinforcing bars unless detailed locations are given for these splices on the plans, or approval is given. Stagger lapped splices for horizontal wall reinforcing and slab temperature bars by the required lap splice length minimum. Wherever possible, splices of adjacent bars shall be staggered.

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 based upon using available commercial lengths where practicable.

F. Dowels

Dowels to be placed in new concrete or masonry shall be tied securely in place before concrete is deposited. In the event there are no bars in position to which dowels may be tied, No. 3 bars shall be added to provide proper support and anchorage. Dowels to be installed in existing concrete shall be drilled and bonded into place using epoxy. Horizontal holes shall be drilled at a slight downward angle to facilitate holding the epoxy. Reinforcing steel installed in horizontal holes shall be bent slightly accordingly. Bending of dowels after placement of concrete will not be permitted unless approval is obtained. Dowels extended for future construction shall be protected from weather as shown on the plans. Compliance with safety law requirements for extended dowels is required.

G. Cleaning

Reinforcement, at time of pour, shall be free of mortar, oil, dirt, excessive mill scale, scabby rust and other coatings that would impair bond to concrete.

H. Welding

Welding of reinforcing steel shall comply with AWS D1.4. Do not weld reinforcing steel until a chemical analysis sufficient to determine the carbon equivalent of the steel has been performed. This analysis shall be made from the chemical composition shown in the mill test reports or by chemical analysis of bars representative of the bars to be welded. The carbon equivalent shall not exceed 0.55. Preheating of Grade 60 bars will be required immediately prior to welding.

Contractor shall provide notification at least 2 working days ahead of each concrete pour, and no concrete shall be placed until all reinforcing steel has been installed by the Contractor and approved by the Construction Manager. All reinforcing shall be complete in every way by the end of the working day prior to concrete placing.

Special inspection is required as defined in CBC Chapter 17.

The following reinforcing steel work will be considered defective and shall be removed and replaced by the Contractor at no additional cost to the City.

- I. Bars with kinks or bends not shown on plans.
- J. Bars injured due to bending or straightening.
- K. Bars heated for bending.



- L. Reinforcement not placed in accordance with the plans or specifications.

Full compensation for furnishing and installing bar reinforcing steel and mesh reinforcement shall be considered as included in the contract price paid for the various contract items requiring bar reinforcing or mesh reinforcement, and no additional compensation will be allowed therefore.

## **DIVISION VII DRAINAGE FACILITIES**

### **SECTION 71 – EXISTING DRAINAGE FACILITIES**

#### **71-1.01 EXISTING DRAINAGE FACILITIES**

Removal of the existing arch corrugated metal pipe (CMP) culvert and headwalls shall conform to the provisions in Section 71, "Existing Drainage Facilities", of the Caltrans Specifications.

Full compensation for furnishing all labor, materials, tools, equipment, and incidentals for removal of existing arch corrugated metal pipe (CMP) culvert and headwalls, as shown on the plans, as specified in the Standard Specifications and these Special Provisions, and as directed by the Engineer shall be included in the contract price paid for "Remove and Dispose of Existing Arch CMP Culvert" and "Remove and Dispose of Existing Wood Headwall", and no additional compensation will be allowed therefore.

## **DIVISION VIII – MISCELLANEOUS CONSTRUCTION**

### **SECTION 72 – SLOPE PROTECTION**

#### **72-1.01 SLOPE PROTECTION**

Rock slope protection (RSP) shall be in accordance with the provisions of Section 72, "Slope Protection", of the Caltrans Specifications, these Special Provisions, and as shown on the plans.

Refer to Sheet C7.0, Details 3 and 4 of the project plans.

Full compensation for furnishing all labor, materials, tools, equipment, and incidentals, and for doing all the work involved in installing rock slope protection (RSP), complete in place, as shown on the plans, as specified in the Standard Specifications and these Special Provisions, and as directed by the Engineer shall be considered as included in the contract price paid for "Install Class III Rock Slope Protection" and "Install Class V Rock Slope Protection at Existing Pump Station Outfall", and no additional compensation will be allowed therefore.

## **SECTION 73 – CONCRETE CURBS AND SIDEWALKS**

### **73-1.01 CONCRETE CURBS, SIDEWALKS, AND WHEELCHAIR RAMPS**

Concrete curb, gutter, sidewalk, curb returns, including wheelchair ramps, grooving, driveways, and flat work, shall be in accordance with the provisions of Sections 73, "Concrete Curbs and Sidewalks", and 90, "Concrete", of the Caltrans Specifications, these Special Provisions, and as shown on the plans.

Portland cement concrete shall conform to Section 90-2, "Minor Concrete," of the Caltrans Specifications and shall contain not less than 505 pounds of cementitious material per cubic yard for all uses. Certification of the concrete shall be received from the vendor and delivered to the City Inspector at the time the concrete is poured.

The Contractor shall sawcut all existing concrete curb, gutter and sidewalks, driveways, and other concrete improvements that will be matched with new improvements at the locations indicated on the plans and where directed by the Engineer.

