STATE OF CALIFORNIA

CITY OF PLACERVILLE

ENGINEERING DEPARTMENT

SPECIAL PROVISIONS

BOOK 2 OF 2

FOR CONSTRUCTION OF

PLACERVILLE DRIVE PEDESTRIAN CONNECTIVITY PROJECT
FEDERAL PROJECT NO. CML-5015(037)
CIP# 42337

JULY 2025

For use in connection with California Department of Transportation, Standard Specifications Dated **2024**, Caltrans Standard Plans Dated **2024** and Revised Standard Plans dated April 21st, 2025, El Dorado County Standard Plans, State of California Labor Surcharge and Equipment Rental Rates, and Director of Industrial Relations General Prevailing Wage Rates.

CITY OF PLACERVILLE, CALIFORNIA
ENGINEERING DEPARTMENT

PLACERVILLE DRIVE PEDESTRIAN CONNECTIVITY PROJECT
FEDERAL PROJECT NO. CML-5015(037)
CIP# 42337

The Special Provisions contained herein have been prepared by or under the direction of the following Registered Persons:

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CITY OF PLACERVILLE, CALIFORNIA
ENGINEERING DEPARTMENT

PLACERVILLE DRIVE PEDESTRIAN CONNECTIVITY PROJECT (CIP# 42337)
FEDERAL PROJECT NO. CML-5015(037)

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ORGANIZATION

Special provisions are under headings that correspond with the main-section headings of the Standard Specifications. A main-section heading is a heading shown in the table of contents of the Standard Specifications.

Each special provision begins with a revision clause that describes or introduces a revision to the Standard Specifications as revised by any revised standard specification.

Any paragraph added or deleted by a revision clause does not change the paragraph numbering of the Standard Specifications for any other reference to a paragraph of the Standard Specifications.

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DIVISION I GENERAL PROVISIONS

1 GENERAL

Add to section 1-1.01:

The work embraced herein shall be done in accordance with the Standard Specifications of the Department of Transportation dated 2024, hereinafter referred to as the Standard Specifications, and the Standard Plans of the Department of Transportation dated 2024 supplemented by the Revised Standard Plans of the Department of Transportation as of October 21, 2024, hereinafter referred to as the Standard Plans, insofar as the same may apply and in accordance with the following Special Provisions.

The components of the Contract Documents are intended to supplement each other. In the event of a conflict in the Contract Documents, the following order of precedence will govern interpretation of the Contract:

1. Field instruction or other written directives
2. Addenda
3. Special Provisions
4. Placerville Drive Pedestrian Connectivity Project Plans
5. Standard Specifications
6. Standard Plans

Add to section 1-1.07B:

A term not defined in the Contract Documents or Standard Specifications has the meaning defined in Means Illustrated Construction Dictionary, Condensed Version, Second Edition.

Approval of the Contract: Execution of the Contract by the City Council of the City of Placerville.

Caltrans/Department of Transportation: Department of Transportation as defined in the St & Hwy Code § 20 and authorized in St & Hwy Cod § 90; its authorized representatives.

City: The City of Placerville, a municipal corporation of the State of California.

CCTV: Closed-circuit television.

City Council: City Council of the City of Placerville, State of California.

Contract: Written and executed Contract as approved by the City Council between the City of Placerville and the Contractor.

Contract Documents: Plans, Notice to Bidders, Special Provisions, and Proposal and Agreement

Contractor: Person of business or its legal representative approved by the City Council and entering into a Contract with the City of Placerville for performance of the work.

Department: The City of Placerville except that any reference to the Department's forms, websites, manuals, guides, and test methods. These shall be defined as forms, websites, manuals, guides, and test methods of Caltrans.

Design Engineer: R.E.Y. Engineers, Inc. and their subconsulting engineers.

Director: The City Engineer for the City of Placerville.

EID: El Dorado Irrigation District.

Engineer: The Resident Engineer of the City acting either directly or through properly authorized agents; such agents acting within the scope of the particular duties delegated to them.

Inspector or City Inspector: An authorized agent acting on behalf of the City Engineer and within the scope of the particular duties delegated to him/her.

Plans: The Plans are specific details and dimensions particular to the work and are supplemented by the Standard Plans insofar as they may apply. This term is used interchangeably for the Placerville Drive Pedestrian Connectivity CIP# 42337 plans.

Project Plans: The Project Plans are specific details and dimensions particular to the work and are supplemented by the Standard Plans insofar as they may apply. This term is used interchangeably for the Placerville Drive Pedestrian Connectivity CIP# 42337 plans.

Special Provisions: The Special Provisions are specific clauses required by the City setting forth conditions of requirements peculiar to the work and supplementary to the Standard Specifications of the State of California.

Standard Plans: 2024 Standard Plans of the State of California, Department of Transportation and the current Revised Standard Plans as of October 21, 2024.

Standard Specifications: 2024 Standard Specifications of the State of California, Department of Transportation (Caltrans) and the current Revised Standard Specifications as of October 21, 2024.

State: The State of California, including its agencies, departments or divisions whose conduct or action is related to the work or when referenced in the Standard Specifications "State" shall mean the City of Placerville, including its authorized officers, agents, consultants, and volunteers.

Project: The work as contemplated in these documents and Project Plans.

Proposal: The un-approved offer as submitted to the City for contemplation for the completion of the Project.

USDOT: The United States of America Department of Transportation.

Add to section 1-1.09:

This project is located in a freeze-thaw area.

Add to section 1-1.11:
Websites, Addresses, and Telephone Numbers

Reference or Agency or Department Unit	Website	Address	Telephone no.
El Dorado County Fire Protection	http://www.eldoradocountyfire.com	4040 Carson Road Camino, CA	(530) 644-9630
Placerville Police Department	http://www.cityofplacerville.org/depts/police	730 Main Street Placerville, CA	(530) 642-5210
Placerville Downtown Association	http://www.placerville-downtown.org	--	(530) 672-3436
El Dorado Transit Authority	http://www.eldoradotransit.com/	6565 Commerce Way Diamond Springs, CA	(530) 642-5383
Placerville Union School District Transportation Department	https://www.pusdk8.us/page/bus-routes	2877 Schnell School Rd Placerville, CA 95667	(530) 622-6244

Replace the paragraph in section 1-1.12 with:

Make checks and bonds payable to the City of Placerville.

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2 BIDDING

Replace section 2-1.05 with:

2-1.05 FEDERAL LOBBYING RESTRICTIONS

Section 1352, Title 31, United States Code prohibits Federal funds from being expended by the recipient or any lower tier sub recipient of a Federal-aid contract to pay for any person for influencing or attempting to influence a Federal agency or Congress in connection with the awarding of any Federal aid contract, the making of any Federal grant or loan, or the entering into of any cooperative agreement.

If any funds other than Federal funds have been paid for the same purposes in connection with this Federal-aid contract, the recipient shall submit an executed certification and, if required, submit a completed disclosure form as part of the bid documents.

A certification for Federal-aid contracts regarding payment of funds to lobby Congress or a Federal agency is included in the Bid book. Standard Form - LLL, “Disclosure of Lobbying Activities,” with instructions for completion of the Standard Form is also included in the Bid book. Signing the Bid book shall constitute signature of the Certification.

The above referenced certification and disclosure of lobbying activities shall be included in each subcontract and any lower-tier contracts exceeding $100,000. All disclosure forms, but not certifications, shall be forwarded from tier to tier until received by the Engineer.

The Contractor, subcontractors and any lower-tier contractors shall file a disclosure form at the end of each calendar quarter in which there occurs any event that requires disclosure or that materially affects the accuracy of the information contained in any disclosure form previously filed by the Contractor, subcontractors and any lower-tier contractors. An event that materially affects the accuracy of the information reported includes:

(1) A cumulative increase if $25,000 or more in the amount paid or expected to be paid for influencing or attempting to influence a covered Federal action; or

(2) A change in the person(s) or individual(s) influencing or attempting to influence a covered Federal action; or

(3) A change in the officer(s), employees(s), or Member(s) contacted to influence or attempt to influence a covered Federal Action.

Replace the paragraphs in section 2-1.06A with:

Standard Specifications and Standard Plans may be viewed at the Caltrans Office Engineer Web Site and may be purchased at the Publication Distribution Unit.

The Notice to Bidders, Special Provisions, Proposal and Agreement, and any Project Plans may be viewed and obtained at the locations stated in the Notice to Bidders.

Replace Section 2-1.12B (2) with:

2-1.12B(2) Disadvantaged Business Enterprises Commitment submittal

Submit DBE information on the Local Agency Bidder - DBE - Commitment form (DBE commitment form) included in the Proposal and Agreement Section. If the form is not submitted with the bid, remove the form from the Proposal and Agreement Section before submitting your bid.

If the DBE commitment form is not submitted with the bid, the apparent low bidder, the 2nd low bidder, and the 3rd low bidder must complete and submit the form to the City of Placerville. The DBE commitment forms must be received by Melissa Savage, City of Placerville Engineering Department or email Melissa Savage msavage@cityofplacerville.org no later than 4:00 p.m. on the 4th business day after bid opening.

Other bidders are not required to submit the DBE commitment form unless the Department requests it. If the Department requests a DBE commitment form from you, submit the completed form within 4 business days of the request.

Submit written confirmation from each DBE shown on the form stating that it will be participating in the Contract. Include confirmation with the DBE commitment form. A copy of a DBE's quote will serve as written confirmation that the DBE will be participating in the Contract.

If you do not submit the DBE commitment form by the specified time, your bid is nonresponsive.

Replace the second and third paragraph of Section 2-1.12B(3) with:

If you have not met the DBE goal, complete and submit the Good Faith Efforts Documentation form with the bid showing that you made adequate good faith efforts to meet the goal. Only good faith efforts directed toward obtaining participation by DBEs are considered. If good faith efforts documentation is not submitted with the bid, it must be received by Melissa Savage, City of Placerville Engineering Department or email msavage@cityofplacerville.org no later than 4:00 p.m. on the 4th business day after bid opening.

Replace the paragraphs in section 2-1.33A with:

Complete forms in Bid book. Submit forms with your bid.

Except where stated acceptable elsewhere, do not fax submittals.

Failure to submit the forms and information as specified may result in a non-responsive bid.

Add to section 2-1.33A:

On the Subcontractor List, you must submit each subcontractor's license number, each subcontracted bid item number and corresponding percentage with your bid or email these numbers and percentages to Melissa Savage, City of Placerville Engineering Department or email msavage@cityofplacerville.org. Failure to do so results in a nonresponsive bid.

You must either submit with your bid the BIDDER'S LIST OF SELECTED SUBCONTRACTORS and BIDDER'S LIST OF NON-SELECTED SUBCONTRATORS or email to Melissa Savage, City of Placerville Engineering Department or email msavage@cityofplacerville.org within 24 hours after bid opening. Failure to do so results in a nonresponsive bid.

Replace the last paragraph of section 2-1.34 with:

If using a bidder's bond, you must use the form in the Proposal section.

Replace the paragraph in section 2-1.47 with:

The Department may grant bid relief under Public Contracts Code § 5100 et seq. Submit any request for bid relief to Melissa Savage, City of Placerville Engineering Department or email msavage@cityofplacerville.org. The Relief of Bid Request form is available at the Caltrans Web site.

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3 CONTRACT AWARD AND EXECUTION

Replace the paragraphs in section 3-1.04 with:

The Department reserves the right to reject any or all bids or any parts thereof and waive any irregularities or informalities in any bid or in the bidding to the extent permitted by law and to make awards in all or part of the best interest of the Department. No bidder may withdraw his/her bid for a period of sixty (60) days after the date set for the bid opening. Bid protests must be submitted in writing to the attention of the City Clerk before 4:00 pm of the 3rd calendar day following the bid opening.

If the Department awards the contract, the award is made to the lowest responsible bidder for the total of all the base bid items within 60 days after bid opening. The Department may extend the specified award period if the bidder agrees. The Department retains the right to remove any and/or all additive alternative to or from the plans as they see fit.

Barring some unforeseen irregularity, Notice of Award will be sent to the lowest responsive bidder after approval by the City Council.

The Department reserves the right to reject any or all bids or any parts thereof and waive any irregularities or informalities in any bid or in the bidding to the extent permitted by law and to make awards in all or part of the best interest of the Department. No bidder may withdraw his/her bid for a period of sixty (60) days after the date set for the bid opening. Bid protests must be submitted in writing to the attention of the City Clerk before 4:00 pm of the 3rd calendar day following the bid opening.

If the Department awards the contract, the award is made to the lowest responsible bidder for the total of all the base bid items within 60 days after bid opening. The Department may extend the specified award period if the bidder agrees. The Department retains the right to remove any and/or all additive alternative to or from the plans as they see fit.

Barring some unforeseen irregularity, Notice of Award will be sent to the lowest responsive bidder after approval by the City Council.

3-1.04A Bid Protest Procedures

3-1.04A(1)General

These Bid Protest Procedures specify procedures for interested parties to protest the following:

1. A provision of the bid specifications,
2. A City of Placerville staff recommendation to the City Council to disqualify a bidder or subcontractor and/or,
3. A City of Placerville staff recommendation to the City Council to award a Contract to a particular bidder.

3-1.04A(2) Effect of Protest on Contract Award or Bid Opening

When a protest of the provisions of the bid specifications has been properly filed, pursuant to these procedures, before the opening of bids, the bids will not be opened prior to the City's final decision on the protest.

When a protest of recommendation of contract award or disqualification of a bidder has been properly filed, pursuant to these procedures, prior to the City Council award of the contract, the City Council will not award the Contract prior to issuance of a final decision on the protest.

3-1.04A(3) Release of Protest Information

Materials submitted as a part of the protest resolution process will be available to the public except to the extent that:

1. The withholding of information is permitted or required by law or regulation; and
2. The information is designated proprietary by the person submitting the information to the City of Placerville. If the person submitting material to the City of Placerville indicates that the material contains proprietary material that should be withheld, a statement advising of this fact must be affixed to the front page of the material submitted, and the alleged proprietary information must be specifically identified in the body of the materials wherever it appears. Notwithstanding such designation, if the City of Placerville determines, within its discretion, that it is legally obligated to release or disclosure such information, the City of Placerville will attempt to notify the person submitting the information prior to its disclosure in order to allow that person an opportunity to seek an appropriate protective order,

3-1.04A(4) Maintenance of Protest Records

The City Manager or his/her designee will maintain a written record of each step taken in every bid protest. The record will list dates of each event and photocopies of all correspondence sent and/or received by the City of Placerville pertaining to the protest. These records will be retained for at least 3 years from the date each protest is resolved.

3-1.04A(5) Who May File a Protest

Protests may be filed only by interested parties. Interested parties are defined as actual or prospective bidders for a City of Placerville contract and subcontractors or suppliers at any tier whose direct economic interest would be affected by an award or failure to amend a Contract, a provision of the specifications, or a bid submitted to the City of Placerville by a prime Contractor, or by the interpretation of the provisions of such documents. Submission of a bid or sub-bid protest will be deemed a waiver of any protest to any provision of the specifications or issue which is not expressly listed as a part of the protest, and entitle the protesting party only to protest any subsequent recommendations/decisions of the City of Placerville staff, the City Manager, or the City Council to disqualify the bidder, reject its bid, or award the Contract pursuant to the protest as submitted.

3-1.04A(6) Time For Filing a Protest

Protest to any particular provision of the bid specifications must be received by the City of Placerville City Clerk no later than five (5) business days prior to the date established in the Notice to Bidders as the deadline for the submittal of bids.

Protest of staff's recommendation to the City Council pertaining to the award of a Contract or disqualification of a bidder must be received by the City of Placerville City Clerk no later than five (5) business days from the date of the notice of the staff recommendation.

All protests must be actually received by the City Clerk by the close of business on the specified date and not simply postmarked by that date.

3-1.04A(7) Form For Filing a Protest

All protests shall be in writing and be submitted to the City Clerk, City of Placerville, 3101 Center Street, Placerville, CA 95667. The protest shall contain, at a minimum:

- The name, address, email and phone number of the protester, including name, the phone number and email of the designated representative.
- The signature of the protester, or representative
- The contract project number
- A detailed statement of the legal and/or factual grounds for the protest with supporting documentation; and
- The form of relief that is requested.

The City Manager or their designee will provide notice, by email or mail letter, to all bidders known to the City of Placerville for the Contract that is the subject of the protest. Such Notice will state that a protest has been

filed with the City of Placerville and it will identify the name of the protester. The notice will be given not more than five (5) business days after receipt of a properly filed protest. The notice will state that interested parties will receive further information related to the protest only if they submit a written request to the City Manager within five (5) business days of the notice date.

The protest shall be accompanied by any processing fee that the City Council may establish for bid protests.

3-1.04A(8) The City of Placerville's Response to a Protest

All City of Placerville responses to a protest will be issued in writing. The City Manager will designate a City staff person who, not more than ten (10) business days after receiving a properly filed protest, will prepare and mail the following information to the protester and all interested parties requesting such information:

1. A staff response to the protest including a discussion of the investigation conducted, findings, and rationale supporting the response; and
2. The proposed time, date and place of the meeting at which the protester and The City of Placerville staff will attempt to resolve the protest, if such a meeting is appropriate in the judgment of the City Manager.

Within five (5) business days after the meeting, or if no meeting is scheduled, within five (5) calendar days after the date the City of Placerville's response was mailed, the protester must give the City Manager written notice that the protest is withdrawn or, alternatively, that the protester requests further consideration of the protest by the City Council. The notice must be actually received by the City Manager by the close of business on the specified date and not simply postmarked by that date.

If the protester fails to deliver such notice to the office of the City Manager by the applicable deadline, the protest will be deemed withdrawn.

3-1.04A(9) Submittal of Protest to the City Council

If the protest is continued to the City Council for resolution, the protester, and all interested parties requesting such information, will be notified of the date, time and place of the City Council's hearing at which the protest will be considered; and the date that the protester and other interested parties must submit written comments with respect to the recommendation. The date established by the City Manager, within his or her discretion, for submittal of comments by the protester and other persons will allow a reasonable period for rebuttal and may vary according to the complexity of the particular protest. In any event, the protester and other persons shall have at least five (5) business days to submit any written comments.

A copy of the agenda package sent to City Council members prior to a protest hearing will be sent to the protester and sent or made available to any interested person who requested such materials upon posting of the agenda and will include the City Council's recommendation and all written comments received from the protester and other persons within the submittal period. If the City Manager has revised his/her recommendation since its distribution, a written description of the new intended decision and the reason(s) for revision will be sent to the protestor and sent or otherwise made available to any interested person.

