STATE OF CALIFORNIA

CITY OF PLACERVILLE

ENGINEERING DEPARTMENT

SPECIAL PROVISIONS

BOOK 2 OF 2

FOR CONSTRUCTION OF

BROADWAY SIDEWALKS PROJECT
PROJECT NO. HSIP 5015 (028)
CIP# 41606

MAY 2023

For use in Connection with California Department of Transportation, Standard Specifications Dated **2018** and Revised Standard Specifications current as of April 16th, 2021, Caltrans Standard Plans Dated **2018** and Revised Standard Plans dated April 16th, 2021, 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

BROADWAY SIDEWALKS PROJECT
PROJECT NO. HSIP 5015 (028)
CIP# 41606

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

_____

Registered Professional Engineer (Civil)

CITY OF PLACERVILLE, CALIFORNIA
ENGINEERING DEPARTMENT

BROADWAY SIDEWALKS PROJECT
PROJECT NO. HSIPL 5015 (028)
CIP# 41606

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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 2018, hereinafter referred to as the Standard Specifications, and the Standard Plans of the Department of Transportation dated 2018 supplemented by the Revised Standard Plans of the Department of Transportation as of April 16th, 2021, 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. Broadway Sidewalks CIP# 41606 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 Broadway Sidewalks CIP# 41606 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 Broadway Sidewalks CIP# 41606 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: 2018 Standard Plans of the State of California, Department of Transportation and the current Revised Standard Plans as of September 1st, 2019.

Standard Specifications: 2018 Standard Specifications of the State of California, Department of Transportation (Caltrans) and the current Revised Standard Specifications as of September 1st, 2019.

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 in a freeze-thaw area.

Add to section 1-1.11:

Web Sites, Addresses, and Telephone Numbers

Reference or agency or department unit	Web site	Address	Telephone no.
Quest CDN	https://www.questcdn.com/	--	-
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

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 McConnell, City of Placerville Engineering Department or email Melissa McConnell mmcconnell@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 McConnell, City of Placerville Division of Engineering or email mmcconnell@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 McConnell, City of Placerville Engineering Department or email mmcconnell@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 McConnell, City of Placerville

Engineering Department or email mmcconnell@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 my grant bid relief under Public Contracts Code § 5100 et seq. Submit any request for bid relief to Melissa McConnell, City of Placerville Engineering Department or email mmcconnell@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.

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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 time. 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 Job Site Management bid item 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. Construction meters require a one-thousand dollars ($1,000) deposit. The monthly rental fee for the construction meter is one-hundred dollars ($100) per month and is billed bimonthly. The usage fee is a tiered rate as shown in the table below.

Water Usage	Price per 100 Cubic Feet
0-4000 cubic feet	$2.94
4001-20,000 cubic feet	$3.52
Over 20,000 cubic feet	$3.81

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 Berger (209) 986-0184
2. AT&T: Darren Mortensen (530) 621-6926
3. Comcast: Gary Abelia (916) 830-6732

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 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 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 to pay special attention to any scheduled events in the Project area. Contractor to coordinate with the Highway 50 Association Wagon Train event (www.hwy50wagontrain.com) and ensure Project area is clean, safe, and available for the scheduled event which occurred in early June in previous years. The Highway 50 Association's contact number is (530) 677-2871.

Contractor shall notify the City, El Dorado Disposal, El Dorado County Fire District, Placerville Police Department, Placerville Downtown Association, El Dorado County Transit Authority, 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 bus and/or transit route or temporary relocation of a bus and/or 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 May 1, 2023. 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.

Add to section 8-1.10B Failure to Complete Work Parts Within Specified Times:

A Liquidated Damages penalty of $500/day will be deducted from payments for each day needed to complete work for each of the stages indicated in section 10-1.02 of these Special Provisions in excess of the indicated number of days. Excess days are counted from the start of removal.

^^

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.

^^

DIVISION II GENERAL CONSTRUCTION

10 GENERAL

Add to the section 10-1.02 WORK SEQUENCING:

Work shall be performed in the following segments within the timeframes indicated unless otherwise approved by the Engineer:

- Stage 1: Construct retaining walls, curb, gutter, sidewalk and driveways from 25+65 to 35+69 left side with maximum of 40 working days from start of removal.
- Stage 2: Construct curb, gutter, sidewalk and driveways from 22+67 to 25+65 left side with maximum of 20 working days from start of removal and after Stage 1.
- Stage 3: Construct water line and storm drain from 29+00 to 36+60 after completion of Stage 1.
- Stage 4: Construct curb, gutter, sidewalk and driveways from 12+40 to 13+65 right side and 29+48 to 32+37 right side after Stage 3 with maximum of 20 working days from start of removal. Construction of curb, gutter, sidewalk and driveways from 12+40 to 13+65 RT (76 Gas Station) to be completed within 15 consecutive working days from start of removal.
- Stage 5: Reconstruct roadway from 29+50 to 32+42 at night after Stage 4.

Contractor does not need to follow the sequence of stages above, but the relationship between stages should be followed.

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 stage to be under active construction at a time.
4. Identify any impacted bicycle or pedestrian traffic flow.
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.
8. Require notice to parcel owners, businesses, and residents ten (10) days in advance when vehicle access is 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 the gas stations at 1312 Broadway (Chevron) and 1178 Broadway (76 Station) 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 construction affecting Chuck's Wellness Center at 1318 Broadway to take place outside of the business's working hours, which are as follows:
    a. 10:00 AM to 6:00 PM on Sundays and Mondays

b. 10:00 AM to 7:30 PM Tuesdays through Saturdays

Access to the parking spaces shall be maintained during business hours.

11. Require construction affecting Shoestring at 1320 Broadway to take place outside of the business's working hours, which are as follows:

    a. 11:00 AM to 6:00 PM on Sundays

    b. Closed Mondays

    c. 11:00 AM to 7:00 PM Tuesdays through Saturdays

    Access to the parking spaces shall be maintained during business hours.

12. Require any lane closures, if needed, to take place between the hours of 8:30 am – 3:00 pm and 8:00 pm – 5:00 am.

13. Require all pavement restoration from station 29+50 – 32+50 to take place at night to minimize interruptions to businesses on both sides of Broadway.

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.

The contractor's bid shall include a per month cost per Portable Changeable Message Sign (PCMS). The Engineer will work with the Contractor to determine the appropriate location, message, and duration of use for each PCMS during construction.

Full road closures will only be allowed during normal working hours, unless otherwise approved by the Engineer. The roadway must be re-opened at the end of each day of construction. Full road closures must be approved a minimum of 15 working days in advance and each approval will only last for a maximum of ten (10) consecutive working days. Full road closure plans shall include a detour plan, a bicycle and pedestrian circulation plan, hours in which the closure will take place, and any other pertinent information.

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 2018 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 the final HMA paving lift and 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.

It is the responsibility of the Contractor to install and coordinate their Traffic Control Plan with other Contractors and utility companies working on the same and/or adjacent roadways so as to avoid delays and conflicts to either project. It is anticipated that the Broadway Maintenance Project, a utility and road rehabilitation project, will be in construction at the same time and within the same limits as the Broadway Sidewalks Project. The Mosquito Road Bridge Project may also be in construction at the same time and the Contractor should expect heavy truck traffic on Broadway as a result. The City's Placerville Station II Park-N-Bus Improvement Project, located at 2990 Mosquito Road, will also be in construction at the same time.

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.

There is no separate bid item for the Portable Changeable Message Signs (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 Contractor shall calculate a per month cost per PCMS and include that within the Traffic Control System bid item. The cost to relocate the sign and/or change the message during the month 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 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 4-ft x 2.5-ft C47A (CA) signs. This includes, but is not limited to, all temporary and semi-permanent construction area signs, up to two 4-ft x 2.5-ft C47A (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 4-ft x 2.5-ft C47A (CA) sign must comply with the details shown on the Department's Traffic Operations website. The upper left logo shall be City of Placerville, lower left logo shall be Caltrans, and lower right logo shall be FHWA. 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 C47A (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, and the local US Post Office 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 Stripes

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 stripes or pavement markings needed as a result of damage by the work activity 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. This area has a higher risk of theft than most areas within the City. The Contractor should expect trespassing within the project and staging areas. The Contractor shall do his best to deter trespassing onto the project and staging areas. 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.

^^

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

^^

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. Additionally, survey crews collected manholes, drain inlets, and dry utility boxes.

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.