Expansion joints shall be constructed wherever required by the Standard Specifications, at the locations indicated on the plans, and where directed by the Engineer. Expansion joints shall be filled with 3/8"-thick premolded expansion joint filler conforming to ASTM D-1751.

Concrete shall be cured using the curing compound method for curb, sidewalks, and gutters. The curing compound shall be the clear or translucent type conforming to the specifications of AASHTO Designation: M148, Type 1, except that the loss of water in the water retention test shall not exceed 0.040 gram per square centimeter of surface. The curing compound shall contain a fugitive dye and shall be applied at the approximate rate of one (1) gallon per one hundred fifty (150) square feet of area. The curing compound shall be applied in a manner that will provide a complete coating of all exposed faces of the concrete surface. Alternate curing methods shall be submitted to the Engineer for approval before use.

Reinforcing steel, where required, shall conform to Section 52, "Reinforcement", of the Caltrans Specifications and these Special Provisions. All rebar shall be Grade 60.

Full compensation for furnishing all labor, materials, tools, equipment, and incidentals for concrete sidewalks, including ramps, including all grading necessary for installation of concrete sidewalk or concrete ramps, to finished grade, disposal of all excess material, all sawcuts, reinforcements where required, grading under concrete, providing and grading aggregate base subbase, backfill, compaction, watering, expansion joint filler, concrete and curing compound, grooving, and for doing all the work involved in furnishing and placing concrete sidewalks, or ramps, complete in place, as shown on the plans, as specified in the Standard Specifications and these Special Provisions, and as directed by the Engineer shall be included in the contract price paid for "Install Concrete", and no additional compensation will be allowed therefore. Where sidewalk, or driveway is

adjacent to curb or curb and gutter, the six (6) inch dimension from face of curb to back of curb shall not be counted.

Full compensation for furnishing all labor, materials, tools, equipment, and incidentals for concrete curb and gutter, including all aggregate subbase, reinforcement, sawcuttings, backfill, compaction, watering, expansion joint filler, and concrete curing compound, and for doing all the work involved in furnishing and placing concrete curb and gutter, complete in place, as shown on the plans, as specified in the Standard Specifications and these Special Provisions, and as directed by the Engineer shall be included in the contract price paid for "Install Curb and Gutter", and no additional compensation will be allowed therefore.

**Broken pieces of concrete shall be immediately removed from the job site and disposed.** No portions of broken concrete shall remain on the job site overnight. Contractor shall pay to the City of Stockton the sum of Two Hundred Fifty Dollars (\$250) for every calendar day where debris has remained on the job site overnight.

## **DIVISION IX – TRAFFIC CONTROL DEVICES**

### **SECTION 84 – MARKINGS**

#### **84-1.01 TRAFFIC STRIPES, PAVEMENT MARKINGS, AND PAVEMENT MARKERS**

Traffic stripes and pavement legends, including crosswalks, shall be placed as shown on the plans, must comply with Caltrans Standard Plans and Specifications, as modified herein, and as directed by the Engineer. All pavement **traffic stripes**, legends, arrows and crosswalks shall be installed with hot applied thermoplastic pavement material. The width and patterns of striping lines shall conform to the striping details shown in Drawings A20A through A24F of the Caltrans Standard Plans.

The thermoplastic material shall be free of lead and chromium and conform to State Specification PTH-02ALKYD (for markings) and PTH-02SPRAY (for stripes). Thermoplastic material shall be applied to the pavement at a minimum thickness of 0.060 inches for long lines (4 inches stripes and 8 inches stripes in width) and 0.100 inches for all legends and arrows. The crosswalk lines and limit lines shall be installed at a minimum thickness of 0.125 inches.

A double extruded thermoplastic traffic stripe consisting of two 4-inch wide yellow stripes is measured as 2 traffic stripes.

A double sprayable thermoplastic traffic stripe consisting of two 4-inch wide yellow stripes is measured as 1 traffic stripe.

If the contractor chooses to install stripes by using a cart (extruded) rather than a striping vehicle, all striping shall be applied to the pavement at a minimum thickness of 0.090 inches. Glass beads shall conform to State Specification in Section 84-2.02D, 84-2.02E, and 84-2.03C(2)e. Thermoplastic pavement markings and stripes shall be free of runs,

bubbles, craters, drag marks, stretch marks, and debris.

Use appropriate installation procedures according to manufacturer. If pavement markings are applied to existing surface over existing painted legends (arrows and crosswalks), existing pavement legends (arrows and sidewalks) shall be removed before thermoplastic material is applied. For either material, pavement shall be preheated to remove all residual moisture prior to installation.

At intersections where existing pavement is removed and replaced, Contractor shall install new crosswalk control points for the City to review and approve.

Configuration of traffic stripes, pavement markings, and crosswalks shall conform to the detail and methods as set forth in the latest issue of the California MUTCD and Caltrans Specifications, unless specifically modified on the plans.