3-1.04A(10) City Council's Decision

At the City Council meeting scheduled for the protest hearing, the City Council, in its discretion, may conduct the hearing and/or continue the hearing to a subsequent City Council meeting, or refer the matter to an impartial hearing officer to conduct a hearing and prepare a written recommended decision including findings of fact. Applicable provisions of the City of Placerville City Code, Article I, chapter 4A, governing administrative hearings shall govern proceeding before the hearing officer.

At the City Council hearing, the Mayor may announce procedural rules, including those that are reasonably necessary to preclude repetitious or irrelevant testimony including reasonable time limitations. The City of Placerville staff, the protester, and any interested person may present evidence relating to the protest. If either party arranges for the use of a court reporter to transcribe the hearing, the other party shall upon request receive a copy of the transcript upon payment of reasonable copy costs.

If a hearing officer conducts the hearing, the City Manager will provide written notice to the protester, and all interested parties requesting such information, of the date, time and place of the City Council meeting at

which the hearing officer's recommendation will be considered for adoption, and the date that the protester must provide written comments for submittal to the City Council. A copy of the documents pertaining to the protest that is provided to the City Council with its meeting agenda will be sent to the protester and sent or made available to any interested person who requested such materials upon posting of the agenda.

In rendering its decision on the protest, the City Council, in its discretion, may adopt the decision recommended by the City Manager, adopt the written recommendation and findings of fact prepared by a hearing officer, or adopt a separate decision. The protester and all interested parties will be notified in writing of the final decision of the City Council within 30 calendar days from the date of the City Council meeting.

The decision of the City Council shall be final and any subsequent judicial review shall occur pursuant to Code of Civil Procedure section 1094.6.

3-1.04A(11) Waiver of Damages

By submitting a bid, each bidder and sub-bidder agrees that in the event that it submits any protest to the terms of the specifications or to any subsequent decision of the City of Placerville staff, City Manager or City Council, it waives damages as provided for herein. The City of Placerville retains the discretion to reject all bids or to make no decision whatsoever. If the City of Placerville City Manager or City Council rejects all bids for any reason, or overrules any protest and awards the Contract, the protesting person or entity waives all claims, rights and causes of action for loss of anticipated profits from the Contract or any subcontract, regardless of whether the City of Placerville’s decision is subsequently invalidated by a court of law. The City of Placerville will be deemed to have relied to its detriment on such waiver in deciding either to reject all bids or to award the Contract. Any attempted reservation of rights waived herein will be grounds to reject a bid as nonresponsive.

3-1.04A(12) Emergency Circumstances.

<u>The dates and deadlines set forth in these procedures are subject to modification upon determination by the City Manager or City Council, within the exercise of their discretion, that emergency circumstances justify a modified response time. The City Manager shall provide written notice of any modification to the protesting party and any interested party requesting notice.</u>

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4 SCOPE OF WORK

Replace the paragraphs in section 4-1.13 with:

4-1.13 CLEANUP

4-1.13A General

Section 4-1.13 includes specifications for daily, weekly, and final cleanup.

The Contractor must locate and negotiate terms of use for their staging area.

If at any time the cleaning of the job site and/or staging area(s) is not performed to the satisfaction of the City and the Engineer, the Contractor will be notified and shall immediately return to the project site and perform satisfactory cleaning. If the Contractor is unable to perform cleaning activities in a timely matter as determined by the City, the cleaning may be performed for the Contractor at their expense.

4-1.13A(1) Daily Cleanup

At the end of each working day, return all materials and equipment to approved staging areas. All rubbish and debris shall be completely removed from the project site. If pedestrian and/or vehicular signage is required during non-working hours, signage shall be placed to the satisfaction of the City and Engineer.

If Contractor utilizes cold mix asphalt (CMA) for temporary ramping or paving, the Contractor is responsible for maintaining the cold mix during non-working hours. Cold mix shall be properly compacted by an approved compaction device. Equipment tires or vehicle tires shall not be used for compaction of CMA, unless otherwise approved by the engineer.

Contractor shall use vactor trucks or other approved equipment to prevent domestic water from entering the storm drain system.

The Contractor is responsible for maintaining vehicular and pedestrian traffic equal to or better than pre-construction conditions at all times. Repair and replace all striping affected by the day's work. Crosswalk and lane striping must be visible at all times.

All cleaning activities must be completed prior to opening of lane and/or roadway. The Contractor shall schedule work and cleaning activities to ensure streets can be reopened within the timeframes specified in the Contract Documents.

4-1.13A(2) Weekly Cleanup

Contractor Shall perform Daily Cleanup per Section 4-1.13A(1).

At the end of each work week, remove all equipment and materials from daily staging area(s) and transport them to an approved staging area.

All staging areas shall be cleaned to the satisfaction of the City and Engineer.

4-1.13A(3) Final Cleanup

Contractor Shall perform Daily Cleanup per Section 4-1.13A(1) and Weekly Cleanup per Section 4-1.13A(2).

Before final inspection, leave the job site neat and presentable and dispose of:

1. Rubbish and debris
2. Excess materials
3. Falsework
4. Temporary structures
5. Equipment

Do not remove warning, regulatory, or guide signs until Contract acceptance unless otherwise directed by the Engineer.

4-1.13A(4) Payment

There is no specific bid item for Cleanup. Cleanup shall be considered included in the other various bid items and no additional payment will be made therefore.

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5 CONTROL OF WORK

Replace section 5-1.20D with:

5-1.20D Permits

1. The Contractor shall be responsible for the application process and fees associated with obtaining all permits required for the commencement and execution of the project, including but not limited to, work within any street right of way, storm water pollution prevention, discharge of construction water into the local drainage system, right-of-entry, excavation and trench safety. Any work performed within the City right-of-way will require encroachment permits. The Contractor shall obtain a no-fee encroachment permit from the City. Any work performed within Caltrans right-of-way will require an encroachment permit. The Contractor is responsible for any forms, submittals, and fees necessary to obtain encroachment permit.

2. The Contractor must obtain a water use permit for construction water from El Dorado Irrigation District. Water use and permit fees will be subject to the El Dorado Irrigation District Temporary Water Use Permit for Fixed Meters.

The payment for the cost for this permit and water usage shall be included with the various items of the proposal and no separate payment will be made.

Replace the paragraphs in section 5-1.23A with:

5-1.23A GENERAL

5-1.23A(1) Submittal Procedure

Section 5-1.23 includes specifications for action and informational submittals.

Any submittal not specified as an informational submittal is an action submittal.

Accompany each submittal with a Submittal form, which contains the following information:

1. Contractor's name and the name of Subcontractor or supplier who prepared the submittal.
2. The project name and identifying number.
3. Description of the submittal and reference to the Contract requirement or technical specification section and paragraph number being addressed.

Electronic submittals are preferred. Provide original hard copies to the Engineer upon request. If hard copies are submitted in lieu of an electronic submittal, submit the number and type of copies for each submittal and follow the procedures described below or in other paragraphs in this Section. Submit three copies of submittals not covered in this Section.

1. Designation of Superintendent: Submit three copies for information. Include name, address, home telephone number, and a brief resume.
2. List of Subcontractors and Major Suppliers: Submit three copies for information. Include address, telephone number, and name of responsible party.
3. Subcontractors'/Suppliers'/Manufacturers' Affidavits. Submit three copies for items specified in the Technical Specifications.

The City or Engineer rejects a submittal if it has any error or any omission.

Failure to provide submittals requested by the Engineer constitutes contract noncompliance on that item of work and may be deducted in accordance with Sections 5-1.30 and 9-1.16E.

Convert foreign language documents to English and U.S. customary units.

5-1.23A(2) Schedule of Submittals

Submit three (3) copies for information. No copy will be returned.

At the pre-construction meeting, submit a Schedule of Submittals showing the date by which each submittal required for Product Review or Product Information will be made. Identify the items that will be included in each submittal by listing the item or group of items and the Specification Section and paragraph number under which they are specified. Indicate whether the submittal is required for Product Review of Proposed Equivalents, Shop Drawings, Product Data or Samples or required for Product Information only.

5-1.23A(3) Plan of Operations

Submit three (3) copies.

Before beginning on site work, submit a plan showing Contractor's intended use of the Work site, including on site storage of materials, on site handling of materials, and field offices.

5-1.23A(5) Shop Drawing, Product Data and Sample Submitted for Product Review

This paragraph covers submittal of Shop Drawings, Product Data and Samples required for the Engineer's review referred to as Product Review submittals for the Technical Specifications of the contract documents. Submittals required for information only are referred to as Product Information submittals in the Technical Specifications and are covered in section 5-1.23A(7).

Number and type of submittals:

1. Shop Drawings: Submit three (3) clear, sharp high contrast copies one of which will be marked, stamped and returned to the Contractor. The Contractor shall make and distribute the required number of

additional copies to its superintendent, subcontractors and suppliers. Shop drawings must comply with section 5-1.23B(2).
2. Product Data: Submit three (3) clear copies. One copy will be marked, stamped and returned. The Contractor shall make and distribute the required number of additional copies to its superintendent, subcontractors and suppliers.

The Contractor shall make all Product Review submittals early enough to allow adequate time for the Engineer's review, for manufacture, and for delivery at the construction site without causing delay to the Work. Submittals shall be made early enough to allow for unforeseen delays such as:

1 Failure to obtain Favorable Review because of inadequate or incomplete submittal or because the item submitted does not meet the requirements of the Contract Documents.
2 Delays in manufacture.
3 Delays in delivery.

Content of Submittals:

1. Each submittal shall include all of the items and material required for a complete assembly, system or Specification Section.
2. Submittals shall contain all of the physical, technical and performance data required by the specifications or necessary to demonstrate conclusively that the items comply with the requirements of the Contract Documents.
3. Provide verification that the physical characteristics of items submitted, including size, configuration, clearances, mounting points, utility connection points and service access points, are suitable for the space provided and are compatible with other interrelated items that are existing or have or will be submitted.
4. Label each Product Data Submittal, Shop Drawing and Sample with the information required in paragraph 5-1.23A(1)1. of this Section. Highlight or mark every page of every copy of all
5. Product Data submittals to show the specific items being submitted and all options included or choices offered.
6. Additional requirements for Product Review submittals are contained in the Technical Specification sections.
7. Designation of work as "by others," shown on Shop Drawings, shall mean that the work will be the responsibility of the Contractor rather than the subcontractor or supplier who has prepared the Shop Drawings.

Requirements for Contractor Designed Items:

Verify that products delivered meet requirements of Contract Documents.

Compatibility of Equipment and Material:

1. Similar items, equipment, devices or products furnished under a single specification section shall all be made by the same maker and have interchangeable parts.
2. In addition, but only if so stated in each affected Specification Section, similar items furnished under two or more Specification Sections shall be made by the same maker and have interchangeable parts.
3. All similar materials or products that are interrelated or used together in an assembly shall be compatible with each other.

Requirements for the Contractor's review and stamping of submittals prepared by the Contractor or by Subcontractors or suppliers prior to submitting them to the Engineer. The Contractor warrants:

1. Work or items submitted are complete, accurate and meet the requirements of the Contract Documents, or else any deviations are identified and described in a separate letter accompanying the submittal form.
2. Work or items submitted have been coordinated with and meet the requirements of other submittals, field conditions and the Work as a while and quantities and dimensions are correct.

3. Proposed Equivalent items are at least equal in quality, utility and appearance to the first specified item, or else any deviations are identified in a separate letter accompanying the submittal form.
4. Adjustments to other work required to accommodate Proposed Equivalent items including second named items have been delineated on the submittal and will be made at the Contractor's expense.
5. This submittal includes all items needed for a particular specification section or assembly for which submittals are required.

Submittals that contain deviations from the requirements of the Contract Documents shall be accompanied by a separate letter explaining the deviations. The Contractor's letter shall:

1. Cite the specific Contract requirement including the Specification Section and paragraph number for which approval of a deviation is sought.
2. Describe the proposed alternate material, item or construction and explain its advantages and/or disadvantages to the Owner.
3. State the reduction in Contract Price if any that is offered to the Owner.

Engineer's Review Procedure and Meaning:

The Engineer will stamp and mark each Product Review submittal prior to returning it to the Contractor. The stamp will indicate whether or not the review was favorable and what action is required of the Contractor. Review categories" Approved" and "Approved as Corrected" both indicate Favorable Review.

The Engineer's Favorable Review is contingent on the Contractor's warranties. Favorable Review is also contingent on:

1. The compatibility of items included in a submittal with other related or interdependent items included in previous or future submittals.
2. Future submittal of items related to or required to be part of this submittal that were not included with this submittal.

Favorable Review of a submittal does not constitute approval or deletion of items required as part of the submittal but not included with the submittal. Favorable Review of items included in the submittal does not constitute deletion of specified features, options or accessories that were not included in the submittal or that are included as part of the contract.

The action required by the Contractor for each category of review is as follows:

1. **APPROVED**. NO RESUBMITTAL REQUIRED.
2. **APPROVED AS CORRECTED**. The submittal is approved as corrected by the reviewer. The contractor is responsible for incorporating the reviewer's corrections. The corrected submittal complies with the Contract Documents.
3. **REVISE & RESUBMIT**. The Contractor shall revise and resubmit the submittal as noted or required to comply with the Contract Documents.
4. **REJECTED**. The item submitted does not comply with the Contract Documents in a major way. Resubmit items that comply with the requirements of the Contract Documents.

The letter of transmittal accompanying the returned Product Review submittal may contain numbered notes. Marking a corresponding number on a Shop Drawing or Product Data submittal shall have the same effect as applying the entire note to the submittal.

Re-submittals that contain changes that were not requested by the Engineer on the previous submittal shall be accompanied by a letter explaining the revised items.

Favorable Review required prior to proceeding. Proceeding without a Favorable Review will be considered unauthorized work per section 5-1.30.

Do not proceed with manufacture, fabrication, delivery or installation of items prior to obtaining the Engineers Favorable Review of Product Review submittals.

Any work performed by the Contractor in advance of an approved submittal for said work is done so at the Contractor’s sole risk.

Intent and Limitation on Engineer's Review:

The Contractor has primary responsibility for submitting and providing work that complies with the requirements of the Contract Documents. That responsibility cannot be delegated in whole or in part to subcontractors or suppliers. Neither the Engineer's Favorable Review nor the Engineer's failure to notice or comment on deficiencies in the Contractor's submittals shall relieve the Contractor from the duty to provide work, which complies with the requirements of the Contract Documents.

5-1.23A(6) Proposed Equivalents

Submittal for Proposed Equivalent products or materials shall comply with the submittal requirements for Shop Drawings, Product Data, and Samples submitted for Product Review in this Section. Bidders wanting to use “or approved equal items” may submit a Substitution Request Form no later than five (5) days after the issuance of the Notice to Proceed.

Time of Submittal:

1. Submittal of Proposed Equivalents shall be received within five (5) days of the Notice to Proceed. The Engineer may agree to a later submittal date if requested in writing within five (5) days of the Notice to Proceed. The request shall identify the item, providing the Specification reference, and proposed manufacturer and model number of the item that will be submitted and the proposed submittal date.
2. The Engineer's agreement to a later submittal date shall be in writing and shall not be construed as Favorable Review or acceptance of the manufacturer or item proposed.

Content of submittals shall be the same as that required for Product Data, Shop Drawings and Samples submitted for Product Review in another paragraph of this Section. In addition, the Contractor shall provide information on several recent similar installations of the item to verify its suitability. The information shall include the project name and location, the Owner's name, address, telephone number and name of a knowledgeable person to contact for information on performance of the product.

When the Contractor has listed specific maker's products submitted with its Bid no changes will be permitted without submittal of acceptable evidence justifying the change and the Engineer's written approval.

If a non-equivalent substitute is submitted for review, it shall be accompanied by a proposed reduction in Contract Price which shall include the increased cost of Engineering service required to evaluate the proposed substitute (which shall be paid to the Owner whether or not the substitute is accepted) plus the greater of 1) the difference in price between the first specified item and the item submitted and 2) the difference in value to the Owner between the two items.

5-1.23A(7) Product Information Submittals

1. Submit three (3) copies. No copies will be returned.
2. Product Information submittals are required for the Owner's permanent records and will be used for future maintenance, repair, modification or replacement work. Product Information submittals will be examined only to verify that the required submittals have been made; they will NOT be reviewed for compliance with the Contract Documents.
3. Make Product Information submittals prior to delivering material, products or items for which Product Information submittals are required.
4. The Contractor has the sole and exclusive responsibility for furnishing products and work that meets the requirements of the Contract Documents.

5. The Engineer reserves the right to comment on any submittal and to reject any product or work delivered, installed or otherwise at any time that the Engineer become aware that it is defective or does not meet the requirements of the Contract Document.

5-1.23A(8) Manufacture Certificates

1. Submit three (3) copies.
2. When specified in Technical Specification section, submit manufacturers' certificate to Engineer for review. Indicate material or product conforms to or exceeds specified requirements. Submit supporting reference data, affidavits, and certifications as appropriate. Certificates may be recent or previous test results on material or Product but must be acceptable to the Engineer.

Replace Section 5-1.26 with:

5-1.26 CONSTRUCTION SURVEYS

5-1.26A General

The contractor must set construction stakes and markers to establish the lines and grades required for the completion of the work on the plans and as specified in the Standard Specifications and these Special Provisions and as necessary for the Engineer to check lines, grades, alignment and elevations.

All procedures, methods, and typical stake markings shall be in accordance with Chapter 12, Construction Surveys, of the Caltrans “Survey Manual.” Copies of the “Survey Manual” may be purchased from Caltrans Publications Unit, 1900 Royal Oaks Drive, Sacramento, and California 95815, (916) 445-3520.

Staking must be performed under the direction of a licensed surveyor or registered civil engineer with the authority to perform land surveying.

5-1.26B Grade Quality Control

Use a GNSS rover, robotic total station equipment, or a level to check the grades at the frequencies shown in the following table: **Grade Checking Requirements**

Type of work	Area or distance represented by the grade checking	Frequency (number of grade points)
Earthwork for cut and fill slopes ≤15 feet	200 feet	2
Earthwork for cut and fill slopes >15 feet	1,000 sq yd	1
Rough grading	1,000 sq yd	1
Trenching	100 feet	6
Subgrade	1 mi	30
Subbase layer	1 mi	50
Base layer	1 mi	100
Curb and gutter	100 feet	6
Concrete barrier	100 feet	5
Finishing roadway	1,000 sq yd	2

Increase the frequency of grade checking of a roadway:

1. Wherever its curve radius is 500 feet or less
2. In areas of a superelevation transition
3. At intersections

Notify the Engineer when an area is ready for line and grade inspection. Submit the grade checking results on a Grade Checking Report form as an informational submittal.