Add to section 15-1.03B REMOVE CONCRETE:

The City has discovered a 4” to 12” concrete base layer under existing asphalt within Broadway between station 29+50 and 35+53. In addition to this area, concrete base may also be found within the trench limits for the installation of new water main, from the intersection with Blairs Lane to Station 35+53. The contractor is to remove and dispose of this existing concrete base layer, and backfill and recompact the resulting voids to the level of proposed subgrade as needed for roadway reconstruction and for construction of the new watermain. This work shall be paid under the Remove Concrete Base bid item. Measurement and Payment shall be by cubic yards of concrete removed and shall include but not be limited to, equipment, labor materials, and incidentals to excavate and dispose of an existing section of concrete roadway base layer that is between 4 and 12 inches thick, and backfill the resulting voids as needed. The quantity shown on the Bid Schedule is an estimated volume and payment will be made per the actual number of cubic yards of concrete base removed for the roadway reconstruction in front of 1312 and 1318 Broadway and for the construction of the new watermain. The City will not allow unit price fluctuations if the quantity of Remove Concrete Base changes.

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 planing 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. 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.

Replace section 15-1.03E with:

15-1.03E Remove Abandoned Water Appurtenances

Existing water meters indicated on the Project Plans for removal are to be disconnected from the existing water main by closing the service at the corp stop and then the service line is to be capped as close to the corp stop as possible. If there is no corp stop on the service, the adapter is to be removed and a brass plug is to be installed in the service saddle. Once plugged, the remaining service line piping and existing water meter is to be removed and disposed of.

Existing abandoned fire hydrant indicated on the Project Plans for removal is to be removed by cutting existing hydrant lead on the water main side of the valve, removal of the valve, hydrant bury, riser, and any other spool(s) or pipe 24 inches below grade. Existing adjacent bollard shall also be removed.

Replace section 15-1.03F with:

15-1.03F Relocate Utilities

Existing water appurtenances indicated on the Project Plans for relocation are to be isolated from the water system and relocated to the new location the same working day it is removed. The items to be relocated shall be cleaned of all earth and other foreign materials. Water appurtenance components that are to be relocated and which are damaged as a result of the Contractor's operations shall be repaired by the Contractor at his expense. Lateral water line shall be extended to the necessary length to locate the appurtenance at the location shown on the plans.

Contractor is to coordinate with property owner prior to working on the existing irrigation boxes indicated on the Project Plans for relocation to shut off the water supply to the irrigation box. Once isolated from the existing water system, the irrigation box to be disconnected, relocated and reconnected to the existing irrigation system in a manner similar to or better than the original condition.

Added section 15-1.03G:

15-1.03G Connection and Abandonment Plan (Shut Down Plan)

The Contractor shall prepare a Connection and Abandonment Plan (Shut Down Plan) for City approval. The plan shall show how and where the Contractor will make all tie-ins, abandonments, and shut-downs. All existing pipelines, fire hydrants, air/vacuum release valves, and services shall remain active during construction of the new water system. The Contractor is responsible to review each tie-in and abandonment location to determine the material, labor, and equipment requirements for each tie-in and abandonment. The Contractor is responsible for determining and obtaining approval from the City Engineer for the tie-in, abandonment, and outage sequencing; and includes all costs in their bid for any temporary and permanent facilities necessary to execute the plan. The Contractor shall provide the City a schedule of the proposed work and coordinate with the City on all water system outages. The Contractor is responsible for developing shut down notices (subject to review and approval by the City) which will be delivered to customers affected by the outage. The shutdown notices must be capable of being attached to the door and are not allowed to be placed under the doormat. The Contractor is responsible for delivering the shutdown notices to the City customers no less than 72 working hours before the anticipated shutdown date, with confirmed delivery by the inspector.

The Connection and Abandonment Plan shall include the following items:

- Sequence of connections and outages
- Duration of each outage – note that max outage shall be 8 hours
- Valves isolated for each outage – City will provide approval within 72 hours for existing system upon request from contractor
- Extent of outages and customers affected by each outage – City will provide approval within 72 hours from request by contractor
- Shut down notices to deliver to customers affected by each outage
- Anticipated dates of outages and connections
- Anticipated dates for testing and disinfecting

- Dewatering and flushing locations for each outage
- Handling and disposal of dewatered and flushed potable water
- Sampling locations for testing – City will provide required number of samples within 72 hours from request by contractor. Sampling locations will be provided to contractor/testing lab the day of sampling
- Sequence of abandonments after new system is constructed, tested, and tied in.

The Connection and Abandonment Plan shall be developed under the following work restrictions and requirements:

- The plan shall be submitted to the City for review and approval a minimum of one week prior to the requested shutdown or connection to the existing system.
- The City will not allow water shutdowns of the water system on Fridays, weekends, holidays, or the day preceding holidays.
- The City will not allow planned consecutive days of water shut-downs.
- The City will not allow water shutdowns if the outdoor temperature is forecasted to be equal to or greater than 100 degrees F.
- The earliest time a shutdown will occur is 8:30 AM.
- A minimum 24 hours prior to outages, the Contractor shall take all necessary measurements and lay out all pipe material and fixtures required for the connection to existing water pipe to ensure interruption to customers is as short as possible.
- The Contractor shall notify the City Inspector 24 hours prior to measurement and lay out for inspection of all materials required for the connection to existing water pipe. Failure to notify the City Inspector 24 hours in advance and/or failure to ensure all materials required for the connection be present onsite will result in rescheduling the planned outage at The Contractor's own expense.

Replace paragraph in 15-1.04 with:

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

The payment quantity for the Remove Parking Bumper and Remove and Relocate Parking Bumper bid items is the number of parking bumpers removed and removed and relocated respectively.

Utilities adjusted to grade shall be paid under the various bid items for Adjust Utility to Grade 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.

Additional payment will not be made for preparation of Connection and Abandonment Plan (Shut Down Plan). Connection and Abandonment Plan (Shut Down Plan) is incidental to other items of work and no additional compensation will be allowed therefore.

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.

Relocate Irrigation Box bid items shall be paid on a per unit basis and measurement shall be based on the actual count of items relocated. The contract unit price is paid for each, and Relocate Irrigation Box items

shall include full compensation for all labor, materials, tools, equipment and incidentals, and for doing all the work involved, complete and in place as directed by the City Engineer, and no additional compensation will be allowed.

Remove Abandoned Fire Hydrant bid item shall be paid on a per unit basis and measurement shall be based on the actual count of items removed. The contract unit price paid for each Remove Abandoned Fire Hydrant items shall include full compensation for all labor, materials, tools, equipment and incidentals, and for doing all the work involved, complete and in place as directed by the City Engineer, and no additional compensation will be allowed.

Relocate Pedestrian Push Button Sign bid item shall be paid on a per unit basis and measurement shall be based on the actual count of relocated poles. The contract unit price is paid for each, and Relocate Pedestrian Push Button Sign item shall include full compensation for all labor, materials, tools, equipment and incidentals, and for doing all the work involved, complete and in place as directed by the City Engineer, and no additional compensation will be allowed.

^^

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.

^^

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 19-2.04 with:

Excavation, embankment, and export required for other bid items shall be included in those bid items.

Replace paragraphs in section 19-3.04 with:

There is no separate bid item for structure excavation and backfill, but all structure excavation and backfill must still meet the requirements of Section 19-3.

Structure excavation and backfill required for retaining walls shall be paid for under the Retaining Wall bid item and no additional compensation will be allowed therefore.

^^

20 LANDSCAPE

Add to section 20-1.01A:

At the locations shown on the Project Plans along 1351 Broadway, Contractor is to install landscaping that matches the adjacent, existing landscaping if the construction of the proposed sidewalk disturbs the existing landscaping. No additional plants shall be installed; only minor fill dirt and bark or mulch to match adjacent existing landscaping is to be installed. 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:

There is no separate bid item for landscaping. Any materials, tools, equipment and labor needed to install the minor landscaping is included in the Minor Concrete (Sdewalk) bid item and no additional compensation shall be made therefore.

^^

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 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 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.

Replace section 39-2.01D with:

39-2.01D Payment
Payment for tack coat is included in the payment for hot mix asphalt (HMA).

Type A HMA for the roadway shall be paid for under the Type A HMA bid item. The payment quantity for Type A 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 Type A 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 Type A HMA outside of the limits determined by the Engineer. No additional payment will be made for Type A 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.

Replace section 39-2.02B(3) with:

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

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

Aggregate used in HMA Type A 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 you do not complete placing the HMA surfacing before opening the area to traffic, you 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(3):

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 item. The payment quantity for the Cold Plane bid item is the area (regardless of depth) 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.