All existing traffic stripes and pavement markings shall be removed where shown on the plans, where the existing striping conflicts with proposed striping, and as designated by the Engineer.

Existing pavement markers, including underlying adhesive, when no longer required for traffic lane delineation, as directed by the Engineer, shall be removed and disposed of.

Removal of traffic stripes and pavement markings, or the removal of objectionable material, shall be performed using methods approved in advance by the Engineer. All resulting residue and dust shall be removed immediately from the surface being treated. Such removal shall be by a vacuum attachment operating concurrently with the blast cleaning operation. **The removal of yellow paint and thermoplastic material shall include testing for lead prior to disposal of the material. Disposal of materials containing lead shall conform to state approved practices.** The removal of yellow paint and thermoplastic material shall also conform to the provisions in Section 14-1.01 "Construction Site Waste Materials Management" of these special provisions.

The Contractor shall place control points for the Engineer to review and approve. No additional "cat tracks" shall be placed until control points are approved by the Engineer. The Contractor shall obtain approval from the Engineer on all striping cat tracks prior to final application and striping and markers.

The Contractor shall place and remove any temporary striping required for routing traffic through the project area.

All thermoplastic shall be provided by the Contractor. Manufacturer and specifications shall be submitted for approval and shall conform to the specifications contained herein. All thermoplastic supplied shall conform to the local air pollution regulations. Traffic line markings shall be reflectorized conforming to the Caltrans Specifications, Section 84-2, "Traffic Stripes and Pavement Markings".

Existing surface which is to receive the thermoplastic material shall be mechanically wire

brushed to remove all dirt and contaminants. Thermoplastic material shall be applied only to the dry pavement surfaces and only when the pavement surface temperature is above fifty (50°F) degrees Fahrenheit. Thermoplastic shall be applied only on a thoroughly dry surface and during periods of favorable weather.

The Contractor shall make all necessary conform striping as required. The completed stripes and markings shall be sharp and clear with clean, well-defined edges.

Any damage by the elements to the new stripe or marking due to the failure of any Contractor to protect his work shall be repaired by him at no additional cost. Any over-spray or tracking of fresh thermoplastic material onto unpainted surfacing shall be removed by any methods to the satisfaction of the Engineer.

On one-way streets and median-divided streets, the side of the retroreflective raised pavement markers that is visible to traffic proceeding in the wrong direction shall be red (Type C). The other retroreflective side shall be white or yellow as per the detail. This section is applicable to Details 9, 10, 12, 13, 25, 25A, 26 and 27 in the California MUTCD.

Blue Raised Pavement Markers shall be installed after any surface treatment (overlay, micro-surfacing, chip-seal, cape-seal, etc.) solely for aiding in locating fire hydrants. Typical marker locations are shown on Figure 3B-102 (CA) of the California MUTCD.

(1) *Two-Way Streets*—Markers should be placed 6 inches from the edge of painted centerline on the side nearest the fire hydrant. If the street has no centerline, the marker should be placed 6 inches from the approximate center of the roadway on the side nearest the hydrant.

(2) *Streets with Left Turn Lane at Intersection*—Markers should be placed 6 inches from the edge of painted white channelizing line on the side nearest the hydrant.

(3) *Streets with Continuous Two-Way Turn Lane*—Markers should be placed 6 inches from the edge of the painted yellow barrier line on the side nearest the fire hydrant.

(4) *One-way streets and median-divided streets*—Markers should be placed 6 inches from the edge of lane line on the side nearest the fire hydrant (at least 12' from curb or edge of traveled way).

The noise level created by the combined grinding activities must not exceed 86 dBA when measured at a distance of 50 feet at right angles to the direction of travel.

Full compensation for furnishing all labor, materials, tools, equipment, and incidentals, and for doing all the work involved in placing traffic stripes, painted curbs, pavement markings, pavement markers and legends, including any necessary cat tracks, dribble lines, and layout work, placement, removal, and disposal of any and all conflicting striping and pavement markers, complete in place, as shown on the plans, as specified in the Caltrans Specifications and these Special Provisions, and as directed by the Engineer

shall be considered as included in the various contract items of work, and no additional compensation will be allowed therefore.

## **DIVISION X ELECTRICAL WORK – NOT USED**

## **DIVISION XI MATERIALS**

### **SECTION 90 – CONCRETE**

Attention is directed to the Section 90, "Concrete" of the Standard Specifications and these Special Provisions.

#### **90-1.01 MINOR CONCRETE**

Section 90-2, "Minor Concrete", of the Caltrans Specifications is amended by adding the following:

Mineral admixture will be required in the manufacture of concrete containing aggregate that is determined to be "deleterious" or "potentially deleterious" when tested in accordance with ASTM Designation: C 289. The use of mineral admixture in such concrete shall conform to the requirements in Section 90-1.02 of the Caltrans Specifications, "Materials", except the use of Class C mineral admixture will not be permitted.

Full compensation for furnishing all labor, materials, tools, equipment, and incidentals for doing all work involved in placing minor concrete shall be including in the various item of work involving minor concrete work.