5-1.26C Payment

Construction surveys (contractor provided construction staking) shall be paid for under the Construction Staking bid item. Progress payments will be made based upon the percentage of work items requiring staking staked by that point. No additional compensation will be made for resetting stakes.

Replace the paragraphs in section 5-1.27E with:

Maintain separate records for change order work costs.

Submit change order bills to the Engineer.

Add to the end of section 5-1.32:

Personal vehicles of the Contractor's employees must not be parked on the traveled way or shoulders, including sections closed to traffic.

Add between the 2nd and 3rd paragraphs of section 5-1.36C(3):

Utilities shown on the Project Plans as being relocated or rearranged by others will be relocated or rearranged by others, but the Contractor shall coordinate those efforts with the utility owner(s) to ensure no schedule impacts or delays. Contact information for the utility purveyors are as follows:

1. PG&E: Joshua R. Berger (209) 986-0184
2. AT&T: Nathan Dixon (916) 296-6359
3. Comcast: Cameron Alves (916) 200-9060
4. EID: Patrick Kalvass (530) 642-4054

Replace the paragraphs in section 5-1.46 with:

When you complete the work, request the Engineer's final inspection. You will be notified, in writing, of any defects or deficiencies to be remedied. Correct all defects and deficiencies within 5 working days of notification and notify the Engineer all defects and deficiencies have been addressed. When notified that the work is complete, the Engineer will again inspect the work to ensure compliance with the Contract Documents.

If the Engineer determines that the work is complete, the Engineer recommends to the City Council that the Contract be accepted and the Notice of Completion be recorded to accept the Contract. Immediately after Contract acceptance, you are relieved from:

1. Maintenance and protection duties
2. Responsibility for injury to persons or property or damage to the work occurring after Contract acceptance expect as specified in section 6-3.06.

^^

6 CONTROL OF MATERIALS

Add to section 6-1.01:

No materials are allowed to be stockpiled in the State or City Right of Way unless a written request is made to Caltrans or the City in advance. The Contractor is responsible for maintaining and final cleaning after work and restoring the Right of Way to its original condition.

The Contractor shall provide a list of all hazardous materials and associated Material Safety Data Sheets (MSDS) to be used within the State Right of Way to Caltrans before materials are used.

The Contractor shall provide a list of all hazardous materials and associated MSDS to be used within the City Right of Way to the City before materials are used.

Replace section 6-1.04A:

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

^^

7 LEGAL RELATIONS AND RESPONSIBILITY TO THE PUBLIC

Replace the 11th paragraph of section 7-1.02K(3) with:

Submit certified payroll records to the Engineer and upload to the Department of Industrial Relations.

Add to section 7-1.02K(6)(a):

All Personnel shall wear hard hats and ANSI Class II or higher visibility garments as appropriate.

Add to section 7- 1.02K(6)(j)(ii):

The contractor will prepare a Lead Compliance Plan (consistent with CCR Title 8, §1532.1, “Lead in Construction” standard) to minimize worker exposure to lead-containing soil and residue resulting from paint removal work.

The payment quantity for the Lead Compliance Plan bid item is paid for by lump sum.

Add to section 7- 1.02K(6)(j)(iii):

The contractor will prepare a Lead Compliance Plan (consistent with CCR Title 8, §1532.1, “Lead in Construction” standard) to minimize worker exposure to lead-containing soil. The Lead Compliance Plan should include protocols for environmental and personnel monitoring, requirements for personal protective equipment, and other health and safety protocols and procedures for the handling of lead-containing soil.

Add to section 7-1.03:

Contractor shall notify the City, El Dorado Disposal, El Dorado County Fire District, Placerville Police Department, Placerville Downtown Association, El Dorado County Transit Authority, El Dorado County Fairgrounds, Placerville Union School District, and local US Post Office three (3) weeks prior to start of construction and two (2) weeks prior to any partial road closures. Notifications shall be by E-mail and copies of the notifications shall be provided to the City.

Any interruption of a transit route or temporary relocation of a transit stop shall be coordinated with applicable operator (El Dorado Transit Authority, Placerville Union School District, etc.) a minimum of one (1) week prior.

Each day, the Contractor is to leave the site in a condition that is acceptable as directed by the Engineer.

Add to section 7-1.04:

At all times, Contractor shall maintain pedestrian, local vehicular traffic, and emergency vehicle traffic and maintain all ADA paths of travel per ADA regulations for access to all residential and commercial property, unless written approval is otherwise obtained from the City allowing for reduced access.

Public traffic shall be allowed to pass through the work area at all times, unless a closure plan has been approved in writing by the City.

Contractor shall allow for passage of emergency vehicles at all times.

See Section 12 for traffic control requirements.

Add to section 7-1.06F:

New certificates of insurance are subject to City approval.

^^

8 PROSECUTION AND PROGRESS

Add to section 8-1.02C(1):

Before or at the preconstruction conference, submit a CPM baseline schedule.

Replace the 1st paragraph of section 8-1.02C(6) with:

Submit an updated schedule at all weekly construction meetings that includes the status of work completed to date and the work yet to be performed as planned. Each updated schedule must comply with section 8-1.02B(3).

Replace the paragraphs in section 8-1.02D(10) with:

There is no specific bid item for project schedules and no additional payment will be made therefore.

Replace the 3rd sentence of the 1st paragraph of section 8-1.03 with:

You may not start work prior to the preconstruction conference.

Replace the 1st and 2nd paragraphs of section 8-1.04B with:

The contractor shall begin construction on the date specified on the Notice to Proceed (NTP), which is anticipated to be July 2025. All preconstruction submittals must be approved prior to starting job site activities. The Contractor is encouraged to submit preconstruction submittals prior to receiving the NTP to allow for proper review and approval of the submittals.

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9 PAYMENT

Delete section 9-1.11.

Add to section 9-1.16D(1):

Mobilization is part of the Mobilization/Demobilization bid item and includes, but is not limited to, preparing and maintaining a schedule per the Standard Specifications and these Special Provisions and construction and maintenance of staging area(s) and laydown yards(s). Demobilization is part of the Mobilization/Demobilization bid item and includes, but is not limited to, issuing a hard copy and/or digital set of as-built plans to the Engineer within 10 working days after substantial completion notification and restoring staging area(s) and laydown yard(s) to pre-construction conditions.

Add to section 9-1.16D(2):

Final compensation will be delayed until as-built plans are submitted and approved.

Add to section 9-1.16E(3):

The City returns performance-failure withholds in the progress payment following the correction of non-compliance.

Replace the paragraphs in section 9-1.16F with:

The City will withhold 5 percent of all progress payments as retention. Retention will be paid to the Contractor on Final Payment.

In accordance with Part 5 (§ 22300), Division 2 of the Public Contract Code, a Contractor may substitute securities for retention moneys withheld by a public agency to ensure performance under this Contract. At the request and expense of the Contractor, securities equivalent to the amount withheld shall be deposited with the City of Placerville, or with a state or federally chartered bank, as the escrow agent, who shall then pay such moneys to the Contractor, and upon satisfactory completion of the Contract, the securities shall be returned to the Contractor. No substations will be accepted until:

1. the City approves the securities and their value,
2. the parties have entered into an escrow agreement (if the securities are to be held in escrow) in a form substantially similar to that under § 22300,
3. all documentation necessary for assignment of the securities to the City or to the escrow agent are delivered in a form satisfactory to the City.

If the Contractor has substituted securities for any of the retention, the City may request that such securities be revalued from time to time, but not more often than monthly, at the expense of the Contractor. Such revaluation will be made by a person or entity designated by the City and approved by the Contractor. If such a revaluation results in a determination that the securities have a market value less than the amount of retention for which they were substituted, then the amount of the retention required under the Contract will be increased by such difference in market value.

Such increased retention will be withheld from the next progress payment(s) due to the Contractor under the Contract.

The Contractor, or subcontractor, shall return all monies withheld in retention from a subcontractor within 30 days after receiving retention payment with Final Payment. Federal law (49CFR26.29) requires that any delay or postponement of payment over 30 days may take place only for good cause and with the City's prior written approval. Any violation of this provision shall subject the violating Contractor or subcontractor to the penalties, sanctions, and other remedies specified in Section 7108.5 of the Business and Professions Code. These requirements shall not be construed to limit or impair any contractual, administrative, or judicial, remedies otherwise available to the Contractor or subcontractor in the event of a dispute involving late payment or nonpayment by the Contractor, deficient subtract performance, or noncompliance by a subcontractor.

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DIVISION II GENERAL CONSTRUCTION

10 GENERAL

12 TEMPORARY TRAFFIC CONTROL

Add to the section 12-1.01:

Along with the project schedule, the Contractor shall submit a construction staging/sequencing plan for review and obtain approval by the Engineer prior to the start of construction.

The staging/sequencing plan must:

1. Take into account material ordering and lead times.
2. Break work impacting the flow of traffic and/or access to residents or businesses into stages.
3. Only allow one side of the street to be under active construction at a time.
4. Identify any impacted bicycle or pedestrian facilities/circulation.
5. Identify any impacted driveways, businesses, or residences.
6. Ensure a minimum of one driveway to each parking lot or parcel remains open at all times.
7. Ensure a minimum of one-half of a driveway remains open at all times where only one driveway to a business or residence exists, unless otherwise approved by the Engineer. Driveways shall be constructed such that driveway concrete has no joints. Temporary driveways may be required while planned driveways are being constructed and shall be provided at no additional cost.
8. Require notice to parcel owners, businesses, and residents ten (10) working days in advance of when vehicle access will be altered or utility outages are to take place. Notice to parcel owners must include details of work, start date, and duration of work to take place in front of their property. This notice may be in the form of door-hangers, flyers, or other format deemed acceptable by the Engineer.
9. Require coordination with any gas station affected so that their scheduled refueling trucks maintain access to the tanks on the property. Access to all gas pumps shall be maintained between the hours of 6:00 AM and 9:00 PM.
10. Require any lane closures, if needed, to take place between the hours of 8:30 am – 3:00 pm.

The Contractor shall submit traffic control plans, including closure plans, for review and obtain approval prior to any construction activities requiring temporary traffic control. The Engineer shall review and approve all

traffic control systems, including hardware and location/placement, prior to beginning construction activities each workday. Public traffic shall be allowed to pass through the work area at all times unless a full road closure plan has been previously approved.

Full road closures will not be allowed for this project.

Half road closures, up to a maximum length of 1,000 feet measured parallel to the ground surface along the centerline of the road, are permitted for this project and must comply with Caltrans 2024 Standard Plan T13, unless otherwise approved by the Engineer. Only one (1) half road closure will be allowed at a time, unless otherwise approved by the Engineer. Allowances will be made for permanent striping and pavement marking activities which may require longer half road closures to improve efficiency and quality of final product. Half road closures must be approved a minimum of ten (10) working days in advance. Should the Contractor desire to leave the half road closure up outside of normal working hours, a temporary signal or full-time flaggers must be employed at all times. A half road closure at a single location must not extend longer than four (4) consecutive weeks, including no more than three (3) consecutive weekends.

Contractor shall provide and maintain traffic control devices, flaggers and all other necessary items per this section, the Caltrans Traffic Manual, and California MUTCD where applicable. The Contractor will be responsible for the maintenance of all traffic control items and equipment during and outside of working hours.

When practical, the full width of the roadway must be open to pedestrian and vehicular traffic outside of working hours. When not practical, the Contractor must make every effort to open the maximum number of lanes possible. The full width of the roadway must be open for all planned City of Placerville Events and holidays. At the completion of each workday, all existing lanes of traffic shall be opened to traffic unless advanced approval is given to the Contractor by the City. Provisions must be made for the uninterrupted passage of emergency vehicles through the project limits at all times, regardless of the controlled traffic conditions existing at that time. Additionally, provisions shall be in place to allow residents to have safe access to their houses at all times.

The Contractor must provide a bicycle and pedestrian circulation plan along with the staging/sequencing plan and all traffic control plans as a submittal for approval by the Engineer. Pedestrians regularly use the existing roadway shoulders since there are no existing pedestrian facilities and they may continue to travel through this area during construction. The expectation is that the pre-construction bicycle and pedestrian circulation will be maintained during construction and any temporary facilities implemented by the contractor to accommodate the flow of bicyclists and pedestrians during construction will be equal to or better than the existing conditions.

Temporary pedestrian access routes per section 12-4 are only required where existing pedestrian facilities that meet those requirements are being affected by construction. Should the Engineer request a temporary access route per section 12-4 where none currently exists, that work is change order work and will be compensated per section 9.

Replace the paragraph in section 12-1.04 with:

There is no separate bid item for flagging, so that work shall be included within the Traffic Control System bid item and no additional compensation will be allowed therefore. The Contractor shall be responsible for the entire cost of flagging and is responsible for including that cost in the Traffic Control System bid item.

A minimum of 2 Portable Changeable Message Signs (PCMS) will be required for the duration of construction. There is no separate bid item for the PCMS. The work involved with PCMS shall be included within the Traffic Control System bid item and no additional compensation will be allowed therefore. The Contractor shall be responsible for the entire cost of PCMS and is responsible for including that cost in the Traffic Control System bid item. The cost to relocate the sign and/or change the message during construction shall be included in this bid item and no additional compensation will be allowed therefore.

The development of all staging/sequencing plans, traffic control plans, and bicycle and pedestrian handling plans shall be paid for under the Traffic Control System bid item and no additional compensation will be allowed therefore.

The Traffic Control System bid item includes all tools, equipment, materials, and labor necessary to implement the contractor developed and Engineer approved traffic control plan(s) and bicycle and pedestrian circulation plan(s), install and remove all temporary construction area signage, and install and remove up to two 96"x60" C50B (CA) signs. This includes, but is not limited to, all temporary and semi-permanent construction area signs, up to two 96"x60" C50B (CA) signs, temporary signals, flaggers, temporary signal control and maintenance, barricades, cones, and K-rail concrete barriers used in the implementation of the traffic control plans and bicycle and pedestrian circulation plans and all other incidental work associated with the Traffic Control System.

Replace the paragraph in section 12-3.11B(5) with:

A 96"x60" C50B (CA) sign must comply with the details shown on the Caltrans Traffic Operations website and Appendix A of these Special Provisions. The FHWA and City of Placerville agency logos shall be inserted into the two spaces provided for the agency logos. The sign and post must comply with Section 82.

Replace the paragraph in section 12-3.11D with:

There is no separate bid item for construction area signs, including the C50B (CA) signs. Payment for all construction area signs shall be included in the Traffic Control System bid item and no additional compensation will be allowed therefore.

Add to section 12-4.02A(2):

Martin Luther King Jr. Day is a designated holiday that is observed on the 3rd Monday in January. The day after Thanksgiving is a designated holiday that is observed the day after Thanksgiving Day. Christmas Eve is a designated holiday that is observed on December 24th.

Replace "Reserved" in section 12-5 with:

12-5.01 GENERAL

Contractor shall notify the City, El Dorado Disposal, El Dorado County Fire District, Placerville Police Department, Placerville Downtown Association, El Dorado County Transit Authority, the local US Post Office, and Placerville Union School District Transportation Division 48 hours prior to any lane closures, including partial road closures.

Replace "Reserved" in section 12-6.03D(1) with:

Temporary markers and/or markings shall be installed by the Contractor for any existing crosswalk line, limit line, arrow, and other legend or traffic lane line removed or damaged by the work activity prior to the end of the work shift and before opening the lanes for traffic.

Requirements for Placing Temporary Pavement Markings and Striping

Existing Striping	Temporary Striping
12-inch crosswalk line	3 – 4 inch white stripes appearing as 1– 12 inch stripe
8-inch solid line	1 – 4 inch white solid stripe
4-inch broken white	1 – 4 inch white stripe (typically 7' long, 17' gaps*)
4-inch broken yellow	1 – 4 inch yellow stripe (typically 7' long, 17' gaps*)
Double yellow	2 – 4 inch yellow solid stripes 3 inches apart

* Consult Chapter 3 of the California MUTCD for further details. The dimensions for broken lines apply for streets with posted speed limits of 35 MPH or less. For speed limits of 40 MPH or more, the dimensions are for 12' long stripes with 36' gaps.

For Temporary Marking and Temporary Striping materials, refer to the *"Temporary (Removable) Striping and Pavement Marking Tape (180 days or less)"* section of the Authorized Materials List for Signing and Delineation Materials from Caltrans.

Replace the 1st Paragraph of section 12-6.04 with:

There is no specific bid item for temporary traffic striping or pavement markings. The work shall be considered included in all other bid items and no additional compensation will be made therefore.

Replace Section 12-8 with:

12-8 CONSTRUCTION ZONE STANDARDS

12-8.01 GENERAL

12-8.01A Summary

Contractor is responsible for maintaining a safe work area during and after working hours.

12-8.02 Maintaining Traffic

12-8.02A Tow-Away Lanes

Contractor shall be responsible for keeping “Tow-Away No Stopping” traffic lanes clear during the effective hours posted.

12-8.02B Metal Plating

Any temporary metal plating and metal bridging shall be coated with a non-skid and rust inhibitive product. Examples of non-skid metal plating are surfaces with waffle or herringbone pattern undulations. Plating shall be installed with no edges or corners sticking up and with no bouncing or shifting. Plates shall be secured against shifting by tack welding, or fasteners. Any non-skid product shall have a friction factor of 0.35 or greater as measured by the California Test 342.

Plates shall be free of any openings greater than ¼ inch.

12-8.02C Transitioning (Ramping)

Whenever the grade difference between the existing pavement and the excavated area is greater than ¼ inch, Contractor shall provide longitudinal and transverse transitions prior to opening the lanes to traffic. The maximum slope on these transitions shall be 1:18. Transitions shall be installed with hot mix asphalt. This section applies to newly constructed roadway base, manholes, metal plating, bridging, trenching etc.

Cold mix asphalt may be used in lieu of hot mix asphalt for temporary ramping. The contractor is responsible for maintaining cold mix asphalt at all times and complying with ADA regulations if applicable. Cold mix shall comply with Sections 4-1.13 and 7-1.04.