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. Any concrete found buried underneath the existing roadway asphalt surface within Broadway needing to be removed for reconstruction of the road and installation of new watermain shall be paid by separate bid item, Remove Concrete Base. See section 15 for specifications regarding Remove Concrete Base.

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.

^^

DIVISION VI STRUCTURES

47 EARTH RETAINING SYSTEMS

Add to section 47-5.02:

The brick facing for retaining walls shall resemble the existing brick walls as closely as possible (not the existing rockery wall). Construct the facing using a product similar to the facing presented in Appendix. The Contractor shall construct a test panel for review and approval by the Engineer prior to construction.

Add to section 47-5.04:

The payment quantity for the Retaining Wall bid item is per cubic yard of concrete required per the dimensions shown on the Project Plans and Caltrans Standard Plan B3-7B. The Retaining Wall bid item shall include all tools, equipment, materials, and labor necessary to construct Retaining Wall including, but not limited to, excavation, structural backfill, placing and compacting pervious backfill as shown in the details in the Project Plans, structural steel, structural concrete, precast concrete panels, timber lagging, reinforcing bars, installing the drainage system behind the wall, material and labor required to construct brick facing per the details shown in the Appendix of these Special Provisions, restoration of surfaces and landscaping to match existing conditions on the property-owners side of the wall including the removal and re-setting of existing fence posts, and all other incidental work for constructing Retaining Wall. Progress payments shall be made based on the percent of work complete as approved by the Engineer.

The payment quantity for the Minor Concrete (Wall Type C) bid item is per linear foot required per the dimensions shown on the Project Plans. Minor Concrete (Wall Type C) bid item shall include all tools, equipment, materials, and labor necessary to construct Minor Concrete (Wall Type C) including, but not limited to, sawcutting, excavation, structural backfill, placing and compacting pervious backfill, structural steel, structural concrete, reinforcing bars, and all other incidental work for constructing Minor Concrete (Wall Type C).

51 CONCRETE STRUCTURES

Add to section 51-7.01B:

Under sidewalk drains shall include 4”x4” woven wire mesh and 3”x5” Alhambra A-470 or approved equal rectangular cast iron pipe.

Add to section 51-7.01C:

Under sidewalk drains shall be constructed in accordance with the Project Plans.

Replace paragraphs in section 51-7.01D with:

Under Sidewalk Drain shall be constructed per the Project Plans, Special Provisions, and Standard Specifications. The payment quantity for the Under Sidewalk Drain bid item is the number of drains constructed, regardless of length.

Payment for the 60" SDMH and Type B DI bid items includes all items associated with installing the storm drain manholes and 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 60" SDMH, 48" SDMH, and Type B DI. The payment quantity for 60" SDMH is based on the number of manholes installed. The Payment quantity for the Type B DI 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.

^^

57 WOOD AND PLASTING LUMBER STRUCTURES

Add to section 57-2.05:

Wood retaining wall is to be constructed at location and per the detail indicated on the Project Plans. Contractor is to coordinate with PG&E's contractor for sequencing of this work as they will be adjusting the existing transformer in this location to grade.

The payment quantity for Retaining Wall (Wood) bid item is paid for by the exposed square foot face of retaining wall installed as measured in the field. Unit price includes all tools, equipment, materials, and labor necessary to construct Retaining Wall (Wood) including, but not limited to, excavation, structural backfill, placing and compacting pervious backfill, timbers, miscellaneous hardware, posts and footings per the detail indicated on the Project Plans.

^^

60 EXISTING STRUCTURES

Replace last paragraph in section 60-2.01C with:

Footings shall be completely removed and material backfilled to fill the void, where applicable, with wall removal activities.

Replace paragraph in section 60-2.01D with:

The payment quantity for Remove Walls at 1277 and 1283 Broadway bid item is paid for by lump sum.

^^

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 pipes shall be paid under the various bid items for HDPE Pipe delineated by pipe size. The payment quantity for the HDPE 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 Pipe bid items include all equipment, tools, materials, and labor to install HDPE pipes including, but not limited to, 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

Replace paragraph in section 70-5.05D:

Drainage inlet markers shall be 4” stainless steel medallions installed per manufacturers specifications at locations indicated on the Project Plans and shall be paid for under the DI Marker bid item. The payment quantity for DI Marker bid item is the actual number of drainage inlet markers installed.

^^

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.

Add to section 71-2.04:

The payment quantity for the Remove Under Sidewalk Drain bid item is the number of drains removed, regardless of length.

^^

DIVISION VIII MISCELLANEOUS CONSTRUCTION

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 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 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 Armor Tile Brick Red (Federal Color No. 22144) 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 types shown on the Bid Item List. 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 and stairs shall be paid under the appropriate Minor Concrete types shown on the Bid Item List. 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 stairs including, but not limited to, concrete, reinforcing bars (if necessary), and all other incidental work for constructing the minor concrete sidewalks, driveways and stairs. The Minor Concrete (Sidewalks) bid item shall also include all tools, equipment, materials, and labor necessary to restore the landscaping affected at the locations shown on the Project Plans along 1351 Broadway. Contractor is to install landscaping that matches the adjacent, existing landscaping if the construction of the proposed sidewalk disturbs the existing landscaping. No additional plants shall be installed; only minor fill dirt and bark or mulch to match adjacent existing landscaping is to be installed.

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.

Add section 73-5 Parking Bumper:

Section 73-5 includes specifications for performing work to install Parking Bumpers at locations indicated on the Project Plans.

Contractor to submit shop drawings of parking bumpers, including installation details and attachment details to at-grade asphalt pavement for approval.

Parking bumpers shall be precast, 3.5% minimum air-entrained concrete; 4000 psi minimum compressive strength. Each stop shall be reinforced with two No. 4 deformed steel reinforcing bars, minimum. Provide chamfered corners and provide holes for dowel-anchoring to substrate. Unless indicated otherwise, provide stops of half octagonal configuration and 36- inch length. Provide adhesive for anchoring the bumpers to existing parking lot pavement. Epoxy adhesive manufactured for the purpose, similar and equal to the adhesives specified in Caltrans Standard Specifications, Section 95-2.04 or 95-2.05. Adhesive for bonding dowels to parking bumpers shall be proposed by Contractor and approved by the Engineer. Steel Bars for anchoring shall be galvanized 5/8” diameter steel dowels or galvanized No. 5 steel reinforcing bars.

Parking Bumpers are to be securely attached into at-grade asphalt pavement with not less than two galvanized steel dowels embedded in holes cast into the bumpers. Firmly bond each dowel to wheel stop and to pavement.

The payment quantity for the Parking Bumper bid item is the number of parking bumpers installed per the Project Plans. Each location is considered a measurement of one (1). Parking Bumper bid item includes all tools, equipment, materials, and labor necessary to install the parking bumper including, but not limited to, drilling for the steel anchor bars, furnishing and installing the parking bumper, anchor bars, and epoxy.

^^

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.

^^

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 and PVC pipe and removal and replacement of water services.

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.

77-2 TAPPING VALVES AND SLEEVES

77-2.01 GENERAL

77-2.01A Summary

This section governs materials and installation of tapping valves and sleeves. Valves shall be furnished and installed by the Contractor at the locations shown on the Approved Plans, or as required by the Engineer.

77-2.01B Submittals

Prior to the purchase of tapping valves and sleeves to be used in the City's system, the following items shall be submitted to and approved by the Engineer:

1. Manufacturer's catalog data and detail construction sheets showing the size to be used, valve and sleeve dimensions, pressure rating and materials of construction.
2. Manufacturer's catalog data and NSF certification seal on the lining to be used.

77-2.02 MATERIALS

77-2.02A Tapping Valves

Tapping valves shall be of the double disc or resilient seat type conforming to all requirements for gate valves in Section 77-4. Valves shall be furnished with a flanged end with centering ring on the tapping sleeve side. The outlet side of valve shall have a mechanical joint, except as otherwise approved. Seat rings shall be oversized to permit the use of full-size cutters.

77-2.02B Tapping Sleeves

Sleeves shall be 304 stainless steel or cast iron conforming to ASTM-A-126 Class B. Bolts, nuts, and washers shall be type 304 Stainless Steel. Gaskets shall be Buna-N rubber at each end of the sleeve. Sleeves shall have a ¾-inch NPT plug for air test.

77-2.02C Coating and Linings

Valves shall be coated and lined per Section 77-4. Cast iron sleeves shall be coated with two coats of asphalt varnish conforming to AWWA C504, except for face of flanges, bolts and nuts. Face of flanges shall be shop coated with a rust preventive compound.