12-8.03 Security and Contractor Property

The Contractor shall be responsible for the security of all Contractor property including, but not limited to, equipment, material that has not yet been installed, and tools. If the Contractor fails to properly lock, store, and secure equipment, tools, materials, etc., his property may be stolen. No additional payment shall be made for added security measures. No additional payment shall be made for equipment, tools, materials, or any other property of the Contractor that is lost or stolen.

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13 WATER POLLUTION CONTROL

Add to section 13-2.04:

All work associated with the Contractor developed Water Pollution Control Program, aside from Temporary Drainage Inlet Protection, shall be paid under Water Pollution Control bid item.

Add to section 13-6.04:

The payment quantity for Temporary Drainage Inlet Protection bid item is based on each inlet where the inlet protection is installed based on actual count.

Delete first paragraph in section 13-7.03D

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15 EXISTING FACILITIES

Add to section 15-1.01:

The types, locations, sizes and/or depths of existing underground utilities as shown on the Contract Documents were obtained from sources of varying reliability. The Contractor is cautioned that only actual excavation will reveal the types, extent, sizes, locations and depths of such underground utilities. A reasonable effort has been made to locate and delineate all known underground utilities. However, the City can assume no responsibility for the completeness or accuracy of its delineation of such underground utilities nor for the existence of other buried objects or utilities which may be encountered but which are not shown on these Plans. The majority of the utilities shown on the Plans were drafted per locations indicated on the respective purveyors' facility maps.

The Contractor shall contact the Underground Service Alert (U.S.A.) two working days in advance of performing any excavation work by calling the toll-free number 1-800-227-2600.

Locations of utility services and laterals are not always provided by utility companies and when shown are approximate (unless potholed). Nothing herein shall be deemed to require the City to indicate the presence of existing utility services, laterals, or appurtenances whenever their presence can be inferred from other visible facilities such as buildings, meters, junction boxes, valves, service facilities, identification markings and other indicators on or adjacent to the work. Potholing to locate services, laterals, and related appurtenances will be at the discretion of the Contractor and no separate bid item will be included for such pothole excavations.

Payment will not be made for potholes performed by the Contractor to "locate and protect" known utilities.

Replace section 15-1.03D with:

15-1.03D Adjust Frames, Covers, Grates, and Manholes

Adjust frames, covers, grates and manholes by lowering before cold planning and surface preparation and raising after final paving or surfacing. Before opening the lane to traffic, either (1) complete permanent paving or surfacing or (2) temporarily fill any depressions with HMA or cold mix asphalt.

Where paving or surfacing work is shown, do not adjust to final grade until the adjacent pavement or surfacing is complete. For a structure that is to be raised, remove the cover or frame and trim the top of the structure to provide a suitable foundation for the new material. Instead of using new materials similar in character to those in the existing structure, you may use raising devices to adjust a manhole to grade. Before starting paving work, measure, fabricate, and install raising devices. Raising devices must:

1. Comply with the specifications for Section 75 except that galvanizing is not required
2. Have a shape and size that matches the existing frame
3. Be match marked by painting identification numbers on the device and corresponding structure
4. Result in an installation that is equal to or better than the existing one in stability, support, and nonrocking characteristics
5. Be fastened securely to the existing frame without projections above the surface of the road or into the clear opening

Manholes, valve boxes, monument boxes, etc., shall be brought to grade, as shown on the plans, after final pavement lift has been placed.

All existing manhole frames, lids or gates, valve boxes, monument boxes, and any other style of box or lid shall be reused, unless otherwise noted on the Project Plans. If any damages occur in the process of adjusting iron to grade then at Contractor's expense must supply new manhole frames, lids or gates, valve boxes, monument boxes, and any other style of box or lid.

Concrete collars must comply with section 90 and the Project Plans.

Eccentric manhole cone installed on and connected to existing manhole barrels must pass the Low-Pressure Air Test. Any lining of the manhole (existing or new portion) required to pass the air test shall be performed at the contractor's expense and no additional payment will be allowed therefore.

Low Pressure-Air Test shall comply with section 61-1.01.

Replace paragraph in 15-1.04 with:

There is no separate bid item for sawcutting, so the payment for sawcutting shall be considered included in the various bid items on the Bid Schedule and no additional compensation will be allowed therefore.

Utilities adjusted to grade shall be paid under the Adjust Utility to Grade bid item, delineated by utility type. The payment quantity for the Adjust Utility to Grade bid items is the number of utilities adjusted to grade determined by actual count.

Additional payment will not be made for new iron or utility boxes installed as a result of contractor damage during initial removal.

No payment will be made for adjusting frames, covers, boxes, grates, or manholes not indicated for adjustment on the Project Plans.

If adjusting frames, covers, boxes, grates, or manholes not indicated for adjustment on the Project Plans is required, then payment for adjusting these materials is included in the payment for the type of pavement or type of surfacing involved.

If adjusting frames, covers, boxes, grates, or manholes not indicated for adjustment on the Project Plans is required, and if pavement or surfacing is not involved, payment for adjusting these materials is included in the payment of various other bid items, and no additional payment will be made therefore.

The payment quantity for the Eccentric Manhole Cone bid item is the number of cones installed.

^^

DIVISION III EARTHWORK AND LANDSCAPE

17 GENERAL

Add to section 17-1.04:

There is no specific pay item for grading. Payment for grading is included in the payment of various other bid items and no additional compensation will be made therefore.

Replace the paragraphs in section 17-2.03A with:

Complete the work specified in section 20-10.02C(2) before clearing and grubbing.

Clear and grub before performing earthwork in an area.

Do not injure standing trees, plants, and improvements shown to be protected.

Clear and grub the areas specified on the Project Plans.

Replace section 17-2.03D with:

Dispose of objectionable materials resulting from clearing and grubbing activities.

Do not leave objectionable material in or under embankments, including dikes.

Accumulation of flammable material is not allowed.

Replace paragraph in section 17-2.04 with:

The payment quantity for the Clearing & Grubbing bid item is the square foot area, as shown on the Project Plans, to be paid for based on the percent complete of the clearing and grubbing.

^^

19 EARTHWORK

Add to section 19-1.01A:

Contractor is to conform to the grades as indicated on the Project Plans.

Replace section 19-2.03E with:

Only excavation tools and equipment will be permitted for roadway excavation. Other methods of excavation including blasting, chemical expanders, or hydraulic splitters will not be allowed.

Add to section 19-1.04 with:

The Embankment bid item includes all tools, equipment, materials, and labor necessary to install all embankment and incidentals shown on the Project Plans. This includes, but is not limited to, all grading, import borrow material per Section 19-7, placement of material, and compaction. Landscaping shall be paid for separately.

20 LANDSCAPE

Add to section 20-1.01A:

Unless shown otherwise on the Project Plans, , Contractor is to install landscaping that matches the adjacent, existing landscaping if the construction of the proposed sidewalk disturbs the existing landscaping. If plants are damaged beyond the direct footprint of the project, the Contractor shall replace the plants in-kind at the Contractor’s expense. Any existing irrigation system not indicated for relocation which is damaged during the installation of the landscaping or other improvements shall be replaced in-kind to the satisfaction of the Engineer at the Contractor’s expense.

Add to section 20-1.04:

Any materials, tools, equipment and labor needed to install the minor landscaping is included in the Landscaping bid item and no additional compensation shall be made therefore.

The Landscaping bid item includes all tools, equipment, materials, and labor necessary to install all landscaping improvements and incidentals shown on the Project Plans and all minor landscaping restoration items required due to construction. This includes, but is not limited to, all plants, mulch, irrigation systems and appurtenances, weed fabric, and drain systems. This also includes, but is not limited to, removal of existing shurbs, plants, and small trees, and the protection in place of existing plants, as shown on the Project Plans.

Add to section 20-5.03B(4):

The Rock Blanket bid item includes all tools, equipment, materials, and labor necessary to install all rock blanket improvements and incidentals shown on the Project Plans.

Replace Section 20-6 with:

20-6 TREE REMOVAL

20-6.01 GENERAL
20-6.01A Summary

Section 20-6 includes specifications for remove tree. Remove tree includes trees 6 inches in diameter at breast height and larger. Trees smaller than 6 inches in diameter at breast height shall be removed under clearing and grubbing.

The contractor shall obtain approval from the City prior to removal of any tree 6 inches in diameter or greater at breast height not shown on the Project Plans.

Trees shall be removed in a manner that will not jeopardize the public safety or damage structures including utility lines, utility services, or adjacent trees. In most cases, trees shall be entirely removed. Contractor is to submit a report to the City detailing the trees removed that have a trunk 6 inches or greater in diameter at breast height and shall mark those trees in the field for approval by the Engineer prior to tree removal.

20-6.02 MATERIALS

Not used.

20-6.03 CONSTRUCTION
20-6.03A Completion

To prevent the creation of hazards from partially removed trees, once work has commenced to remove a tree, this work shall be completed in a timely manner.

A tree will be considered completely removed when the stump is ground out up to 18 inches below grade.

20-6.03B Disposal of Wood

Disposal, use, or reuse of wood and woody debris from trees is at the sole discretion of the City of Placerville including specific disposal methods for infected wood. Payment for tree disposal is included in the payment for Remove Tree.

20-6.04 PAYMENT

The payment quantity for the Remove Tree bid item is the number of trees removed which were marked for removal and approved by the Engineer.

^^

DIVISION IV SUBBASES AND BASES

26 AGGREGATE BASES

Replace 2nd paragraph of section 26-1.02A with:

Unless otherwise noted on the plans or in these special provisions, aggregate used for Class 2 AB shall be ¾" and must comply with the ¾" maximum gradation in Section 26-1.02B.

Recycled AB and/or appropriately ground and blended material generated from Remove Base and Surfacing or 2" Coldplane activities can be used in lieu of Class 2 AB under the minor concrete items, as approved by the Engineer.

Add to section 26-1.04:

Payment will not be made for any Class 2 AB outside of the limits determined by the Engineer. No additional payment will be made for Class 2 AB depths greater than what is indicated on the Project Plans unless otherwise directed or approved by the Engineer.

Class 2 AB placed under HMA for the construction of roadways shall be paid for under the Class 2 AB bid item. Scarification and recompaction of the subgrade material, where necessary, to place the Class 2 AB under the HMA shall be included in the Class 2 AB bid item. The payment quantity for the Class 2 AB bid item is the theoretical volume of Class 2 AB placed under the HMA measured in cubic yards. Class 2 AB used for the construction of all other bid items is included in those bid items and no additional compensation shall be made therefore.

^^

DIVISION V SURFACINGS AND PAVEMENTS

39 ASPHALT CONCRETE

Delete items 2, 3, 4, and 5 in section 39-2.01A(1).

Add to section 39-2.01A(1):

Hot mix asphalt (HMA) for this Project will be Type A HMA.

Add to section 39-2.01B(1):

Microsurfacing shall conform to the requirements of Section 37-3, “Slurry Seal and Microsurfacing” of the State Standard Specifications, except where specified otherwise in these Technical Specifications.

Microsurfacing shall be installed in all designated locations as shown on plans.

Microsurfacing shall consist of mixing a polymer modified, cationic Microsurfacing emulsion (MSE), aggregate, mineral filler, set-control additives, and water and spreading the mixture on a pavement surface where shown, in conformance with the provisions in these Technical Specifications, and as directed by the Engineer.

Materials

The materials for Microsurfacing shall conform to the following requirements:

Microsurfacing Emulsion (MSE) shall be homogenous and shall conform to the provisions of these Technical Specifications. The polymer shall be milled or blended into the asphalt or blended into the emulsifier solution prior to the emulsification process.

The MSE shall conform to the following requirements when tested in conformance with the following test methods:

POLYMER MODIFIED, CATIONIC MICROSURFACING EMULSION (MSE)

SPECIFICATION DESIGNATION	METHOD OF TEST	REQUIREMENTS
Viscosity, SSF, @ 77°F, sec	AASHTO T 59	15-90 seconds
Sieve, Max	AASHTO T 59	0.30%
Settlement, 5 days, max.	ASTM D244	5%
Storage Stability, 1 day, max.	AASHTO T 59	1%
Residue by Evaporation, min.	California Test 331	62%

TESTS ON EMULSIFIED ASPHALT RESIDUE	METHOD OF TEST	REQUIREMENTS
Penetration, 77°F, 100g, 5s, 0.1mm	AASHTO T 49	40-90
Softening Point (Ring-and Ball Apparatus), Min	AASHTO T 53	135°F (57°C)

Add to 1st paragraph of section 39-2.01C(4)(a):

If it is impractical or impossible for longitudinal joints to match the lane lines, then the Contractor shall limit the paving seams to the least amount practical.

Add to before 1st paragraph of section 39-2.01C(4)(b):

Contractor to construct tapered notch wedge into and out of sections of asphalt left 2 inches low as shown on Project Plans.

Crack filling shall be performed a minimum of 2 weeks prior to the microsurfacing application. All cracks 1/4 inch wide or greater shall be cleaned and filled with an approved crack sealant material in accordance with Section 37-6, “Crack Treatment” of the State Standard Specifications. Crack filling shall be allowed sufficient curing time as recommended by the manufacturer before applying microsurfacing.

Replace section 39-2.01D with:

39-2.01D Payment

HMA for the roadway shall be paid for under the HMA bid item. The payment quantity for HMA shown on the Bid Item List is measured based on the combined mixture weight. If recorded batch weights are printed automatically, the bid item for HMA is measured by using the printed batch weights, provided:

1. Total aggregate and supplemental fine aggregate weight per batch is printed. If supplemental fine aggregate is weighed cumulatively with the aggregate, the total aggregate batch weight must include the supplemental fine aggregate weight.
2. Total virgin asphalt binder weight per batch is printed.
3. Each truckload's zero tolerance weight is printed before weighing the first batch and after weighing the last batch.
4. Time, date, mix number, load number and truck identification is correlated with a load slip.
5. Copy of the recorded batch weights is certified by a licensed weigh master and submitted.

Payment will not be made for any HMA outside of the limits determined by the Engineer. No additional payment will be made for HMA depths greater than what is indicated on the Project Plans unless otherwise directed or approved by the Engineer.

The Engineer does not adjust the unit price for an increase or decrease in the pre-paving grinding quantity.

Payment will not be made for any HMA used as a temporary paving surface.

Crack filling shall be paid for under a separate bid item. Payment includes all labor, materials, and equipment necessary to clean and prepare cracks, apply crack sealant, and allow adequate curing time before subsequent surface treatments.

Installation of HMA dikes shall be paid under the HMA dike type shown on the Bid Item List. The payment quantity for the HMA Dike bid items is the length measured parallel to the ground surface along the flowline of the dike. Payment for the HMA used to construct the HMA dike is included in the payment for the HMA Dike bid items and is not included in the HMA bid item.

Replace section 39-2.02B(3) with:

Asphalt binder used in HMA must be PG 64-16.

Add to section 39-2.02B(4)(b):

Aggregate used in HMA must comply with the ½” HMA Type A gradation.

Follow section 39-2.02C placing type A HMA in multiple lifts

HMA used to in the lower lifts of Digouts must comply with the ¾” HMA Type A gradation.

Aggregate used in final surface paving must comply with the ½” HMA Type A gradation.

Replace section 39-3.04B with:

Temporary tapers must be either HMA or CMA. No additional payment will be made for the placement of temporary tapers.

Replace section 39-3.04C(1) with:

Do not use a heating device to soften the pavement.

The cold planing machine must be:

1. Equipped with a cutter head width that matches the planing width unless a wider cutter head is authorized.
2. Equipped with automatic controls for the longitudinal grade and transverse slope of the cutter head and:
   2.1. If a ski device is used, it must be at least 30 feet long, rigid, and a 1-piece unit. The entire length must be used in activating the sensor.
   2.2. If referencing from existing pavement, the cold planing machine must be controlled by a self-contained grade reference system. The system must be used at or near the centerline of the roadway. On the adjacent pass with the cold planing machine, a joint-matching shoe may be used.
3. Equipped to effectively control dust generated by the planing operation
4. Operated such that no fumes or smoke is produced.

Replace broken, missing, or worn machine teeth.

If contractor does not complete placing the HMA surfacing before opening the area to traffic, contractor must:

1. Ensure the surface is safe for vehicular, bicycle, and pedestrian travel, as applicable.
2. Construct a temporary HMA or CMA taper to the level of the existing pavement.

If contractor does not complete placing the HMA surfacing before opening the area to traffic, contractor must:

1. Ensure the surface is safe for vehicular, bicycle, and pedestrian travel, as applicable.
2. Construct a temporary HMA or CMA taper to the level of the existing pavement.

Replace the 2nd paragraph of 39-3.04A with:

Cold plane asphalt concrete pavement includes the removal of pavement markers, traffic stripes, pavement markings, and any encountered paving fabric within the area of cold planing.

Add to section 39-3.04C(4):

Remove, transport, and appropriately dispose of cold planed material.

Replace the paragraph in section 39-3.04D with:

Payment for cold planing asphalt concrete as shown on the Project Plans will be paid for under the Cold Plane bid items. The payment quantity for the Cold Plane bid items is the area measured parallel to the ground surface. No additional payment will be made for cold planing depths different from what are shown on the Project Plans or the discovery and/or removal of paving fabric.

Replace paragraph in section 39-3.05A with:

Section 39-3.05 includes specifications for removing subgrade, base, asphalt concrete and concrete surfacing including any other hardscape material, softscape, and/or existing paving fabric material as shown on the Project Plans.

Replace paragraph in section 39-3.05C with:

Where base and surfacing are described to be removed, remove subbase, base, surfacing, and softscape to the depth shown on the Project Plans. Backfill resulting holes and depressions with embankment material under Section 19 and recompact area.

Base and asphalt concrete material generated from Remove Base and Surfacing can be re-used in lieu of the Class 2 AB under the minor concrete items if material is ground and blended to the satisfaction of the Engineer. Material not re-used onsite shall be off hauled and disposed of in a safe and legal manner.

Replace section 39-3.05D with:

The payment quantity for Remove Base and Surfacing is the volume as shown on the Project Plans in cubic yards.

The payment quantity for Remove Concrete (Curb and Gutter) is the area as shown on the Project Plans in square feet.

The payment quantity for Remove Concrete (Curb) is the length as shown on the Project Plans in linear feet and measured at the flowline.

No additional payment will be made for the discovery and removal of paving fabric within or below the existing asphalt. No additional payment will be made for backfilling resulting holes and depressions. No additional payment will be made for removal and disposal of street trees, vegetation, and existing detectable warning surfaces indicated for removal. No additional payment will be made for sawcutting of hardscape for the removal of base and surfacing. This work shall be considered in the Remove Base and Surfacing bid item and no additional compensation will be allowed therefore.

There is no separate bid item for re-using the ground material from Remove Base and Surfacing in lieu of the Class 2 AB under the minor concrete items. This work shall be considered included in the various other bid items and no additional compensation will be allowed therefore.

^^

51 CONCRETE STRUCTURES

Replace paragraphs in section 51-7.01D with:

Metal frames and covers or frames and grates are included in the payment for minor structures.

Drainage Inlet (Type GO) shall be constructed per the Project Plans, Special Provisions, and Standard Specifications. The payment quantity for the Drainage Inlet (Type GO) bid item is the number of inlets constructed.

Payment for the Drainage Inlet (Type GO) bid item includes all items associated with installing drain inlets, including but not limited to, excavation, structural concrete, shoring and bracing, Class 2 AB, backfill, miscellaneous metal and all other incidental work associated with installing Drainage Inlet (Type GO). The Payment quantity for the Drainage Inlet (Type GO) bid item is based on the number of drain inlets installed

52 REINFORCEMENT

Replace paragraphs in section 52-1.04 with:

There is no separate bid item for reinforcing steel. Reinforcing steel shall be considered included in the various bid items that require it and no additional compensation will be allowed therefore.

^^

DIVISION VII DRAINAGE FACILITIES

64 PLASTIC PIPE

Add to the 1st paragraph of section 64-2.02A:

All storm drain pipe must be HDPE Type S unless otherwise directed by the Engineer.

Add to section 64-2.04:

HDPE SD pipes shall be paid under the various bid items for HDPE Pipe delineated by pipe size. The payment quantity for the HDPE SD Pipe bid items is the length of pipe measured parallel to the ground surface along the centerline of the trench at the finished grade. The HDPE SD Pipe bid items include all equipment, tools, materials, and labor to install HDPE pipes including, but not limited to, potholing to verify existing utility crossings, trench excavation; shoring; bracing; dewatering; placing and compacting bedding, pipe zone, initial backfill and final backfill material; installing the pipe; connecting to the existing and proposed

storm drain systems (pipes, manholes, inlets, structures, etc.); testing; temporary and permanent surface restoration, including temporary striping; and all other incidental work to install HDPE pipes.

^^

70 MISCELLANEOUS DRAINAGE FACILITIES

Add to section 70-5.01C:

Drainage inlet markers shall be 4” stainless steel medallions by Almetek Industries, Inc. or approved equal. Medallions are to be installed using rivets per manufacturer’s specifications at locations indicated on the Project Plans. Medallions are not to be installed by adhesive alone.

Under-Sidewalk drains shall include 4”x4” woven wire mesh and 3”x5” Alhambra A-470 or approved equal rectangular cast iron pipe. Under sidewalk drains shall be constructed in accordance with the Project Plans.

Replace paragraph in section 70-5.05D:

Drainage inlet markers shall be paid for under the Drainage Inlet Marker bid item. The payment quantity for Drainage Inlet Marker bid item is the actual number of drainage inlet markers installed.

Under-Sidewalk Drain shall be constructed per the Project Plans, Special Provisions, and Standard Specifications. The payment quantity for the “Under Sidewalk Drain – Location A” and “Under Sidewalk Drain - Location B” bid item is a lump sum amount based on location, regardless of length or number of under drain pipes.

^^

71 EXISTING DRAINAGE FACILITIES

Add to section 71-1.03:

Existing drainage facilities not scheduled for removal shall be protected in place. Any damage done to existing drainage facilities not scheduled for removal due to the Contractor’s operations shall be repaired to the satisfaction of the City Engineer at the Contractor’s expense.

Replace “Not Used” in section 71-1.04 with:

There is no separate bid item for the material used to backfill the trenches, holes, depressions, pits, etc. caused by removing, salvaging, reconstructing, abandoning, destroying, modifying, resetting, relocating, adjusting, relaying, remodeling, and rehabilitating existing drainage facilities and no additional compensation will be allowed therefore.

Replace “Reserved” in section 71-3.08 with

71-**3.08A GENERAL**

71-3.08A(1) Summary

This section covers materials for CIPP lining of existing storm drain pipes. This work shall consist of all labor, equipment and materials necessary to install CIPP. The Contractor shall be responsible for control of all materials and process variables to provide a finished CIPP possessing the minimum properties specified in ASTM F1216 and supplemented herein.

Contractor shall provide equipment, planning, and job execution necessary to accomplish the work in an efficient manner and consistent with the objectives of this Specification, including preventing damage to existing infrastructure and maintaining pedestrian and vehicle access during construction. All equipment (engines, pumps, boilers) shall be equipped with mufflers and/or plywood/Styrofoam noise panels enclosing equipment to keep the noise level with limits specified in the Project Specifications Section 14-8.

Contractor shall determine location of and inspect all access and inversion points for any obstruction that

may interfere with the liner installation prior to ordering felt tube and shall make any necessary improvements to allow for insertion at no additional cost to the City.

Prior to commencement of CIPP lining, Contractor shall install thoroughly clean storm drain pipe per the Project Specifications Section 71, and CCTV the storm drain pipe per these Special Provisions and the Standard Specifications.

Contractor shall measure and verify in the field, the diameter and length of the pipe to be lined prior to ordering felt tubing. The Engineer has made a diligent effort to determine pipe diameters at each installation location. The Contractor acknowledges that the contract documents are not guaranteed to be entirely accurate and it is Contractor's responsibility to verify diameters and notify the Engineer immediately if discrepancies are discovered. Contractor shall not "Wet Out" any CIPP liner prior to verifying diameters at the locations where it is to be installed.

When cutting or trimming the installed CIPP liner, the Contractor shall remove all loose pieces of CIPP from the storm drain as outlined in Subsection 71-3.08C of this Specification. Nets and/or screening shall be installed to prevent even small pieces of removed CIPP material from washing downstream.

71-3.08A(2) References

This section contains references to the following documents. They are a part of this section as specified and modified. In case of conflict between the requirements of this section and those of the listed documents, the requirements of this section shall prevail.

Reference	Title
ASTM D2990	Test Method for Tensile, Compressive and Flexural Creep and Creep-Rupture of Plastics
ASTM D543	Test Method for Resistance of Plastics to Chemical Reagents
ASTM D638	Test Method for Tensile Properties of Plastics
ASTM 790	Flexural Properties of Unreinforced and Reinforced Plastics and Electrical Insulating Materials
ASTM D883	Definitions and Terms Relating to Plastics
ASTM D1600	Standard Test Method for Determining Dimensions of Thermoplastic Pipe and Fittings
ASTM D2122	Definitions of Terms Relating to Plastic Piping Systems
ASTM F412	Definitions of Terms Relating to Plastic Piping Systems
ASTM F1216	Rehabilitation of Existing Pipelines and Conduits by Inversion and Curing of a Resin Impregnated Tube

71-3.08A(3) Quality Assurance

Contractor shall provide equipment, planning, and job execution necessary to accomplish the work in an efficient manner and consistent with the objectives of this Specification.

Contractor will be required to take measures to limit styrene discharges to the collection system at all times. If requested by the engineer, a detailed plan for reducing the styrene concentrations in all discharged process water shall be submitted for review prior to performing any lining work. At no time shall the concentration of styrene exceed 2 mg/l in any water discharged to or out of the storm drain system. Contractor shall maintain an ongoing sampling program and provided complete laboratory analysis for styrene on all samples collected along with completed chain-of-custody forms. Analytical results demonstrating compliance with this requirement must be provided within 24 hours following each installation AND prior to the discharge of any additional process water.

71-3.08A(4) Submittals

The following submittals shall be provided in accordance with Section 5-1.23 of these Specifications:

1. A copy of this specification section, with addendum updates included, and all referenced and applicable sections, with addendum updates included, with each paragraph check-marked to indicate specification compliance or marked to indicate requested deviations from specification requirements. Check marks (✓) shall denote full compliance with a paragraph as a whole. If deviations from the specifications are indicated, and therefore requested by the Contractor, each deviation shall be underlined and denoted by a number in the margin to the right of the identified paragraph, referenced to a detailed written explanation of the reasons for requesting the deviation. The Engineer or his designated representative shall be the final authority for determining acceptability of requested deviations. The remaining portions of the paragraph not underlined will signify compliance on the part of the Contractor with the specifications. Failure to include a copy of the marked-up specification sections, along with justification(s) for any requested deviations to the specification requirements, with the submittal shall be sufficient cause for rejection of the entire submittal with no further consideration.
2. Shop drawings which detail short and long term properties (providing all supporting test data) of all component materials and construction.
3. Recommendations for material storage and temperature control, CIPP liner handling, insertion, curing (installation processes, curing speeds, pressures, temperatures), trimming and finishing.
4. Structural calculations for each reach of pipeline to be rehabilitated using CIPP methods. The resin type, depth and size of pipe, design thicknesses, and install thickness shall be provided.
5. The method and equipment to be used to connect to the storm drain pipe and perform the CIPP lining.
6. List of identified insertion points and inspection logs for each insertion point.
7. Detailed method for addressing field sampling requirements, including location and size of each sample, method of removal, and method of liner repair.
8. Detailed method for addressing resin and catalyst mixing, sampling and quality assurance testing requirements during the wet-out process.
9. A sample of a CCTV Inspection report.
10. Manufacturer's recommended installation procedures.
11. Contractor shall submit 10,000-hour third party, 50-year Flexural Creep Modulus test data. Test shall be in accordance with ASTM D-2990 at 10,000 hours or equal test as approved by the Engineer. If approved 10,000 hour tests are not available, Contractor shall use a minimum 50% reduction (50% retention) of Flexural Modulus of Elasticity (per ASTM F-1216) for all formula calculations.
12. Certification showing the Contractor is currently licensed by the appropriate licensor to perform CIPP installation. Certification shall be given to the Engineer before any materials are delivered to the job site.
13. Certification stating CIPP tube has been manufactured in accordance with ASTM F1216 and resin is suitable for its intended use.
14. Test report of CIPP sample(s) and tests as specified in Subsections 77-2.01D and 77-2.03I of these Specifications. Testing for chemical resistance shall be performed on a previously prepared sample of the finished product, proposed for this project. A certified affidavit, signed by an officer of the company, shall be provided stating that the resin the test applies to and the resin submitted for this project are the same.
15. Certification that the independent testing laboratory utilized by the Contractor is accredited to perform the testing as required in Subsection 77-2.01D(1).
16. Detailed information on hydrophilic end seal gaskets to be used at each end of the liner and epoxy material to be used to fully seal the liner ends at each manhole.
17. Warranty Information
18. Material safety data sheets for all hazardous chemicals used or expected to be on-site. At a minimum, sheets for the resin, catalyst, cleaners and repair agents should be submitted. Contractor shall have two (2) copies of MSDS Sheets on site during construction.
19. Detailed procedures for dealing with styrene release downstream. Procedure should describe methods that will be taken to limit styrene discharges to less than 2 mg/l for all water discharged into the storm drain. Plan shall also provide details for the water sampling methods and analytical analysis procedures to demonstrate compliance with this requirement. Provide a copy of all completed discharged permits required to discharge process water to the storm drain system.
20. Original copy of all laboratory analysis reports for all samples collected during the discharge monitoring for styrene shall be submitted. It is understood that this item will require ongoing submittals.
21. A set of drawings identifying location of all fire hydrants the Contractor intends to use.
22. Original and one (1) copy of all laboratory analysis reports for all CIPP samples collected for each liner tube installed shall be submitted. It is understood that this item will require ongoing submittals.

23. A final CCTV inspection video. The final inspection video must verify the finished product is free of unnecessary voids and wrinkles and all services have been properly reestablished. The final inspection video must also verify that the finished product complies with all other requirements in the standard specifications and special provisions.

71-3.08A(5) Chemical Resistance

The chemical resistance tests should be completed in accordance with Test Method D 543. Exposure should be for a minimum of one month at 73.4 degrees F. During this period, the CIPP test specimens should lose no more than 20 percent of their initial flexural strength and flexural modulus when tested in accordance with Section 8 of ASTM F1216 when subjected to the following solutions:

Chemical Solution	Concentration, percent
Tap Water (pH 6-9)	100
Nitric Acid	5
Phosphoric Acid	10
Sulfuric Acid	10
Gasoline	100
Vegetable Oil	0.1
Detergent	0.1
Soap	0.1

The Contractor shall be responsible for all costs associated with the chemical resistance tests.

Proof of meeting these requirements shall be provided to the Engineer for approval at the preconstruction meeting.

71-3.08B MATERIALS

71-3.08B(1) Cured-In-Place Pipe (CIPP)

CIPP shall be a resin impregnated needled polyester felt non-woven material tube with a plastic coated wearing surface in all sewers identified for CIPP lining in accordance with American Society for Testing and Materials (ASTM) F-1216. All materials and installation procedures provided by the Contractor for use in the CIPP installation process shall be equal to or exceed the requirements of Sections 5 and 7 of ASTM F-1216.

71-3.08B(2) Component Properties

71-3.08B(2)(a) Flexible Tubing

The tube shall consist of one or more layers of absorbent non-woven felt fabric that meets the requirements of ASTM F1216. The tube shall be homogeneous across the entire wall thickness containing no intermediate or encapsulated elastomeric layers. No material shall be included in the tube that may cause delamination in the CIPP. Non-woven felt tubes shall have a flexible polyurethane or polypropylene membrane coating to contain the resin. The seam of the flexible tube shall be sewn; seams that are heat-bonded or otherwise joined that prohibit complete impregnation with resin will not be allowed.

71-3.08B(2)(b) Resins

The physical properties quoted in Subsection 77-2.02C apply to cured CIPP manufactured polyester, vinyl ester, and epoxy resin. Resins shall be tinted for visibility and provide positive indication of adequate liner wet-out. Resins should be appropriate for conditions encountered.

71-3.08B(3) Finished and Cured CIPP Liner Properties

The physical properties of the cured CIPP shall have minimum initial test values as given in Table 1 of ASTM F1216 (and supplemented below in Table 1) for polyester, vinyl ester, and epoxy resins. Properties for these or any other enhanced resins shall be substantiated with test data. Resins shall be tinted for visibility and provide positive indication of adequate liner wet-out. Liner thickness shall meet or exceed the submitted thickness for each reach.

Table 1: Standard Resin

Test Property	Test Value	Test Method
Flexural strength	4,500 psi	ASTM D790
Flexural modulus	300,000 psi	ASTM D790
50-year flexural creep modulus	150,000 psi	ASTM D2990
Installed liner thickness	Varies	ASTM D5813-04

71-3.08B(4) Design Criteria

The liner shall be designed in accordance with the procedures of ASTM F 1216, Appendix X1 and these specifications. All material properties used in design calculations shall be long-term (time corrected) values. All liner pipe used to line the existing storm drain pipe shall be designed to have a minimum service life of 50 years and to withstand the total vertical and lateral loads, including, but not limited to, soil load, live loads and hydrostatic loads.

Contractor shall calculate the required minimum thickness for each pipe based on a fully deteriorated pipeline condition. Actual level of deterioration may vary within any given section of storm drain pipe.

The following parameters shall be assumed for the liner design:

1. Modulus of soil reaction, E's = 1000 psi for fully deteriorated pipes.
2. Unit weight of soil = 140 pcf.
3. The minimum design ovality for straight runs shall be 2.0 percent.
4. Factor of Safety = 2.0.
5. Fully Deteriorated Gravity Pipe (Required) for all Projects.
6. Groundwater is assumed to be at surface elevation
7. Flood water where noted.
8. AASHTO H-20 loads
9. AREMA E-80 loads

If it is recognized that there may be a non-uniform cross-section and the requirement of liner bifurcation could be present on the springline of pipelines, the Contractor can design for the bifurcation or provide a structural repair which eliminates the pronounced benches. A design for the bifurcation or structural repair shall be required for any bench in the proximity of the springline greater than 2- inches in depth. Accounting for this condition by the use of an ovality reduction factor alone is not acceptable. Calculations for the design of the bifurcation condition or statement of intent to apply grout shall be submitted to the Engineer 3 days after the date of contract award.

The wall thickness of the felt tube shall be ordered to the next standard 1.5 mm incremental thickness above the minimum calculated design thickness. Unless otherwise specified to provide for excess resin migration, the gap thickness of the wetting out equipment shall be sized to allow an excess of 5 to 10 percent resin to pass during impregnation. The minimum wall thickness shall be determined at a minimum of three locations on a cut section of the CIPP lining using a method of measurement accurate to the nearest 0.005 inch. The minimum value shall exceed the requirements of Subsection 71-3.08B(5) of these Specifications. Thickness measurements shall be provided along with other required third party testing.

71-3.08B(5) Dimensions

The Contractor shall field verify the diameter of the existing pipe prior to ordering the felt tube. Contractor shall make allowances in determining the felt tube length and circumference for stretch during installation and shrinkage during curing. The minimum length shall be that which continuously spans the distance from the center of the inlet manhole to the center of the outlet manhole. The Contractor shall verify the lengths in the field before the felt tube is cut and impregnated. Individual installation runs may include one or more manhole-to-manhole sections as approved by the Engineer.

The diameter of the existing pipes may be larger than the nominal inside diameter due to corrosion and/or erosion. It is the Contractor's responsibility to determine the required diameter of the liner.

The nominal wall thickness shall be at least the calculated design thickness, or the minimum specified, and may be up to 15 percent greater except where felt layers overlap, in which case it may be in excess of this value.

71-3.08C CONSTRUCTION

71-3.08C(1) Installation Responsibilities for Incidental Items

1. Cleaning of Storm Drain Pipes - The Contractor shall remove and dispose all internal debris out of the pipe that will interfere with the installation of CIPP. Solid debris and deposits shall be removed from the system and disposed of properly by the Contractor. Moving material from manhole section to manhole section shall not be allowed. As applicable, the contractor shall either plug or install a flow bypass pumping system to properly clean the pipe lines. Precaution shall be taken, by the Contractor in the use of cleaning equipment to avoid damage to the existing pipe. The repair of any damage, caused by the cleaning equipment, shall be the responsibility of the Contractor.
2. Bypass - The Contractor shall provide for the flow of storm drainage around the section or sections of pipe designated for repair. The Contractor shall submit a detail of the bypass plan prior to beginning work.
3. Inspection of Pipelines - Inspection of pipelines shall be performed by experienced personnel trained in locating breaks, obstacles and service connections using close circuit television (CCTV) inspection techniques. The pipeline interior shall be carefully inspected to determine the location of any conditions that may prevent proper installation of CIPP. These shall be noted and corrected. A DVD and suitable written log for each line section shall be produced for later reference by the Owner.
4. Line Obstructions - It shall be the responsibility of the Contractor to clear the line of obstructions such as solids and roots that will prevent the insertion of CIPP. If preinstallation inspection reveals an obstruction such as a protruding service connection, dropped joint, or a collapse that will prevent the installation process, that was not evident on the pre-bid CCTV video and it cannot be removed by conventional storm drain pipe cleaning equipment, then the Contractor shall make a point repair excavation to uncover and remove or repair the obstruction. Such excavation shall be approved in writing by the City's representative prior to the commencement of the work. If required, this work shall be completed by force account or agreed price. The pre-bid CCTV video and supporting data can be found in Attachment A.
5. The Contractor shall be responsible for confirming the locations of all branch service lateral connections before beginning the installation of the CIPP.