77-2.03 CONSTRUCTION

77-2.03A Installation

Surface preparation, sleeve placement, and connection of valve shall be in accordance with manufacturer's recommendations. Method of installation may vary depending on type of pipe being tapped.

77-2.03B Testing

Valve and sleeve shall be air tested prior to pipe cutting. Valve and sleeve shall sustain an air pressure of 30 psi for 5 minutes. After acceptance of the air test the pipe can be tapped.

77-2.03C Tapping

Tapping shall only be done in the presence of the Inspector. The tapping mechanism shall be of the self-purging type so that cutting chips are removed from the tapping machine and do not enter the pipeline.

77-2.03D Size

The diameter of the tap shall be less than the diameter of the main being tapped.

77-2.04 PAYMENT

The tapping of valves and sleeves is considered incidental to other items of work and no additional compensation will be allowed therefore.

77-3 WATER SERVICE LINES AND APPURTENANCES

77-3.01 GENERAL

77-3.01A Summary

This section governs materials and installation of service line materials and fittings.

77-3.01B Submittals

Prior to the purchase of the material to be used in the City's system, the manufacturer's catalog data showing model, part number, pressure ratings, and materials of construction shall be submitted to and approved by the Engineer.

77-3.02 MATERIALS

77-3.02A Service Line Materials and Fittings

77-3.02A(1) General

Service line materials and fittings include service line pipe, service saddles, service fittings, meter stops, corporation stops, curb stops, and ball valves.

77-3.02A(2) Polyethylene Tubing (PE)

PE tubing shall be in accordance with AWWA C901 and correspond to iron pipe size (IPS). The tubing shall be marked with the following:

1. Nominal size,
2. Material code; i.e., PE 3406,
3. The word "Tubing" and dimension ratio,
4. AWWA pressure class; i.e., PC 160
5. AWWA designation AWWA C901,
6. Manufacturer's name or trademark,
7. Seal of testing agency.

The polyethylene material shall be type "3408" conforming to ASTM D3350. The pressure class shall be a minimum of 200 psi.

Stainless steel liners or inserts shall be used with PE tubing when compression type connections are specified or shown.

77-3.02A(3) Fittings

Fittings including PE tubing couplings, bends, unions, and adapters shall be constructed of bronze and shall be designed to join to IPS polyethylene tubing using a "stab type" connection (Mueller or approved equal) in ¾-inch and 1-inch sizes and compression type connections in 1½-inch and 2-inch sizes. Fittings shall also have male or female iron pipe-size-threaded ends and/or meter coupling nut or meter flange as required.

77-3.03 CONSTRUCTION

77-3.03A Polyethylene Tubing

Tubing and fittings should be stored in a way that prevents damage due to crushing or piercing, excessive heat, harmful chemicals, or exposure to sunlight for prolonged periods. The manufacturer's recommendations regarding storage should be followed.

Handling operations and trench installation and backfill shall be performed with reasonable care to prevent scratches, nicks, and gouges in the conduit.

Pipe excessively cut or kinked shall not be used.

Bends in PE tubing shall not occur closer than 10 diameters from any fitting or valve. The minimum radius of curvature is 30 diameters or the coil radius when bending with the coil. Bending of coiled tubing against the coil shall not go beyond straight. Polyethylene tubing that becomes kinked during handling or installation shall not be used, and care should be taken to ensure that kinking does not develop after installation. Service line from the main line tap to the angle meter stop shall be one continuous length of tubing.

PE tubing shall be installed in trench bottoms with 6-inches of bedding material to provide continuous and uniform support. The initial backfill shall be 6 inches above the tubing and shall be materials free from rock, stones, and debris.

77-3.03B Fittings

Installation of fittings shall be as recommended by the manufacturer. Pipe or fittings made of nonferrous metals (bronze) shall be isolated from ferrous metals with insulating unions or couplings.

77-3.03D Hydrostatic Testing

The Contractor shall hydrostatic test all appurtenances in place with the pipe being tested.

77-3.04 PAYMENT

Measurement and payment for the Remove and Replace Water Service Line bid item shall be full compensation by each, as shown on the Project Plans. Work shall include all work required to hot tap the service (if necessary) and installation of new service line, water meter, traffic rated meter boxes and lids, and any work incidental to removing and replacing the water services as shown on the Project Plans.

The new water meter, meter boxes, and lids shall be provided by the City for this work. All other materials shall be supplied by the Contractor.

The Contractor shall be responsible for examining all specified properties to determine all labor, materials, and equipment necessary to install a new 1-inch polyethylene water service; removing existing 1-inch meter, meter box and service line; and complete the installation of the new meter, and meter boxes as specified in the project plans. This includes, but not limited to, furnishing valve(s), service saddle, corp stop, curb stop, pipe, fittings, couplings, excavation, drain rock, backfill and compaction, furnishing and installing new in-tract line, tie-in to existing in-tract line, temporary and permanent surface restoration and all other incidentals necessary to complete the item. No additional compensation will be made if wet connections are required.

The Contractor shall include in their bid price the removal and replacement of up to 10-feet of additional in-tract pipe past the new meter box. Connection to the existing in-tract pipe shall be made at the City agreed upon location; additional pipe replacement past the 10-feet will be paid under force account.

Contractor shall place new meter per the locations shown on the project plans or coordinate new meter placement with City inspector prior to excavation.

77-4 WATER MAIN CONSTRUCTION

77-4.01 GENERAL

77-4.01A Summary

This section governs materials and installation of PVC water main line materials and fittings; including laying, jointing, bedding, testing and approvals. All incidentals and appurtenant operations necessary for the

construction of pipelines shall be done in strict accordance with the drawings and other terms and conditions of the contract.

The contractor shall also furnish all equipment, tools, labor and materials required to rearrange sewers, conduits, ducts, pipes, or other structures as may be necessary to provide installation as shown and specified.

All standard specifications, i.e., ASTM, etc., made a portion of these specifications by reference shall be the latest edition and revision thereof.

The contractor shall be responsible for all material furnished by him and shall replace it at his own expense, should the material be defective in manufacture or damaged in handling after delivery by the manufacturer. This shall include the furnishing of all material and labor required to replace defective material discovered prior to final acceptance of the work.

Pipe surfaces shall be free from nicks, scratches and other blemishes. The joining surfaces of pipe spigots and of integral bell and sleeve reinforced bell sockets shall be free from gouges or other imperfections that might cause leakage.

77-4.01A(1) Connection to Existing System

Includes all tools, equipment, materials, and labor necessary to connect the proposed water system to the existing water system and abandon the existing mainline, including but not limited to coordination with the City; temporary shut-down of the water system where required; development of groundwater and pipeline dewatering; potholing, removal and disposal of the existing pipe as needed to make the connection; sawcutting, excavation, spoiling, shoring, temporary plating, bedding, placement, couplings, bends, thrust blocking, restraints, backfill, compaction of backfill, temporary surface pavement, temporary and permanent surface pavement, concrete restoration, landscaping restoration, and striping required that is above and beyond what is needed to install the new waterline; cutting the existing pipe; removing portions of the existing pipe; safely and properly disposing of removed pipe; concrete caps; fittings required for the abandonment and connection; and all incidental work in the Connect to Existing Water System bid item. This item includes the removal and disposal of up to 20 linear feet of existing water pipe per connection location.

Connect to Existing Water System includes all labor, equipment, materials, preparation of a Connection and Abandonment Plan and coordination necessary to complete the mainline connections, abandonments, and outages. The proposed water system is to be isolated from the existing City system until pressure testing and bacteriological sampling has passed. The Contractor shall designate the method and sequence of connecting to existing mains for the City Engineer's approval to minimize contamination danger. Connections to existing facilities shall not be made prior to obtaining satisfactory tests required by these Special Provisions.

All demolished materials shall be removed from the Site and disposed of by the Contractor. The Contractor shall exercise extreme care and meet all safety requirements of OSHA when working, handling, removing, and disposing asbestos cement pipe. The Contractor shall be solely responsible for all injuries, damages, or liabilities of any kind, caused by working, removing, and handling of such material or equipment.

The Contractor shall provide the City a schedule of the proposed work and coordinate with the City on all water system outages. The Contractor shall determine the extents of the outages and the effected parcel required during connections to the existing system and service switch-overs.

The Contractor will be responsible for notifying the City and property owners 72 hours prior to any shut-down planned to occur to change over services to the new line or to connect to the existing system. Manipulation of existing valves shall only be done by the City utility personnel.