71-3.08C(2) Installation

Contractor shall install CIPP liner using the inversion method in accordance with ASTM F1216.

For pipe diameters greater than 18-inches only water inversion/water cure is allowed. For pipe diameter equal to or less than 18-inches water inversion/water cure or air inversion/steam cure will be allowed.

If infiltration is observed in the pipe to be lined during the post cleaning inspection the Contractor shall inject grout to stop the infiltration prior to installation of the CIPP. Contractor shall also install a hydrophilic waterstop in each access point along the shot length. The hydrophilic waterstop end seals shall be bands that are 20 mm wide and 5 mm high, with a double bump on one side and flat on the other as manufactured by Hydrotite, Style DS-0520-3.51 or approved equal, and shall be installed at both ends of the liner in each manhole. The waterstop should be installed such that expansion occurs after installation and curing of the CIPP liner. Adhesive used to bond hydrophilic waterstop to the pipe and any spliced joints shall be as recommended and approved by the manufacture of the waterstop. There will be no additional cost to the City for the grouting or the installation of the hydrophilic waterstop.

The curing process shall follow a step cure or similar approach recommended by the liner and resin manufacturer and approved by the engineer and shall be held at the top step for an adequate length of time and temperature to ensure that the design physical properties are attained. Circulation water and/or air shall be cooled to at least 100 degrees F for one (1) hour before releasing the hydrostatic head. The rate of temperature rise and fall during heating and cooling shall not exceed 2 degrees F per minute. The Contractor

shall abide by all requirements of the Temporary Discharge Environmental Control Permit required for the discharge of process water as a result of the lining activities.

After the curing is complete, existing service connections shall be re-established. Miscellaneous pipe voids and pipe knockouts without an active service connection shall not be re-established.

The opening in the liner for the lateral connection shall be one hundred percent of the existing lateral opening. All cut edges at the reinstated laterals shall be smooth and free of jagged edges.

The contractor shall seal the end points of the liner at each manhole with epoxy so that no leakage of fluids may infiltrate between the liner and the existing pipe. This seal is in addition to any hydrophilic waterstop that may be installed and shall provide a smooth transition between the manhole and the installed liner completely around the pipe (360 degrees).

71-3.08C(3) Permits

1. The Contractor shall be responsible for permits per Section 5.1.20D of these Special Provisions.

71-3.08C(4) CIPP Liner Handling and Labeling

Contractor shall exercise adequate care during transportation, handling and installation to ensure the CIPP material is not torn, cut, or otherwise damaged. If any part or parts of the CIPP material becomes torn, cut or otherwise damaged before or during insertion, it shall be repaired or replaced in accordance with the manufacturer's recommendations and approved by the Engineer before proceeding further; and at the Contractor's expense.

Each liner tube shall be labeled by the liner manufacturer with the name of the Contractor, the name of the project, resin type, date "wetout", diameter of the liner, liner thickness, liner length, and the location (manhole number) where it is to be installed.

71-3.08C(5) Inspection

The Engineer, while not acting as quality control agent for the Contractor, shall be allowed to view and document any portion of this contract, including but not limited to verifying type and quantities of resin used at any point during this work.

71-3.08C(6) Finished Product

The finished product shall be continuous over the length of pipe reconstructed and be free from dry spots, delamination, and lifts. If these conditions are present, the Contractor shall remove and replace the CIPP. The Contractor shall install the liner to provide a smooth interior surface that is wrinkle free. If wrinkles are detected in the installed liner, the Contractor shall provide photographs and dimensions of the wrinkle including height, length, and direction. Wrinkles in the finished liner pipe which cause a backwater greater than one (1) inch, or reduce the hydraulic capacity of the pipe as determined by the Engineer are unacceptable and shall be removed or repaired by the Contractor at no additional cost to the City. Wrinkles in the finished liner pipe that reduce the structural stability of the pipe are unacceptable (defined as 5% of the host pipe inside diameter as the maximum height of a wrinkle or a backwater/ponding of flow greater than ½ inch). If a void between the wrinkle and the pipe exists, the Contractor shall repair or replace that section of the pipe at no additional cost to the City. Methods of repair shall be proposed by the Contractor and submitted to the Engineer for review.

There shall be no leakage of water between the liner and the host pipe following installation. If leakage is present, it shall be the contractor's responsibility to take corrective measures to stop all flow prior to acceptance of the lining work. There will be no additional cost to the City for any sealing activities.

All terminations at the entrance/exit for each pipe shall be sealed with a resin mixture that is recommended by the liner manufacturer. The sealing mixture shall be compatible with the liner/resin system, shall provide a watertight seal, and shall be approved by the Engineer prior to start of construction. Hydraulic cements and quick-set cement products are not acceptable.

Acceptable materials shall be approved epoxy type products that will bond, not crack, dry up, slough off, or shrink over time, and provide a smooth transition at the manhole invert and sidewalls. There will be no additional cost to the City for the sealing activities.

71-3.08C(7) CIPP Liner Sampling

SAMPLE PREPARATION: The Contractor shall prepare samples of the installed CIPP liner for subsequent testing of its physical properties. For pipelines up to 18-inches in diameter, the Contractor shall provide restrained samples of the installation by lining through a short piece of pipe of the same diameter of the existing pipe. The short piece of pipe shall be held in place by a suitable heat sink, such as sand bags. The sample shall be obtained from either or both ends of the CIPP section so a representative sample of the CIPP lining installed is provided for each reach. Each sample shall be cut in half and each half shall be signed and dated by both the Contractor and the Project Inspector. All CIPP samples shall be properly marked with the date of inversion or insertion and the inversion or insertion number. The Contractor shall retain one signed sample and provide the other signed sample to the testing facility approved as part of the submittal process.

Samples for pipelines larger than 18-inches in diameter shall be prepared and tested using the flat plate sampling method in accordance with the procedures in Section 8.1 of ASTM F1216. The sample will be constructed of the same materials (tube and resin/catalyst) as is used for that given liner installation. The flat plate sample shall be large enough to provide five sample specimens each for Short Term Flexural (Bending) properties and Tensile properties, as per ASTM D790 and ASTM D638 respectively. The sample will be clamped in a mold and placed in the downtube during the curing period of the CIPP tube. The samples shall be removed after all the water is removed from the cured pipe tube. The samples shall be identified by: Date, Project Name, Shot Number, Install Manhole, Size, thickness, Resin and Catalyst.

SAMPLE TESTING: The cured sample shall be tested by an independent testing laboratory, as recommended by the CIPP liner manufacturer and approved by the Engineer, for the bending and tensile properties, as per ASTM D790 and ASTM D638 respectively and liner thickness per ASTM D 2122. Final payment will not be made until test results are received. The Contractor shall be responsible for any deviation from the specified physical properties and those evaluated through testing. Failure to meet the specified physical properties will result in the CIPP liner being considered defective work. The Contractor shall be responsible for all costs associated with the testing of the liner physical properties.

Finished and cured CIPP liner properties specified in Section 2.02C of these Specifications shall be tested as specified. Previous test data will not be acceptable.

SAMPLING FREQUENCY: The above-stated sampling shall be performed for each separate installation of CIPP and each thickness calculated for reaches with tapered tubes. Example: one sample from each individual pipeline liner installed as a minimum and two or more samples where the individual liner is tapered to handle different loading conditions (railroad, high ground water).

71-3.08C(8) Warranty

All lining work shall be fully guaranteed by the Contractor for a period of 2 years from the date of Substantial Completion, unless otherwise stipulated in writing by the City prior to the date of Substantial Completion. During this period, all defects discovered by the City or the Engineer shall be removed and replaced or repaired by the Contractor in a satisfactory manner at no cost to the City. Methods of repair shall be proposed by the Contractor and submitted to the Engineer for review. The City may conduct independent television inspections, at its own expense, of the lining work at any time prior to the completion of the guarantee period.

71-3.08D PAYMENT

The bid item 24” SD CIPP Lining shall be paid by unit price per linear foot measured along centerline of pipe.

Unit Price shall include all tools, equipment, materials, and labor necessary to install the CIPP. Including but not limited to fabrication, freighting, and furnishing of the CIPP; cleaning; bypassing; acceptance testing;

dewatering; placement; flushing; disinfecting; CCTV inspections; all incidental work in the installation of the CIPP; and preparation and implementation of WPCP per Section 13.

No additional payment will be made for any excavating, backfilling, or surfacing needed for CIPP installation, inspection, or repair. Backfill material shall be ¾" Class 2 AB, compacted to 95%. Native material may be used for backfill in locations authorized by the Engineer. The AC section shall be 5" or match existing AC depth, whichever is greater. AC shall be compacted to 95% relative compaction. Asphalt binder must be PG64-16. Aggregate must comply with the ½" HMA Types A and B gradation.

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DIVISION VIII MISCELLANEOUS CONSTRUCTION

72 SLOPE PROTECTION

Replace the 2nd paragraph of section 72-1.03 with:

Placement of fabric beneath rock slope protection is required for all areas where rock slope protection is indicated per Project Plans. Place the fabric before placing rock slope protection.

Add to section 72-2.04:

Geosynthetic Fabric specified in the Project plans shall be included in the Bid Item for Rock Slope Protection.

73 CONCRETE CURBS AND SIDEWALKS

Add to section 73-1.01:

Project is in a freeze thaw area and requires air entrained concrete.

Add to section 73-1.02A:

Recycled AB and/or appropriately ground and blended material generated from Remove Base and Surfacing and Cold Plane activities can be used in lieu of Class 2 AB under the minor concrete items, as approved by the Engineer.

Material generated from Remove Base and Surfacing and Cold Plane activities can be used in lieu of Class 2 AB under the minor concrete items as long as the material meets the grading requirements shown in the following table:

Sieve Size	Percent Passing
3"	100
3/4"	>45

Replace paragraph in section 73-1.02B with:

Detectable warning surface shall be Colonial Red, federal color no. 20109 or approved equal unless otherwise shown on the Project Plans.

If a utility box is located within detectable warning surface, detectable warning surface shall be neatly trimmed around utility box to allow access to utility. Contractor is responsible for maintaining ADA compliance.

Detectable warning surfaces shall be wet-set in concrete. Surface applied Detectable Warning Surfaces, such as those attached by adhesives, are not authorized.

Add to Section 73-1.03A:

Detectable Warning Surfaces shall be installed per the manufacturer's specifications.

Replace paragraph in section 73-2.04 with:

Minor concrete for curbs shall be paid under the Minor Concrete (Curb) and Minor Concrete (Curb & Gutter) types shown on the Bid Item List. The payment quantity for minor concrete curbs shall be linear feet as measured along the curb face. Class 2 aggregate base (or approved recycled material) required for the construction of Minor Concrete types shown on the Bid Item List shall be included in the unit price for each type. Recompaction of the existing base and/or subbase material below the Class 2 aggregate base required for the construction of Minor Concrete types shown on the Bid Item List shall be included in the unit price for each type. The various Minor Concrete bid items shall include all tools, equipment, materials, and labor necessary to construct the Minor Concrete curbs including, but not limited to, concrete, reinforcing bars (if necessary), and all other incidental work for constructing the various Minor Concrete curbs.

Add to section 73-3.03:

All concrete used for curb ramps, driveways, sidewalks, and landings shall be broom finished.

Concrete used for Minor Concrete (Driveway) shall be 3,600 PSI with Solomon UltraFiber 500 or approved equal. Minor Concrete (Driveway) shall extend up to the top of adjacent curb ramps as shown on the Project Plans.

Replace paragraph in section 73-3.04 with:

Minor concrete for sidewalk, driveway, curb and gutter, and barrier curb shall be paid under the appropriate Minor Concrete types shown on the Bid Item List. The payment quantity for Minor Concrete (Sidewalk) and Minor Concrete (Driveway) bid items is the area of sidewalk or driveways installed measured parallel to the ground surface in square feet. Class 2 aggregate base (or approved recycled material) required for the construction of Minor Concrete types shown on the Bid Item List shall be included in the unit price for each type. Recompaction of the existing base and/or subbase material below the Class 2 aggregate base required for the construction of Minor Concrete types shown on the Bid Item List shall be included in the unit price for each type. The various Minor Concrete bid items shall include all tools, equipment, materials, and labor necessary to construct the Minor Concrete sidewalk, driveway, and all other incidental work for constructing the minor concrete sidewalks and driveways.

The payment quantity for the Detectable Warning Surface bid item is the number of locations detectable warning surfaces are installed per the Project Plans. Each location is considered a measurement of one (1), independent of the number of panels required at that location.

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75 MISCELLANEOUS METAL

Replace section 75-1.04 with:

There is no specific bid item for miscellaneous metal material. Miscellaneous metal materials shall be paid under the various bid items requiring miscellaneous metal materials and no additional compensation will be allowed therefore.

Replace section 75-2.04 with:

There is no specific bid item for manhole frames or drainage inlet frames and grates. Manhole frames and drainage inlet frames and grates shall be paid under the various bid items requiring manhole frames and drainage inlet frames and grates and no additional payment shall be made therefore.

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77 LOCAL INFRASTRUCTURE

Replace "Reserved" in section 77-1 with:

77-1 TRENCH EXCAVATION, BACKFILL, AND COMPACTION

77-1.01 GENERAL

77-1.01A Summary

This section governs the work for trench excavation, backfill, and compaction for underground pipeline work including, but not limited to, the installation of HDPE pipe.

77-1.01B Submittals

Upon request, the following items shall be submitted and approved by the Engineer:

1. Test results showing gradation, durability, and sand equivalent of pipe zone material.
2. Permit and notification form for excavations 5 feet or more in depth as required by Cal-OSHA, including any trench excavation or shoring plans.

The testing frequency and location shall be approved by the Engineer.

77-1.02 MATERIALS

77-1.02A Trench Excavation

Excavation is unclassified. The Contractor shall complete all excavations regardless of the type of materials encountered. The Contractor shall make his own estimate of the kind and extent of the various materials which will be encountered in the excavation.

77-1.02B Pipe Zone

Material for the pipe zone shall be ¾ inch Class II Aggregate Base. The aggregate size gradation shall comply with Caltrans Specifications. The sand equivalent shall be 30 minimum. The durability index shall be 35 minimum.

77-1.02C Backfill

Material for the initial backfill from 12 inches above the top of the pipe to subgrade shall be ¾ inch Class 2 Aggregate Base. The aggregate size gradation shall comply with Caltrans Specifications. The sand equivalent shall be 30 minimum. The durability index shall be 35 minimum.

77-1.03 CONSTRUCTION

77-1.03A Excavation

77-1.03A(1) General

Excavation for pipelines, fittings, and appurtenances shall be open trench to the depth and in the direction necessary for the proper installation of the same as shown on the contract drawings or as otherwise approved by the Engineer. Excavation shall only proceed when the necessary materials have been delivered to the site.

The Contractor shall bear all costs of disposing of roots and all other waste materials from the excavation. Material shall be disposed of in such a manner as to meet all requirements of the state, county, and local regulations regarding health, safety, and public welfare. Non-flammable material and flammable material, when burning is not permitted, shall be disposed of off the construction site in an approved location at the Contractor's expense.

The Contractor shall remove obstructions within the trench area or adjacent thereto, such as abandoned concrete structures, logs, and debris of all types, without additional compensation. The Engineer may, if requested, make changes in the trench alignment to avoid major obstructions, if such alignment can be made without adversely affecting the intended function of the facility.

77-1.03A(2) Existing Pavement Removal

Pavement to be removed shall be removed and replaced in the manner prescribed by the Standard Specifications.

Existing pavement, curbs, gutters, sidewalks and driveways to be removed in connection with construction shall be neatly saw cut prior to removal. Saw cuts shall have a minimum depth of one inch in concrete sidewalk.

If the saw cut in a sidewalk or driveway would fall within 12 inches of a construction joint, expansion joint, or edge, the concrete shall be removed and replaced to the joint or edge. If the saw cut would fall within 6 inches of a score mark, the concrete shall be removed and replaced to the score mark. Concrete shall be removed by jackhammer.

77-1.03A(3) Grading and Stockpiling

The Contractor shall control grading in a manner to prevent water running into excavations. Obstructions of surface drainage shall be avoided and means shall be provided whereby storm and wastewater can be uninterrupted in existing gutters, other surface drains, or temporary drains. Material for backfill or for protection of excavation in public roads from surface drainage shall be neatly placed and kept shaped so as to cause the least possible interference with public travel. Free access must be provided to all fire hydrants, water valves, meters and private drives.

77-1.03A(4) Line and Grade

The Contractor shall excavate the trench to the lines and grades shown on the plans. Any deviations shall first be approved by the Engineer.

The trench shall be excavated to a minimum depth of 6 inches below the bottom of the pipe. The sides of the trench shall be excavated and maintained as nearly vertical as is practical.

77-1.03A(5) Trench Support

The trench shall be adequately supported and the safety of workers provided for as required by the standard of the appropriate regulatory agency.

All shoring for open excavations shall conform to the State of California, Department of Industrial Relations, Division of Industrial Safety "Construction Safety Orders."

The Contractor shall be responsible for adequately shored and braced excavations 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.

No shoring once installed, shall be removed until the trench has been approved for backfill operations. Removal of shoring shall only be accomplished during backfill operations and in such a manner as to prevent any movement of the ground or damage to the pipe or other structures.

The Contractor shall obtain all permits for any excavations over five feet in depth into which a person is required to descend or any excavation less than five feet in depth in soils where hazardous ground movement may be expected and into which a person is required to descend.

Excavated material shall not be placed closer than two feet from the top edge of the trench. Heavy equipment should not be used or placed near the sides of the trench unless the trench is adequately braced.

77-1.03A(6) Use of Explosives

Blasting is not permitted.

77-1.03A(7) Preservation of Trees

Excavation within the dripline of any tree shall conform to the following. Trees shall not be removed outside of fill or excavated areas, except as authorized by the Engineer.

Tree roots larger than 2 inches in diameter shall not be cut and shall be kept moist during exposure. For damaged or severed root systems, trees shall be trimmed to compensate for the decreased root system. Trimming shall be done to the satisfaction of the Inspector. All roots shall be neatly cut with saw or sharp cutter.

77-1.03A(8) Dewatering

The Contractor shall provide and maintain, at all times during construction, ample means and devices with which to promptly remove and properly dispose of all water from any source entering the excavations or other parts of the work. Dewatering shall be accomplished by methods which will ensure a dry excavation and

preservation of the final lines and grades of the bottoms of excavations. Said methods may include well points, cofferdams, sump pumps, suitable rock or gravel placed below the required bedding for drainage and pumping purposes, temporary pipelines and other means, all subject to the approval of the Engineer.

Dewatering for the structures and pipelines shall commence when groundwater is first encountered and shall continue until the backfill at the pipe zone has been completed.

The Contractor shall dispose of the water from the work in a suitable manner without damage to adjacent property. No water shall be drained into work built or under construction without prior consent of the Engineer. Water shall be disposed in such a manner as not to be a menace to public health.

The Contractor shall be responsible to obtain all required Local and State Permits.

Dewatering is incidental to other items of work and no additional compensation will be allowed for dewatering.

77-1.03A(9) Correction of Faulty Grades

Any over-excavation carried below the grade as specified or shown, shall be rectified by backfilling with approved sand and/or graded gravel, and shall be compacted to provide a firm and unyielding subgrade and/or foundation, as directed by the Engineer.

77-1.03A(10) Structure Protection

Temporary support, adequate protection, and maintenance of all underground and surface structures, drains, sewers, and other obstructions encountered in the progress of the work shall be furnished by the Contractor at his expense and subject to the approval of the Engineer. Any structure that has been disturbed shall be restored upon completion of the work.

77-1.03A(11) Trench Width and Grade

The width of the trench within the pipe zone shall be such that the clear space between the barrel of the pipe and the trench wall shall not exceed the amount shown in the standard details. In general, the following shall be adhered to:

Nominal Pipe Diameter	Trench Width Minimum	Trench Width Maximum
12” or less	O.D. + 12”	O.D. + 18”
greater than 12”	O.D. + 18”	O.D. + 24”

Trench widths in excess of those specified must have prior written approval.

77-1.03A(12) Maximum Length of Open Trench

Unless otherwise specified or directed by the Engineer, the maximum length of open trench during working hours shall be 500 feet, or the distance necessary to accommodate twice the amount of pipe installed in a single day, whichever is greater. The maximum length of open trench appropriately covered during non-working hours is the distance necessary to accommodate the amount of pipe installed in a single day. The distance is the collective length of any location, including open excavation, pipe laying and appurtenant construction, and backfill, which has not been temporarily resurfaced. Failure by the Contractor to comply with the limitations specified herein may result in an order to halt progress of the work until compliance has been achieved. The Contractor shall provide proper barricades for excavated areas.

Open trenches must be appropriately covered during non-working hours. Open trenches are not allowed during the scheduled events listed in section 7-1.03. Prior to those events, all trenches must be temporarily resurfaced to the satisfaction of the Engineer.

77-1.03A(13) Rock Excavation

Excavation of unrippable rock requiring a larger excavator and/or hydraulic hammering will be paid for as an additional cost above and beyond the cost for excavation and trenching for ordinary excavation. The City Engineer will determine when rock excavation for unrippable rock is required per the definition below.

Definition of Rock: Rock encountered during the course of excavation which is sufficiently hard that it cannot be removed using a Caterpillar 320 class excavator or equivalent using conventional methods shall be deemed inexcavatable. Rock deemed inexcavatable shall be removed by substantial means such as reciprocating hydraulic hammers and shall conform to this specification.

77-1.03A(14) Payment

There is no separate bid item for trench excavation. Trench excavation shall be considered incidental to other items of work and no additional compensation will be allowed therefore.

77-1.03B Trench Foundation

77-1.03B(1) General

The trench bottom shall be graded to provide a smooth, firm and stable foundation at every point throughout the length of the pipe. Should large gravel and cobbles be encountered at the trench bottom or pipe subgrade, they shall be removed from beneath the pipe and replaced with clean imported sand which shall be compacted to provide uniform support and a firm foundation.

77-1.03B(2) Foundations in Poor Soil

If excessively wet, soft, spongy, unstable, or similarly unsuitable material is encountered at the surface upon which the bedding material is to be placed, the unsuitable material shall be removed to a depth as determined in the field by the Engineer. The Contractor's attention is called to section 77-7.03A(8), regarding his/her responsibilities in maintaining adequate dewatering procedures to ensure that an otherwise stable foundation will not be rendered unfit due to accumulation of water.

77-1.03C Backfill and Compaction

77-1.03C(1) General

Backfill shall be completed within the shortest possible time so that the construction area or street can be opened to traffic. If for any reason construction of the pipeline or appurtenances thereto is delayed, the City may require that the trench be backfilled and such areas or streets opened to traffic.

77-1.03C(2) Pipe Zone

After completion of the trench excavation and proper preparation of the foundation, 6 inches of bedding material shall be placed on the trench bottom for support under the pipe. Bell holes shall be dug to provide adequate clearance between the pipe bell and the bedding material. All pipes shall be installed in such a manner as to insure full support of the pipe barrel over its entire length. After the pipe is adjusted for line and grade and the joint is made, the remainder of the pipe bedding shall be placed to the limits as shown on the Drawings. All bedding material shall be compacted 90% as measured by Test Method California 231, prior to placement of subsequent backfill.

When bedding material is selected material or imported sand, the pipe bedding backfill shall be brought to optimum moisture content and shall be placed by hand in layers not exceeding 3 inches in thickness to the centerline (string line) of the pipe and each layer shall be solidly tamped with the proper tools so as not to injure, damage, or disturb the pipe. Backfilling shall be carried on simultaneously on each side of the pipe to assure proper protection of the pipe.

Each lift shall be "walked in" and supplemented by slicing with a shovel to ensure that all voids around the pipe have been completely filled. Mechanical compaction such as "pogo sticks" or "wackers", as approved, shall be used for compaction of pipe zone.

77-1.03C(3) Initial Backfill

The remaining portion of the trench shall be backfilled, compacted, and/or consolidated by approved methods to obtain a 90% compaction as measured by CTM 231. Backfill shall be good sound earth, sand or gravel. Bituminous pavement, concrete, rock, or other lumpy material shall not be used in the backfill unless these materials are scattered and do not exceed 6 inches in any dimension and are not placed within 1½ feet of the surface. Material of perishable, organic matter, spongy or otherwise improper nature, shall not be used.

When backfill is placed mechanically, the backfill material shall be pushed onto the slope of the backfill previously placed and allowed to slide down into the trench. The Contractor shall not push backfill into the trench in such a way as to permit free fall of the material until at least 18 inches of cover is provided over the top of the pipe. Under no circumstances shall sharp, heavy pieces of materials be allowed to be dropped directly onto the pipe or the tamped material around the pipe. Backfill shall be placed in layers not exceeding 8 inches and compacted by an approved method.

Heavy duty compacting equipment having an overall weight in excess of 125 pounds shall not be used until backfill has been completed to a depth of 2 feet over the top of the pipe.

If hydro-hammer is used for compaction of overlying materials, at least 4 feet of backfill must be placed over the top of pipe prior to its use. This is required to ensure that the pipe is not damaged.

77-1.03C(4) Final Backfill

Final backfill placed in trenches shall be compacted to a density of not less than 95%.

Backfill shall be placed in layers not exceeding 8 inches, compacted and brought up to the subgrade.

77-1.03D Excess Excavated Material

The Contractor shall make the necessary arrangements for, and shall remove and dispose of all excess excavated material. All surplus material not required for backfill or fill shall be disposed of by the Contractor outside the limits of the public right-of-way and/or easements at no liability to the City. Excess material becomes property of the Contractor and is incidental to other items of work.

No excavated material shall be deposited on private property unless written permission from the owner thereof is secured by the Contractor. Before the City will accept the work as being completed, the Contractor shall file a written release signed by all property owners with whom he has entered into agreements for disposal of excess excavated material absolving the District from any liability connected therewith.

Full compensation for haul-off and disposal of native trench material is included in the prices paid per linear foot of the respective sizes, grades, and types of pipes listed in the contract, and no additional compensation will be paid.

77-1.03E Restoration of Damaged Surfaces or Property

If any pavement, trees, shrubbery, landscaping, fences, poles, or other property and surface structures have been damaged, removed, or disturbed by the Contractor, whether deliberately or through failure to carry out the requirements of the contract documents, state laws, municipal ordinances, or the specific direction of the City, or through failure to employ usual and reasonable safeguards, such property and surface structures shall be replaced or repaired in-kind at the expense of the Contractor.

77-1.03F Final Clean-Up

After backfill has been completed, the right-of-way shall be dressed smooth and left in a neat and presentable condition to the satisfaction of the Engineer.

77-1.04 PAYMENT

There is no separate bid item for the material, equipment, or labor used to backfill the trenches, holes, depressions, pits, etc. or restoration of surfaces caused by removing, salvaging, abandoning, destroying, modifying, adjusting, rehabilitating existing or installing new drainage or water facilities and no additional compensation will be allowed therefore. Backfill of trenches and restoration of surfaces shall be considered incidental to other items of work.

80 FENCES

Replace Section 80-5 with:

80-5 CHAIN BARRIER

80-5.01 GENERAL

80-5.01A Summary

Section 80-5 includes specifications for Chain Barrier. Furnish and install chain barrier fence as shown on the Project Plans. The chain barrier fence shall consist of 4"x4"x5' 1/8" metal posts set 42 inches above the parking lot surface at 10-foot intervals on center, and a 3/8-inch chain run between the posts.

80-5.02 MATERIALS

80-5.02A General

Posts and chain material shall be metal that will age to a rust finish. The chain barrier fence shall match the post and chain fence installed along the frontage for 1540 Broadway, Placerville, CA 95667 or equivalent, as approved by the Engineer.

80-5.03 CONSTRUCTION

The Contractor shall submit shop drawings for review and approval by the Engineer prior to installation.

Three reflective tape strips shall be installed on the metal chain barrier posts immediately adjacent to driveway aisles. Reflective tape shall be white, 2” wide placed 3” from the top of metal chain barrier post and 12” on center. Reflective tape shall be wrapped around the post such that the reflective tape is visible from all directions.

80-5.04 PAYMENT

Payment shall be made per linear foot of installed chain barrier, including all materials, labor, and equipment.

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DIVISION IX TRAFFIC CONTROL DEVICES

81 MISCELLANEOUS TRAFFIC CONTROL DEVICES

Replace section 81-1.04 with:

All miscellaneous traffic control devices shall be paid under the Traffic Control System bid item.

^^

82 SIGNS AND MARKERS

Replace the paragraphs in section 82-3.04 with:

Each roadside sign installation is one (1) measurement unit, regardless of the number of posts or sign panels involved. Installation of new roadside signs shall be paid for under the Install Roadside Sign bid item and includes the work necessary to furnish and install the new sign(s) and post(s).

Add to section 82-9.04:

Each roadside sign relocation is one (1) measurement unit, regardless of the number of posts or sign panels involved. Sign relocations and signs to be removed and replaced in their original location shall be paid for under the Relocate Roadside Sign bid item. Any damaged signs or posts identified for relocation caused by the Contractor shall be replaced at the Contractor’s expense.

^^

84 MARKINGS

Add to section 84-2.02A:

Pavement Markings and Traffic Stripes shall be thermoplastic, unless otherwise specified on the Project Plans.

Replace section 84-9.04 with:

The payment quantity for the Pavement Marking shall be paid for under the Pavement Marking bid item. The payment quantity for Pavement Marking is the area in square feet of the pavement marking as shown on the Project Plans. Pavement markings to be removed as shown on the Project Plans shall be paid for under the Remove Pavement Markings bid item. The payment quantity for Remove Pavement Markings bid item is the area in square feet of the striping area removed measured parallel to the ground.

Replace section 84-9.10 RESERVED with:

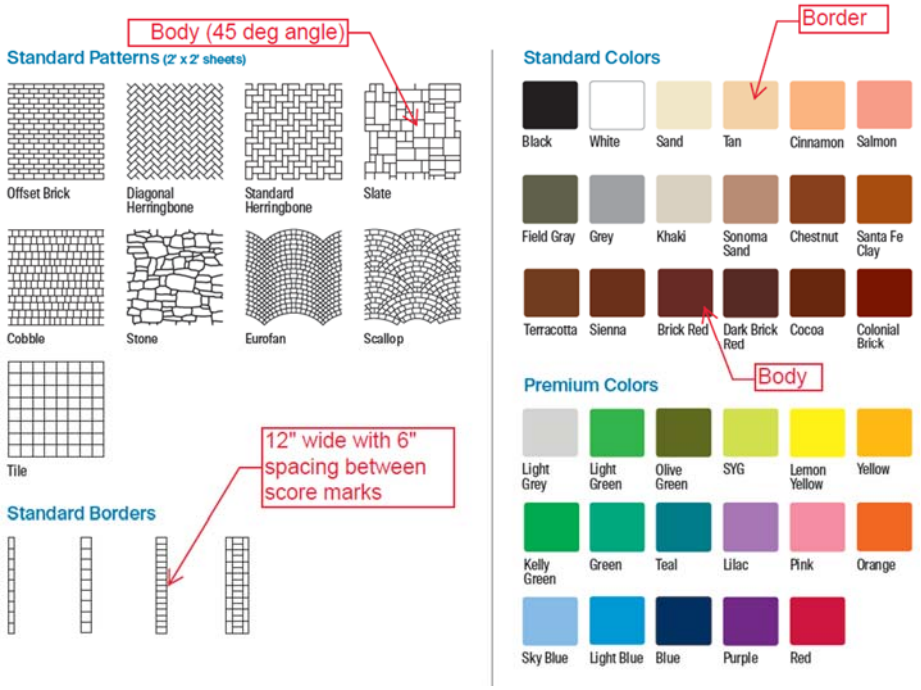
84-9.10 STAMPED THERMOPLASTIC

84-9.10A GENERAL

This section of the specifications will govern the construction of stamped thermoplastic at the locations indicated on the Project Plans.

84-9.10B MATERIALS

Stamped thermoplastic shall be pre-formed thermoplastic TrafficPatterns XD Impressed Surface System by Ennis-Flint. The defined stamped thermoplastic area shall have the “Slate” standard pattern stamped at a 45 degree angle to the direction of vehicle travel. The color for the stamped thermoplastic area shall be “Brick Red”. The border shall be 12 inches wide and have score marks spaced 6 inches apart. The color for the border shall be Tan. See below for an excerpt from the Ennis-Flint brochure:



Contractor is to provide samples for City’s review and approval.

^^

DIVISION X ELECTRICAL WORK

87 ELECTRICAL SYSTEMS

Add to section 87-1.03V(2)

Reset of Traffic Loop Detectors must conform to the Standard Specifications and State Specifications.

Traffic signal loop detectors must be installed as shown on the Project Plans and as detailed on Std. Drawings 711 & 712.

At locations shown on the Project Plans, the Contractor must replace the loop detectors with new loop detectors conforming to Section VI “Traffic Signals” of the Standard Specifications. At advanced detector locations, loop detectors that are more than 100 feet from the associated stop bar at the signalized intersection, the Contractor must replace the loop detector with a new Type A loop detector (one per lane). If there is no existing detector handhole in the vicinity of the new loop detector, a new detector handhole and conduit connecting to the associated pull box must be supplied and installed per Std. Drawing 712. At presence detection locations, loop detectors that are less than 100 feet from the associated stop bar at the signalized intersection, the Contractor must replace the loop detector with one or more Type A loop detectors as needed so that there are four working loop detectors per lane, spaced as shown on Std. Drawing 712. If there is no existing detector handhole in the same lane as the new loop detector(s), a new detector handhole and conduit connecting to the associated pull box must be supplied and installed. Unless otherwise indicated on the Project Plans, all costs associated with the replacement of damaged loop detectors, including the supply and installation of detector handholes and connecting conduits, will be borne by the Contractor.

Each inductive detector loop conductor must be continuous, un-spliced, Type RHW-USE neoprene-jacketed or Type USE crosslinked polyethylene insulated No. 12 stranded copper wire. Conductor insulation thickness must be a minimum of 40 mils.

Loop detector lead-in cable must consist of 4 No. 18 AWG stranded copper conductors insulated with 9 mils minimum of polypropylene, color coded, parallel laid, twisted together with 4 to 6 turns per foot. An amorphous interior moisture penetration barrier must be provided to prevent hosing, siphoning, or capillary absorption of water along cable interstices. Aluminum-polyester shielding must be applied around the conductors. The outer jacket must be 32 mils minimum thickness, high density polyethylene conforming to ASTM D1248, 65T for Dielectric Material, Type I, Class C, Grade 5, J3. The diameter of the lead-in cable must be approximately 1/4 inch.

Installation and testing must conform to the details and notes shown in the Std. Drawings and these Specifications.

Unless otherwise indicated in the Contract, loop detectors must be installed after the construction of all lower lifts of paving and after construction of pavement leveling courses but prior to the placement of the final lift of asphalt concrete for the affected portion of the roadway. Inductive loop detectors must be installed as shown on Std. Drawing 711, 712 and as specified in these Specifications. The Contractor must place all loop detectors in left turn lanes that adjoin a through traffic lane so that the loop detectors are 3.5 feet from the channelizing stripe that separates the left turn lane from the through traffic lane. Detector handholes must be centered in the associated vehicle lane and must be located approximately 4 feet clear of the nearest traffic signal loop detector. Loop detectors that are installed in the vehicle lane closes to the edge of pavement, either with or without curbs and gutters, must be constructed such that the wires connecting the loops to the associated detector handhole run on the side of the loops further from the edge of pavement.

Unless otherwise shown or specified in the Contract or directed by the City Engineer in the field, each new detector loop must be 5 feet by 5 feet and must be centered in the traveled lane. All detector loops must be field marked by the Contractor and their location approved by the Agency prior to pavement cutting. For installations that will serve lanes that are not parallel or concentric to lane markings existing at the time of loop installation, the Contractor must accurately mark the future lane lines prior to pavement cutting.