Transition coupling shall be installed when connecting the new water pipe to the existing pipe.

77-4.01B Storage and Care

The Contractor shall be responsible for the safe storage of material until it has been incorporated into the completed project. The interior of all pipe and fittings shall covered or capped to be kept free from dirt and foreign matter at all times

.

Pipe shall be stored at the job site in unit packages provided by the manufacturer. Caution shall be exercised to avoid compression, damage or deformation to bell ends of the pipe. If pipe is to be exposed to direct sunlight for more than 14 days, pipe must be covered with an opaque material while permitting adequate air circulation above and around the pipe to prevent excessive heat accumulation. Gaskets shall be protected from excessive exposure to heat, direct sunlight, ozone, oil and grease.

77-4.01B Submittals

Submittals shall be provided for the following items plus all additional items required in the specifications for the particular type of pipe:

1. Pipe and jointing material
2. Fittings
3. Specialties

77-4.02 MATERIALS

77-4.02A Main Line Materials and Fittings

77-4.02A(1) General

Water main line materials shall be PVC pipe conforming to AWWA C-900, Class 235 (DR-18), or Class 305 (DR-14) as specified in the plans, and shall have the same outside diameter (O.D.) as that of cast iron pipe (C.I.P.O.D.) in the sizes furnished.

a. Markings - Each standard or random length of pipe shall be clearly marked with the following:

    i. Nominal size and O.D. base; i.e., 6 inch PVC pipe size
    ii. Material code "PVC 1120"
    iii. Dimensional ratio; i.e., DR 18 where DR is equal to thickness "divided by" diameter
    iv. AWWA pressure class; i.e., PC 150
    v. AWWA designation "AWWA C-900"
    vi. Manufacturer's trade name and production record code
    vii. Seal (mark) of testing agency

b. Pressure Class - PVC C-900, Class 235 (DR-18), or Class 305 (DR-14), as specified in the Project Plans, will be installed for typical pipe installation.

c. Laying Length - The standard laying length shall be 20 feet (plus or minus 1 inch) in all classes. A maximum of 15 percent may be furnished in random lengths of not less than 10 feet each.

d. Joint Type - Pipe joints shall be made using an integral bell with an elastomeric gasket push-on type joint or using machined couplings of a sleeve type with rubber ring gaskets and machined pipe ends to form a push-on type joint.

    Solvent cement joints are strictly prohibited.

    One coupling complete with one gasket each shall be factory assembled to each length of standard length pipe furnished. The companion gasket for each coupling will be packaged separately for shipment. Couplings shall be the same class as the pipe. Manufacturer shall furnish gasket lubricant for each quantity of pipe furnished. When additional couplings are furnished as separate items, two gaskets shall be furnished and installed in the gasket recess of each coupling.

        i. Couplings - Where couplings are used, they shall meet the requirements of AWWA C-900. Couplings shall be as furnished by the manufacturer. Couplings shall be marked with same information as the pipe.

e. Physical Test Requirements - Hydrostatic burst and sustained pressure and crushing tests shall be conducted at the factory in accordance with AWWA C-900. All testing shall be subject to inspection by the District. If required, the manufacturer shall supply a letter of certification attesting to their pipe meeting these specifications.

f. Locating Wire - Locating wire shall be single strand, 10-gauge copper wire, with solid thermoplastic insulation.

g. Warning Tape - Warning tape shall be 2-inch-wide non-metallic tape marked "waterline."

77-4.02A(2) Fittings

a. Ductile Iron Fittings – All fittings 11-1/4 degrees and greater shall be ductile iron per this specification unless otherwise noted on the contract plans
b. All fittings shall be rated equally to the class of pipe. End connections may be push-on, mechanical, or flanged joints except where specifically shown otherwise on the plans or Standard Drawings.
c. All fittings shall be restrained and require thrust blocking per this specification.
d. Ductile Iron Mechanical Joint Sleeve - Mechanical Joint sleeves shall be allowed for vertical angles equal to or less than 1 1/2 degrees. Fitting angle shall be as specified on the plans or as necessary to achieve the desired minimum cover based on field conditions.
e. Ductile Iron High Deflection Coupling - High deflection couplings shall be allowed for horizontal angles equal to or less than 1/2 the manufacturers recommendation. Fitting angle is specified on the plans equal to or less than 5 degrees.
f. Ductile iron compact fittings, per AWWA C153, are allowed.
    i. Flanges, Bolts and Gaskets - Flanges shall be flat-faced and meet either the requirements of AWWA C-207 for steel hub type flange fittings, or AWWA C-110 Section 10-18 for ductile iron fittings. The flanges shall be marked with the size, name or trademark of the manufacturer and with the AWWA Class; i.e., "E", or pressure rating.
    Bolts and nuts shall be cadmium plated, A307, Grade B of domestic origin. Cadmium plating shall conform to Federal Specification QQ-P-415-1956, Type 1, Class 1.

    Gaskets shall be 1/8-inch thick and be of the full face self centered cloth impregnated type. The following table shows the bolt pattern for ASME/ANSI 16.1 Class 125 cast iron flange. This pattern is rated at 275 psi for Class E steel pipe flanges and 250 psi for ductile iron pipe fittings.

Bolt Hole			
Pipe Size	Diameter (Inches)	Bolt Diameter & Length (Inches)	Number of Bolts
6"	7/8	¾ x 3½	8
8"	7/8	¾ x 3½	8
10"	1	7/8 x 4	12
12"	1	7/8 x 4	12
14"	1 1/8	1 x 4½	12
16"	1 1/8	1 x 4½	16
18"	1¼	1 1/8 x 5	16
20"	1¼	1 1/8 x 5½	20

    The contractor shall uniformly tighten the bolts and prevent bending or torsional strains. Proper anchorage shall be provided.

    ii. Mechanical Joint Fittings - The mechanical joints shall meet AWWA C111. That standard covers the joint as well as gaskets and bolts.

T-bolts and nuts shall be manufactured of corrosion-resistant high- strength low-alloy Cor-Ten steel or equal. Number and length of bolts shall be as follows:

Pipe Size	Number of Bolts	Bolt Diameter & Length (Inches)
6"	6	¾ x 3½
8"	6	¾ x 4
10"	8	¾ x 4
12"	8	¾ x 4
14"	10	¾ x 4
16"	12	¾ x 4½
18"	12	¾ x 4½
20"	16	¾ x 4½

3. Coatings and Linings – All fittings shall be bituminous lined and coating per AWWA C110. Threaded holes and mating surfaces shall not be coated. Flange faces shall be coated with asphaltic varnish only. There shall be no coating materials or mortar in gasket grooves.
4. Mechanical Couplings - Couplings include transition couplings, flanged coupling adapters, flexible and insulated couplings.
    a. Coupling Sleeves and Flanges - Coupling sleeves and flanges may be of gray iron or carbon steel.
    b. Bolts and Nuts for Flanges - Bolts and nuts for buried and submerged flanges, flanges in underground vaults and structures, and flanges located outdoors above ground shall be cadmium plated, A307, Grade B. Provide one washer for each nut. Each washer shall be of the same material as the nut.

77-4.02A(3) Transition Coupling

The following governs the furnishing and installation of transition couplings. Transition couplings shall be Romac 501, Smith-Blair Omni 441, Rockwell 433, or Ford FC1.

77-4.02A(4) Flexible Coupling

The following governs the furnishing and installation of flexible couplings. Flexible couplings shall be APAC, Baker 200 series, JCM, Rockwell 400 series or Romac.

77-4.02A(4) Flanged Coupling Adaptors

The following governs the furnishing and installation of flange coupling adapters. Flanged coupling adapters shall be Romac FC400 Series, APAC, Baker, JCM, or Rockwell equal. Pipe restraining systems shall be Romac 600 Series, APAC, Baker, JCM, or Rockwell equal.

77-4.02A(5) Joint Restraint

For bends less than 45 degrees, restrained pipe joints shall be installed per manufacturer's recommendations and conform to requirements in the EID Technical Specifications Section 33 11 13. Restrained joints shall be installed at no extra cost to the City. Custom PVC fittings per this specification shall be restrained using an EBAA Series 2500 joint restraint or approved equal.

Restrained length shall be as required per manufacturer's recommendations and shall be a minimum of 18-feet of restrained pipe into the fitting from all directions.