Sawcut slots must be cut into the pavement to the depth and width shown on the Std. Drawings. Slots cut in the pavement must be blown out with compressed air, then dried and inspected for any sharp objects or corners, which must be removed prior to installation of loop conductors. All conductors and conductor loops installed in the traveled way must be installed so that the top of the conductor is a minimum of 5/8 inch below the surface grade of the street.

Unless specified otherwise, each loop must consist of the 3 turns of conductors for each detector loop. All detector loops located two hundred 250 feet or farther from the stop line must consist of 4 turns of conductors for each detector loop.

The loop conductors must be installed in the slots using a 5/16 to 1/4-inch wooden paddle. As it is installed, the wire must be kept under slight tension and must be kept in the slots with suitable cardboard wedges. The cardboard wedges must not be removed until the loop sealant operation requires removal.

Loop conductors must be installed without splices and must terminate in the nearest pull box. Detector loops must be joined, in series, in the nearest pull box. See the Std. Drawings for typical loop connection details.

Each detector loop must be identified and tagged by loop number, start (S), and finish (F). Loop lead-ins must be individually identified as shown on the Plans. Identification must be by means of bands placed on the lead-in cable.

Each detector loop circuit must be tested for continuity, circuit resistance, and insulation resistance at the controller location. The loop circuit resistance must not exceed 0.50 ohms plus 0.35 ohms per 100 feet of lead-in cable. The insulation resistance must be performed between each circuit conductor and ground. The meggared insulation resistance must not be less than 200 megohms. The Contractor must replace any detector loop that fails this test at the Contractor's expense. All test results and corrections of failures must be documented. Test documentation must be provided to the Agency to become a permanent record for future reference. All testing must be completed to the satisfaction of the Agency prior to traffic signal turn-on.

All loop conductors must be spliced to a lead-in cable, which must be run from the pull box adjacent to the loop detector to a sensor unit mounted in the controller cabinet. All splices between loops and the lead-in cable must be soldered.

If the conduit is not dry, the ends of all lead-in cable must be taped and waterproofed prior to installation. If splicing is not done immediately after installation, the ends of both the loop conductors and lead-in cable must be taped and waterproofed with an electrical insulating coating. The insulating coating must be fast drying, resistant to oils, acids, alkalis and corrosive atmospheric conditions and must be compatible with the insulations used in the conductors and cables.

Sealant for inductive loop detectors must be supplied and installed by the Contractor in accordance with the State Specifications, and these Specifications.

Sealant for loop detectors must be as specified for Elastomeric Sealant. Epoxy sealant will not be permitted. The Agency might allow the use of Asphaltic Emulsion Sealant in areas scheduled for asphalt concrete overlay.

Detector handholes must be type “B.” Detector handholes must be installed at the locations shown on the Plans, in the center of the lanes and in conformance with the Std. Drawings. The cement used to join the ABS sweep “Y” to the PVC conduit must be capable of providing a solvent type weld between the two materials.

All splicing must be made in a dry environment. The splice between the lead-in cable and the loop conductors in the adjacent pull box must be a soldered waterproof type. This must be accomplished by stripping and cleaning ends of wires, twisting ends together, dipping twisted ends in flux, then soldering. Open flame soldering will not be permitted. Wire insulation must not be damaged while soldering. The soldered splice must be protected with an electrical spring connector of 3-part construction.

The 3-part construction spring connector must consist of a zinc-coated, free-expanding steel spring enclosed in a steel shell with a jacket of polyvinyl chloride. The outer jacket must have a flared skirt, be flexible, and be able to withstand 105 degrees C temperature continuously. Each splice must have the spring connector sized in accordance with the manufacturer's recommendations for the number of conductors and gauges being spliced. Wire strip lengths must also be in accordance with the manufacturer's recommendations.

After the spring connector has been applied to the splice, the Contractor must apply tape sealant to the splice. The tape sealant must be applied over the entire area of the splice and overlap the spring connector and detector lead-in cable at least 1-1/2 inches. The tape sealant must be Thomas and Betts Catalog No. HSTS25 or approved equal.

The Contractor must then apply heat-shrink tubing over the splice. Heat shrink tubing must be medium or heavy wall thickness irradiated polyolefin tubing containing an adhesive mastic inner wall. Minimum wall thickness prior to contraction must be 0.04 inch. When heated, the inner wall must melt and fill all crevices and interstices of the object being covered while the outer wall shrinks to form a waterproof insulation. Each end of the heat-shrink tube or the open end of the end cap of heat-shrink tubing must, after contraction, overlap the conductor insulation at least 1-1/2. Heat shrink tubing must conform to the requirements of UL Standard 468D and ANSI C119.1, for extended insulated tubing at 600 volts. The Contractor must use the appropriate size heat-shrink tubing from the following Thomas and Betts Catalog Numbers HS61, HS6-1L, HS4-30, HS40-400 or equal product if approved by the Agency.

All heat shrink tubing must meet the following requirements:

Shrinkage Ratio:	33 percent, maximum, of supplied diameter when heated to 125°C and allowed to cool to 25°C
Dielectric Strength:	350 kilovolts per inch, minimum
Resistivity:	10^{14} ohms - centimeter, minimum
Tensile Strength:	2,000 lbs. per square inch, minimum
Operating Temperature:	-40°C to 90°C (135°C Emergency)
Water Absorption:	0.5 percent, maximum

When 3 or more conductors are to be enclosed within a single splice using heat-shrink tubing, mastic must be placed around each conductor, prior to being placed inside the heat-shrink tubing. The mastic must be the type recommended by the manufacturer of the heat-shrink tubing.

Heat-shrink tubing must not be heated with an open flame. A heating device designed for the purpose is required. Immediately after heating the splice and while the internally applied sealant is still liquid, the open end of the splice must be clamped together until the sealant dries.

If any detector lead-in splice fails within 1 year due to poor workmanship, the Contractor must replace all detector lead-in splices made by the Contractor within the intersection.

Where shown on the Plans, detector loops must be sawcut into detector handholes. Detector handholes must be installed in accordance with these Specifications and as shown on the Std. Drawings unless otherwise specified or directed by the Agency. Splicing in the detector handholes is not permitted.

Conduit from the detector handhole to the adjacent pull box must be sized as shown below:

Conduit Size	Loop Conductors
1-1/2" minimum	1-4 pairs
2" minimum	5 or more pairs

Replace section 87-1.04 with:

87-1.04 PAYMENT

Reset Traffic Loops shall be paid for on a Lump Sum basis and shall include all work necessary within the area identified as “Reset Traffic Loop” on the Project Plans. The contract unit price paid for shall include, but is not limited to, full compensation for furnishing all labor, materials, tools, equipment, incidentals, and for doing all work involved in the production, delivery, excavation, disposal, testing, and placement of loop detector as shown on the Project Plans, as specified in the Standard Specifications, these Special Provisions, and as directed by the City Engineer and no additional compensation will be made therefore.

Add to section 87-7.01:

87-7.01A Rectangular Rapid Flashing Beacon

Each Rectangular Rapid Flashing Beacon (RRFB) System shall be independently solar powered at each end. The industry-standard cabinet will house the circuit breaker, charge controller, flash controller, on-board user interface, and wireless communications. Each RRFB shall include from one to four light bars. The RRFB shall conform to all provisions of the MUTCD, Interim Approval IA-11 including flash pattern. The RRFB shall be pre-wired to the maximum extent possible. The manufacturer shall also offer solar versions of the RRFB that are fully compatible.

The cabinet shall be constructed from aluminum. No other external control cabinet shall be required. The cabinet dimensions shall not exceed 20" (50.8cdm) in height, 11" (28cm) in width, and 7" (17.8cm) in depth. The overall weight of the cabinet assembly (including the circuit breaker, and EMS control board but not including light bars, pushbuttons, talking pushbutton system, solar array, solar cabinet, or battery) shall not exceed 25 lbs. (11.4 kg). The cabinet shall have a tamper-proof lockable latch. The cabinet shall be vented to provide cooling of the interior and electronics. The vents shall be screened to prevent ingress by insects and debris.

The RRFB shall be manufactured in the USA and shall be Buy American compliant. Manufacturer shall provide a 5-Year Limited Warranty. The Manufacturer shall be ISO 9001 certified. The light bars shall be current-driven LED strings without active electronics. The LEDs shall be driven by pulse-width modulated fixed current. The light bar housing shall be constructed from aluminum and shall have the approximate dimensions: 24" L x 1.5" D x 4.5" H (61.0 cm L x 3.8 cm D x 11.4 cm H). Each light bar shall conform to all provisions of the MUTCD and FHWA requirements. Each of the two modules in a light bar shall have 8 LEDs and shall be purpose-built by the manufacturer of the RRFB including the optics. The optics shall be premium, UV-resistant polycarbonate. Each end of a light bar shall include a side-emitting pedestrian confirmation light composed of a single LED. Users shall have the option of using both confirmation lights for median applications, or covering one confirmation light with an included sticker for side-of-road applications. The light bar shall be mounted to the post or pole using a separate bracket assembly to facilitate mounting two light bars back-to-back (bi-directional) and to allow the light bar(s) to rotate horizontally for aiming. The light bar bracket shall be constructed from galvanized or stainless steel and shall have both banding and bolting mounting options and shall be able to be mounted to all specified pole types. The light bar assembly shall open for access to the wiring connections for the LED modules. LED modules shall be rated to NEMA 3R. Light bar wiring harnesses shall be included. Fasteners shall be stainless steel. The RRFB cabinet and light bars shall be rated to a minimum of NEMA 3R, stainless steel construction for corrosion resistance.

The RRFB System shall also be equipped with crosswalk illumination devices, such as the TAPCO SAFEWALK pedestrian crosswalk illuminator, or approved equal. A crosswalk illuminator shall be mounted to each RRFB pole and shall be activated simultaneously with the rest of the RRFB System through the same push button. Each illuminator must provide 20 LUX for a distance of up to 15 feet.

Each RRFB pole shall be independently powered by a 30-watt minimum solar panel. The battery shall have a nominal voltage of 12-volts and a minimum battery capacity of 44Ah. The battery shall be self-contained in the solar cabinet.

The radio system shall operate at 2.4GHz. Upon detection of a pushbutton press, an RRFB will broadcast an activation to all other nearby RRFBs sharing the same channel. The RRFB shall have the capability to activate other RRFBs by wireless communications within 500 feet (152 meters). The RRFB shall have a minimum of 14 unique channels that can be configured on-site to avoid inadvertent activation of nearby systems. The antenna shall be a low-profile "button" shape that cannot be bent or broken by vandals. The system shall be capable of activation by pushbutton and passive microwave detection. The pedestrian push buttons that shall have an LED indicator with audible tone with Piezo control and shall be ADA compliant and MUTCD-2009 4E compliant for momentary operation. The RRFB shall be capable of operating with either 1 or 2 pushbuttons.

The RRFB shall be available with:

- Polara XAVCU2 talking pushbutton control system and the XAV2E audible pushbutton or approved equivalent
- Campbell Guardian Talking Pushbutton
- MS Sedco Smartwalk

Custom voice chips shall be available for the XAV2E talking pushbutton. All RRFBs in the system shall initiate activation simultaneously within 150ms of activation. If an additional activation occurs while the system is activated, the flash duration shall reset. For example, with the flash duration set to 20 seconds, if an additional activation occurs after the RRFB has been activated for 15 seconds the RRFB will continue for an additional 20 seconds, or 35 seconds in total. If the RRFB has ceased operation, any subsequent activation shall activate the RRFB without delay regardless of how recently the RRFB ceased operation. Pushbutton wiring harnesses shall be included.

Mounting adapter hardware for the RRFB cabinet shall be available for 4" – 4.5" round poles or square posts. Mounting shall offer strapping as standard with an option for Z-bar and U-bolts.

Mounting shall not require specialized tools.

The RRFB cabinet shall house an auto-scrolling LED on-board user interface that provides on-site configuration adjustment, system status and fault notification. The user interface shall provide a display of four (4) alphanumeric characters and three (3) control buttons to navigate and change settings and activate functions. When editing the configuration, the user interface will flash the display indicating it is ready to accept editing and will flash the display rapidly 3 times to indicate the setting change has been accepted. The flash duration shall be adjustable in-the-field from 5 to 60 seconds in one second increments, 60 to 1,200 seconds in 60-second steps, and 3,600 seconds. Default flash duration shall be 20 seconds. The system shall provide configurable nighttime intensity settings.

The system shall be capable of enabling or disabling ambient brightness auto-adjustment. This feature allows the system to provide optimal output brightness in relation to ambient light levels.

The User Interface shall provide viewing and/or programming access for the following:

- Activation Duration
- Flash Pattern
- Radio Channel (Choice of 1 to 14)
- Radio Status
- Night Intensity Setting
- Adjustment for Ambient Daytime Brightness
- Self-Test / BIST (Built-In Self-Test)
- Number of circular beacons attached
- LED Beacon Error (Open or Shorted)
- Battery Status – General description and actual battery voltage
- Day or Night Status
- Solar Panel Voltage
- Automatic Light Control. If this safety feature is enabled, it allows the Circular Beacon System to temporarily reduce the intensity of the beacons to maintain energy equilibrium.
- Daily activations averaged over 90 days
- Pushbutton detection
- Firmware Version number

Activation duration, Night intensity setting and adjustment for ambient daytime brightness shall be automatically broadcast to all RRFBs in the system when changed in one RRFB.

87-7.01A(1) Submittals

The contractor shall provide to the City, a 10-year Maintenance Plan from the manufacturer and associated literature for proper maintenance, operation, and troubleshooting of the RRFB system and associated solar panel equipment.

Replace Section 87-7.04 with:

87-7.04 PAYMENT

The contract unit price per each for the “Rectangular Rapid Flashing Beacon (RRFB) System” shall encompass the complete RRFB system for both ends of the crosswalk. This contract item shall include full compensation for furnishing all labor, materials, tools, equipment and incidentals, and for doing all work necessary to complete the work as shown on the plans and in these provisions, including, but not be limited to, excavation, backfill, RRFB light bars, crosswalk illuminators, electrical communication system, solar system, control cabinet, push button activator, pole, foundation, MUTCD signage, and all incidentals, and no additional compensation will be allowed therefor.

Add to section 87-14.01:

Roadside Sign (Vehicular Speed Feedback Sign) shall be a SPEEDCHECK-15 Vehicular Radar Feedback Sign (VRFS) by Carmanah Technologies, with a 50W solar panel and 36Ah battery or approved equivalent, as shown on the plans. The vehicular radar feedback sign shall detects vehicle speeds and displays real-time feedback to approaching drivers.

Roadside Sign (Vehicular Speed Feedback Sign) shall comply with the specifications outlined in section 87-14.

Add to section 87-14.02A

The VRFS unit at a minimum shall consist of the following:

- Radar Unit: Detects vehicle speeds up to 1,000 feet.
- Sign Face: LED display for vehicle speed and posted speed limit, visible up to 300 feet in all conditions.
- Power Supply: 50W solar panel and 36Ah battery for continuous operation.
- Enclosure: Weatherproof, vandal-resistant housing.
- Solar Panel: Properly mounted to ensure optimal sunlight exposure.

The VRFS unit shall have the capability of remote monitoring and data logging.

Add to section 87-14.03:

The VRFS shall be mounted 7 feet above ground, or as shown in the plans. All mounting hardware and poles shall meet Caltrans Standard Specifications.

Follow Caltrans Section 86 for all wiring and connections.

87-14.03A Testing

The system shall be tested and calibrated to ensure proper speed detection and operation.

87-14.03B Submittals

The contractor shall provide to the City, a 10-year Maintenance Plan from the manufacturer and associated literature for proper maintenance, operation, and troubleshooting of the VRFS system and associated solar panel equipment.

Replace section 87-14.04 with:

87-14.04 PAYMENT

The bid item “Install Roadside Sign (Vehicle Speed Feedback Sign)” will be made per each Vehicular Radar Feedback Sign installed. This contract item shall include full compensation for furnishing all labor, materials, tools, equipment and incidentals, and for doing all work necessary to complete the work as shown on the plans and in these provisions, including, but not be limited to, excavation, backfill, solar system, control cabinet, pole, foundation, MUTCD signage, and all incidentals, and no additional compensation will be allowed therefor.

DIVISION XI MATERIALS

90 CONCRETE

Add to section 90-1.01A:

All concrete shall be air-entrained as this project is located within a freeze-thaw area.

Replace "Reserved" in section 90-1.01C(1) with:

For each load of concrete delivered to the job site, the contractor shall submit quality control records from the concrete supplier identifying air content per California Test 504 or comparable ASTM test method. The concrete supplier shall have an authorized representative on-site during concrete pours to check and/or dose the concrete to ensure air content meets project specifications.

Replace the 4th sentence in the 1st paragraph of section 90-4.01C(3) with:

Allow 15 days for review.

APPENDIX A – CONSTRUCTION FUNDING SIGN

C50B(CA)

NOTES:

1. Provided dimensions are for the 132"x78" sign panel.
   For the 96"x60" sign panel, multiply each horizontal dimension of the 132"x78" sign panel by approximately 0.728 and each vertical dimension by approximately 0.769. Adjust spacing as needed.
   For the 48"x30" sign panel, multiply each horizontal dimension of the 132"x78" sign panel by approximately 0.364 and each vertical dimension by approximately 0.385. Adjust spacing as needed.
2. See Special Provisions for project description and year of completion. Specify when ordering.
3. CT logo and/or Local Agency logo(s) placement and spacing can be adjusted as needed.

ENGLISH UNITS (inches)

A	B
132	78
96	60
48	30

ALTERNATE PROJECT DESCRIPTION (LINE 1)

NEW PAVEMENT
NEW CARPOOL LANE
BRIDGE MAINTENANCE
BRIDGE RESTORATION
NEW BIKING/WALKING PATHS
BROADBAND INSTALLATION
IMPROVED DRAINAGE SYSTEM

COLORS:
LEGEND - BLACK (ARIAL BOLD ITALIC IN HEADER)
BACKGROUND - WHITE AND FLUORESCENT ORANGE
SEE VECTOR GRAPHIC FILES FOR "REBUILDING CA" AND "BIPARTISAN INFRASTRUCTURE LAW" LOGOS
CT LOGO: PANTONE #299 BLUE AND PANTONE #326 TURQUOISE
BE WORK ZONE ALERT RIBBON: PANTONE #299 BLUE AND ORANGE
ALL COLORS TO BE RETROREFLECTIVE, EXCEPT FOR BLACK