77-4.02A(6) Thrust Blocking
Thrust blocks shall be installed at all tees, bends (45 degrees or greater), and dead ends, even if they are not shown on the plans. Thrust blocks shall conform to the requirements of these Special Provisions and EID Technical Specifications Section 33 11 13, EID Design and Construction Standards and EID Standard Drawing W11 and W11A. Thrust blocks shall be installed at no extra cost to the City.

77-4.02B Execution
77-4.02B(1) Handling and Transportation
Handling and transportation of pipe shall be in accordance with the pipe manufacturer's published instructions. Heavy canvas, or nylon slings of suitable strength shall be used for lifting and supporting materials. Chains or cables shall not be used. Pipe and fittings shall not be stored on rocks or gravel, or other hard material which might damage the pipe. All rubber gaskets shall be stored in a cool, well-ventilated place and should not be exposed to the direct rays of the sun. Gaskets shall not be allowed in contact with oils, fuels, petroleum, or solvents.

77-4.02B(2) Pipe Laying

Pipe shall be laid in accordance with the pipe manufacturer's published instructions, as complimented and modified herein and in the plans.
1. Cleanliness - The interior of pipes shall be clean of foreign materials before sections of pipe are installed and shall be protected to prevent entry of foreign materials after installation.
Open ends of installed pipe shall be sealed with watertight plugs or other approved means at times when pipe installation is not in progress.

Ground water shall not be allowed to enter the pipe.

2. Inspection Before Installation - All pipe and fittings shall be carefully examined for cracks and other defects just prior to installation. Spigot ends shall be examined with particular care as this area is the most vulnerable to damage from handling.
Defective pipe or fittings shall be laid aside for inspection by the City, who will prescribe corrective repairs or rejection.

3. Lowering of Pipe Material into Trench - Proper implements, tools, and equipment, satisfactory to the City, shall be provided and used by the Contractor, for the safe and convenient performance of the work. All pipe, fittings, valves, and hydrants shall be carefully lowered into the trench piece by piece in such a manner as to prevent damage to the water main materials and protective coatings and linings.
Under no circumstances shall water main materials be dropped or dumped into the trench. If damage occurs to any pipe, fittings, valves, hydrants or water main accessories in handling, the damage shall be immediately brought to the City's attention.

4. Laying of Pipe - Pipe shall be laid in trenches to the line and grade indicated on the plans and as specified.

Every precaution shall be taken to prevent foreign material from entering the pipe while it is being placed in the trench. If the pipe laying crew cannot install the pipe into the trench without getting earth into it, the City Inspector may require a heavy tightly-woven-canvas bag of suitable size, or plastic caps to be placed over each end of the pipe prior to installation and left there until the connection is made to the adjacent pipe.
During laying operations, no debris, tools, clothing or other material shall be placed in the pipe.

As each length of pipe is placed in the trench, the spigot end shall be centered in the bell or coupling, and the pipe forced home and brought to correct line and grade. The pipe shall be secured in place with approved backfill material tamped under it, except at the bells or couplings. Precautions shall be taken to prevent dirt from entering the joint space.
Joints shall be assembled in accordance with the manufacturer's instructions.
Each joint shall be checked with a feeler gauge to assure proper seating of the gasket.

5. Cutting of Pipe - Field cuts and connections shall be in accordance with the pipe manufacturer's published instructions.

The cutting of pipe for inserting valves, fittings, or closure pieces shall be done in a neat and workmanlike manner without damage to the pipe so as to leave a smooth end at right angles to the axis of the pipe. The pipe shall be marked around its entire circumference prior to cutting to assure a square cut. A factory finished beveled end shall be used as a guide for proper bevel angle (15deg) and depth of bevel plus the distance to the insertion reference mark. The end shall be beveled using a PVC pipe beveling tool. Round off any sharp edges on the leading edge of the bevel with a pocket knife or a file.

When installing 8, 10 and 12-inch PVC pipe, mechanical joint or push-on type fittings designed for ductile iron pipe shall be used. When connecting PVC pipe into the bell end of cast iron pipe or into push-on type fittings, the end should be rebeveled, similar to the bevel on ductile iron pipe. When connecting to mechanical joint fittings, the end of the PVC pipe should not be beveled.

6. Allowable Deflection - The maximum allowable angular deflection at each joint shall be zero (0) degrees in any direction. Twelve (12) inch PVC pipe can be joined with high-deflection couplings shall not exceed 5-degree total deflection per coupling The pipe shall not be deflected at the joints to a lesser radius than the minimum shown below:

Size, Inches	Minimum Radius of Curvature, Ft.
6	200
8	250
12	Fitting Required

7. Locating wire and warning tape shall be placed on top of pipe zone backfill centered over pipe as shown on the Plans.

77-4.02B(3) Fittings

Fittings shall be installed in the manner specified herein for cleaning, laying and joining pipe.

1. Coat and wrap fittings.
2. Anchorage for Fittings - All fittings, unless otherwise specified, shall be provided with a thrust block constructed against undisturbed soil as shown on the Standard Drawings.
3. Thrust Blocks - Care shall be taken not to obstruct the outlets of tees or crosses which are intended for future connections. A waterproof paper or plastic bond- breaker shall be placed between plugs and caps and the concrete thrust block to facilitate their removal of the concrete in the future. Thrust blocks shall be poured against undisturbed earth and shall have at least the
minimum dimensions shown on the Standard Drawings.
4. Mechanical Couplings - Oil, scale, rust, and dirt shall be cleaned from pipe ends. The Contractor shall clean gaskets in couplings prior to installing the coupling in accordance with the manufacturer's recommendations:

a. Bolt threads shall be lubricated with graphite and oil prior to installation.

1) Painting and Coating

a) The Contractor shall coat buried flexible pipe couplings, transition couplings, and flanged coupling adapters per Section 09900 and then wrap the couplings with polyethylene wrap per AWWA C-105.

b) The Contractor shall coat flexible pipe couplings (including joint harness assemblies), transition couplings, and flanged coupling adapters located indoors, in vaults and structures, and above-ground with the same coating system as specified for the adjacent pipe. A prime coat shall be applied at the factory.

5. Polyethylene Wrap - All ferrous metal shall be protected with polyethylene wrap. When it is not practical to wrap tees, crosses, and other odd-shaped pieces in a tube the item shall be wrapped with a flat sheet or split length of polyethylene tube by passing the sheet under the appurtenance and bringing it up around the body. Seams shall be made by bringing the edges together,

folding over twice, and taping down. Polyethylene shall be taped securely in place. Cuts, tears, punctures, or damage to polyethylene shall be repaired with adhesive tape, or with polyethylene sheet secured in place with adhesive tape.

77-4.02B(4) Testing

All completed waterlines, as well as the service assemblies and appurtenant structures, shall be tested by the Contractor in the inspector's presence prior to field acceptance of the work. The Contractor shall correct all defects in workmanship or materials which become evident by inspection or testing at any time during the work. Unless otherwise stated in this standard, all material utilized in the installation of new water mains shall comply with the California Waterworks Standard as currently amended and meet all AWWA standards that are hereby incorporated by reference.
Testing shall be done after the complete installation and compaction of all underground utilities, except as modified below:

Multiple pressure tests and disinfection operations are expected to be required as segments of new main are ready to be placed into service. The contractor may segment pressure testing of the new main into phases treating each as an independent main and tie-in.

The Contractor shall furnish all pipe and fittings for connection to the main, pumps, a calibrated water storage tank, disinfectant, and all other materials, fittings and pipelines required to perform the tests and make the necessary repairs. All equipment required for testing purposes that comes into contact with drinking water must be NSF 61 approved. All chemicals used for the construction, testing and disinfection of water mains shall be NSF/ANSI 60
approved.

When lines to be tested are in areas that will be paved, testing shall be done after subgrade is placed and compacted. At Engineer’s discretion, testing may be performed after subgrade has been accepted. No lines eligible for final testing shall be accepted as passing until all underground construction that may disturb the waterline is compacted.

Pressure testing the new waterline shall conform (at a minimum) to the applicable AWWA standard for the pipe material being installed as required by the California Code of Regulations, Title 22.

Testing shall not commence until the water main (or water main segment) and all appurtenances have been completely installed. The Contractor may, at any time and at his expense, perform his own pressure and leak test; however these tests will in no way offset the requirement for a final pressure and leak test.
Technical Specification **77-4.02B(5)** covers the disinfection process. All pressure pipelines shall be hydrostatically tested prior to introducing chlorine to the new pipeline.

General - All test equipment, temporary valves, bulkheads, or other water control equipment and materials shall be determined and furnished by the Contractor, subject to the District's review. No materials shall be used which would be injurious to the construction or its future function.

Hydrostatic Testing Equipment - The Contractor shall be responsible for supplying and operating all testing equipment. In general, the testing equipment configuration shall consist of a pump receiving water from a calibrated storage tank. The pump discharge shall enter the water main through a tap or appurtenance. A pressure sustaining valve shall be placed on a tee located in the pump discharge line. Discharge from the pressure sustaining valve shall return to the calibrated storage tank. Other types or configurations of testing equipment shall be subject to District approval. The pressure pump shall operate continuous throughout the testing period. If the pump is stopped, the pressure shall not be allowed to drop more than two psi below test pressure before starting the pump.

The Contractor shall make all necessary provisions for conveying the water from the City designated source to the points of use at the Contractor’s own cost.

Release of water from pipelines, after testing and disinfecting have been completed, shall be in accordance with a written disposal plan reviewed by the Engineer.

Hydrostatic Testing - The purpose of the hydrostatic test is both to test the ability of the pipeline to withstand pressure and test for allowable leakage. All hydrostatic testing shall follow the test setup and pressurization procedures as described in AWWA C600, C604, and C605. The following exceptions shall be incorporated into the testing procedure as outlined below:

A. Preparation - The line shall be filled with water at least 24 hours prior to testing when the pipeline has a mortar lining, thus allowing the lining material to become saturated. Water for testing shall be introduced at the low end of the section being tested to facilitate the elimination of air in the pipeline prior to testing. All pressure gauges used for determining hydrostatic testing shall be liquid filled and shall be capable of operating above the prescribed line test pressure. Gauges shall provide adequate visible ranges to allow accurate measurement for allowable leakage calculation. The Engineer reserves the right to reject provided gauge that does not meet this specification.

B. Test Section Length - The length of pipe being tested at any one time shall not exceed 2,000 linear feet unless otherwise approved by the City.

Test Pressure – The test pressure shall be 200 PSI or as outlined in C600, C604, or C605, whichever is greater, measured at the lowest point of the section of the pressure zone being tested.

D. Test Duration - Pressure in the water main shall be maintained within two psi of the calculated test pressure for a minimum of 2 hours.

E. Allowable Leakage - The allowable leakage per test section shall be calculated from the formula contained in this subsection. Different sized water mains that might be contained within the same test section shall be calculated separately and then added together.

$$L = \left(SD \frac{\sqrt{P}}{148{,}00} \right) x\ 2$$

WHERE:

L = Testing allowance in Gallons (For a 2 Hour Test).

S = Length of pipeline tested in Feet.

D = Nominal diameter in Inches.

P = Average test pressure during the hydrostatic test in PSI.

Repairs - During the pressure and leakage test, all accessible appurtenances shall be inspected for visual signs of leakage. All visual leaks shall be corrected immediately, regardless of the amount of leakage, and the test shall be run again for its full duration. All leaks detected shall be repaired to a water tight condition. All repairs made shall be retested in accordance with the specifications. All repairs shall be made and a successful test accomplished prior to taking base bacteriological samples for the Disinfection Process.

77-4.02B(5) Disinfection

All completed waterlines, as well as the service assemblies and appurtenant structures, shall be tested by the Contractor in the inspector's presence prior to field acceptance of the work. In compliance with the California Code of Regulations, Title 22, only certified Distribution Operators are allowed to make decisions addressing the following:

1. Install, tap, re-line, disinfect, test and connect water mains and appurtenances.
2. Shutdown, repair, disinfect and test broken water mains.
3. Oversee the flushing, cleaning, and pigging of existing water mains.
4. Pull, reset, rehabilitate, disinfect and test domestic water wells.

5. Drain, clean, disinfect, and maintain distribution reservoirs

The Contractor shall correct all defects in workmanship or materials which become evident by inspection or testing at any time during the work. Unless otherwise stated in this standard, all material utilized in the installation of new water mains shall comply with the California Waterworks Standard as currently amended and meet all AWWA standards that are hereby incorporated by reference.

Testing shall be done after the complete installation and compaction of all underground utilities. However, multiple pressure tests and disinfection operations are expected to be required as segments of new main are ready to be placed into service. The contractor may segment disinfection operations and testing of the new main into phases treating each as an independent main and tie-in.

The pipeline must be hydrostatically tested, per the Technical Specification 77-4.02B(4) above prior to disinfection except as modified below: The Contractor shall furnish all pipe and fittings for connection to the main, pumps, a calibrated water storage tank, disinfectant, and all other materials, fittings and pipelines required to perform the tests and make the necessary repairs. All equipment required for testing purposes that comes into contact with drinking water must be NSF 61 approved. All chemicals used for the construction, testing and disinfection of water mains shall be NSF/ANSI 60 approved.

When lines to be tested are in areas that will be paved, testing shall be done after subgrade is placed and compacted. At Engineer's discretion, testing may be performed after subgrade has been accepted. No lines (eligible for final testing) shall be accepted as passing until all underground construction that may disturb the waterline is completed.

All waterlines shall follow the procedure outlined below:
A. Prevent contaminating materials from entering the water main during storage, construction, or repair. All materials that are stored shall have covered ends prior to being installed. All pipelines shall be swabbed to remove any debris that may have come into contact with the pipe during transportation. The swab shall be a dry or damp cloth, and shall not under any circumstances be saturated with a chlorine mix. The purpose for the swab is solely to remove debris and is in no way a form of disinfection.

B. Fill the new waterline slowly to remove all air pockets followed by flushing at a minimum of 3 feet per second or an approved velocity or volume to remove any material that may have entered the water main during construction.

C. Pressure test the new waterline to Technical Specification 02660 and conforming (at a minimum) to the applicable AWWA standard for the pipe material being installed as required by the California Code of Regulations, Title 22. Testing shall not commence until the water main and all appurtenances have been completely installed and are set to final grade. The Contractor may, at any time and at his expense, perform his own pressure and leak test; however these tests will in no way offset the requirement for a final pressure and leak test.
D. Prior to disinfection, a sampling plan for the bacteria and standard heterotrophic plate count (HPC) must be created by a licensed Distribution Operator and submitted to the Engineer for review. The samples can be collected at the approved representative locations.

The new pipeline shall be chlorinated utilizing an AWWA approved method only. After chlorination residuals have been verified the superchlorinated water shall be flushed from the main following all AWWA procedures.

F. After the new pipeline has been qualified by City staff, the Contractor can schedule a tie-in to the City system. The Contractor shall provide a written or e-mail notice to the Engineer a minimum of 5 working days before the proposed scheduled tie-in. City approved tie-in days are Tuesday- Thursday. Requests for exceptions shall be provided to the City for review. The City reserves the right to adjust tie-in days based on system operation.

Submittals - The Contractor shall notify the City a minimum of three business days in advance of its proposed testing schedule for review and concurrence. The Contractor's proposed plans for water conveyance, disinfection, control, and disposal, shall also be submitted in writing.

MATERIALS

General - All test equipment, chemicals for chlorination, temporary valves, bulkheads, or other water control equipment and materials shall be determined and furnished by the Contractor, subject to City review. No materials shall be used which would be injurious to the construction or its future function.

Chlorine - Chlorine for disinfection shall be in the form of liquid chlorine, sodium hypochlorite solution only. Sodium hypochlorite shall be in accordance with requirements of AWWA B300. Sodium hypochlorite shall be certified as suitable for contact with or treatment of drinking water in accordance with NSF 60, Drinking Water Treatment Chemicals-Health Effects. Liquid chlorine shall be used only:

1. Under the direct supervision of a licensed Distribution Operator.
2. When appropriate safety practices are observed.

EXECUTION

General - The Contractor shall make all necessary provisions for conveying the water from the City designated source to the points of use.

All pressure pipelines shall be hydrostatically tested prior to introducing chlorine to the new pipeline. Disinfection shall be accomplished by chlorination and shall be completed by the Contractor. All chlorinating and testing operations shall be performed in the presence of the City. Per California Title 22, water systems shall utilize only certified Distribution Operators to make decisions addressing the disinfection, testing, and tie-in of new water mains and appurtenances to existing
systems.

Disinfection operations shall be scheduled by the Contractor as late as possible during the contract time period so as to assure the maximum degree of sterility of the facilities before the work is accepted by the City. A bacteriological test and a standard heterotrophic plate count shall be performed by the City. However, it is acceptable to the City that the Contractor tie-in segements of new water main as they are ready for service.

Release of water from pipelines, after testing and disinfecting have been completed, shall be in accordance with a written disposal plan reviewed by the Engineer. All dechlorination equipment shall be capable of handling high flows with high levels of chlorine as required for adequate flushing of the new pipeline. The Contractor shall provide all documentation for acceptable reagents that will be used during the dechlorination process for review a minimum of 4 days prior. Discharges of highly chlorinated water that can make it to waters of the state or waters of the US are not allowed. Chlorinated water may only be discharged from a sampling apparatus (service line sample point, blow off sample point, fire hydrant sample point, air release valve sample point, etc.) of less than five gallons during disinfection verification only as approved by the licensed Distribution Operator.

Disinfecting - After completion of pressure testing operations, the Contractor shall flush and then sterilize all water mains, services, and appurtenances. All sterilization shall follow the procedures as described in AWWA C651. The following exceptions shall be incorporated into the testing p rocedure as outlined below:

A. Flushing – Where flow rates are not possible, flushing at the maximum expected flow rate for the pipeline for 4 volumes can be approved by the Engineer.

B. Disinfection Methods - Disinfection shall only consist of the continuous feed method or the slug method. No tablet or granule methods are allowed for disinfection of City waterlines.

C. Filling and Contact - Potable water shall be supplied from a temporary backflow connection to the existing system. The Contractor has two options when connecting to fill the new pipeline.

-Option one the Contractor can check out a City owned temporary water use meter and backflow device that will be tested and placed into service by the City.

-Option two the Contractor can provide a backflow for the temporary connection to be tested by City staff before the device can be placed into service. Precautions shall be taken to assure that air pockets are eliminated.

All appurtenances shall be sampled for both methods to verify that adequate disinfection has been met. This testing includes all verifications for the 3 hour or 24 hour chlorination procedures. These samples include but are not limited to all service lines, hydrants, water quality sampling stations, blow offs, and air releases. Sampling small diameter lines including services and air releases shall be completed within 10-15 seconds under a pencil sized flow. The service shall not be flushed as to take a sample from the main, but rather verify that the service line is completely disinfected. Fire hydrants and blow offs shall be sampled within 20 seconds of initializing a low flow. All water discharged shall be adequately de-chlorinated or control land applied as to not have any run off. Control land applies to less than five gallons at one location during testing verification only.

Final Flushing - Per the City's statewide National Pollutant Discharge Elimination System (NPDES) permit, no super-chlorinated water shall be discharged without proper notification and an appropriate neutralizing agent. The environment to which the chlorinated water is to be discharged shall be inspected then a reducing agent shall be applied to the water to be wasted to thoroughly neutralize the chlorine residual remaining in the water. The NPDES permit requires that the City
notification for planned large discharges be submitted a minimum of 72 hours prior. The Contractor is required to provide the City a minimum of 4 days notification for any planned large water discharges. For any development projects related to final flushing all work shall be completed
under the project specific NPDES permit. The Contractor is made aware to refer to the project specific NPDES permit prior to commencing flushing activities.

The system shall be flushed until chlorine levels of discharged flushing water are determined to be identical as the chlorine level of the potable water supplied from the temporary backflow connection from the existing system. This residual chlorine reading shall be recorded by the City and used as a baseline for residual chlorine testing which shall be performed 16 hours after final flushing.
Residual Chlorine Testing – 16 hours after final flushing and prior to bacteriological testing, residual chorine samples shall be collected by a certified City distribution system operator at all appurtenances including residential services. If any residual chlorine sample is found to have dropped below 0.10 mg/l, or dropped ≥40%, the Contractor will be required to flush the new pipeline again, and re-sample after another 16 hour period. The Contractor may be required to re-chlorinate and redisinfect if the pipeline fails residual chlorine testing a second time. The determination of the extent of the flush or re-chlorination shall be determined by licensed City operator based on the sample results.

E. Bacteriological Tests – After residual chlorine levels have been confirmed to be compliant, an HPC and total coliform test shall be collected. If the HPC is greater than 500 CFU/mL then the Contractor will be required to flush the new pipeline again, or re-disinfect, and re-sample until no coliform are present and the HPC is <500 CFU/mL per AWWA standard C651-14. The determination of the extent of the flush or re-chlorination shall be determined by licensed City staff based on the sample results.

Should any of the samples fail to meet minimum State of California, Department of Public Health requirements, the Contractor shall continue to chlorinate and flush the system, as directed, until a satisfactory sample is obtained. The Contractor is responsible for all costs associated with additional flushing and/or re-chlorination of the new pipeline. NOTE: High velocities in the existing system, resulting from flushing the new main, may disturb sediment that has accumulated in the existing mains. When check samples are taken, it is well advised to also sample water entering the new main.

77-4.03 PAYMENT

The payment quantity for the 10" PVC C-900 bid item is the length of the pipe installed measured parallel to the ground surface along the centerline of the trench at the finished grade. The 10" PVC C-900 bid item bid item shall include all tools, equipment, materials, and labor necessary to install the pipe including, but not limited to, fabrication, freighting, and furnishing of the pipe; sawcutting; excavation; spoiling; dewatering; shoring; removal and disposal of the existing trench material; temporary plating; bedding; placement; fittings; connecting to the existing sanitary sewer system (service line, pipe, manhole, etc.); restrained joints; backfilling; compacting of backfill; testing; temporary and permanent surface restoration, as necessary; and all incidental work in the installation of the new pipeline.

The payment quantity for the Remove 4" Water Main is the length of the pipe removed in linear feet measured parallel to the ground surface along the centerline of the trench at the finished grade. This bid item shall include all tools, equipment, materials, and labor necessary to remove the pipe including, but not limited to, sawcutting and concrete capping the existing main per the detail shown on the plans; excavation; spoiling; dewatering; shoring; cutting, removal and disposal of the existing pipe and trench material; removal and disposal of any valves connected to the pipe indicated for removal; temporary plating; bedding; placement; fittings; restrained joints; backfilling; compacting of backfill; testing; temporary and permanent surface restoration, as necessary; and all incidental work in the removal of the existing pipe.

Connect to Existing Water System shall be paid for on a per unit basis. Measurement shall be based on the actual number of connection locations as identified on the plans. The contract unit price paid for each Connect to Existing Water System location shall include full compensation for all labor, materials, tools, equipment and incidentals, and for doing all the work involved, complete and in place, as specified in these Special Provisions, and as directed by the City Engineer, and no additional compensation will be allowed.

The 10" Gate Valve bid item shall be paid for on a per unit basis. Measurement shall be based on the actual number of 10" Gate Valves installed. The contract unit price paid for each 10" Gate Valve shall include full compensation for all labor, materials, tools, equipment and incidentals, and for doing all the work involved, complete and in place, as specified per Section 3.6 and EID Standard Drawing W12 of the El Dorado Irrigation District Design Standards and as directed by the City Engineer and Department of Public Works, and no additional compensation will be allowed.

Replace "Reserved" in section 77-5 with:

77-5 FIRE HYDRANTS

77-5.01 GENERAL

77-5.01A Summary

This section governs the work for installing the fire hydrant shown the Project Plans.

77-5.02 CONSTRUCTION

Install a fire hydrant body at location indicated on the Project Plans by the Replace Damaged Hydrant annotation. Hydrant shall connect to the existing hydrant bury. Hydrant shall be painted red and contractor is to submit a paint sample to the City for approval. Hydrant shall be dry barrel type meeting AWWA C502 and have a 6-inch bell inlet, 5 ¼ inch main valve with two 2 ½ inch hose outlets and one 4 ½ inch pumper connection. Threads on the pumper and hose connections shall conform to the requirements of the fire department equipment of the area which they are to serve or if no standards exist, they shall conform to the "National Standard Screw Threads for Fire Hose Couplings and Fittings" published by the National Board of Fire Underwriters. Hydrants shall be designed to operate at a minimum of 200 psi working pressure and shall be tested hydrostatically to 400 psi. Fire hydrants shall open to the left (counterclockwise). The hydrant shall be cast iron and bronze mounted. Hydrant outlets shall be protected with caps attached to the hydrant head with a chain. Other specific requirements are:

1. Hydrant materials shall comply with AWWA C502.
2. Hydrant flanges shall contain six equally spaced bolt holes of 7/8-inch diameter on a 9 and 3/5-inch diameter.
3. All hydrants shall be permanently marked with the manufacturer's name and the year of the manufacture.
4. Caps shall be metal-type.

Alloy steel break-off bolts shall be used to attach the fire hydrant to the extension spool.

Prior to installation, all hydrants shall be inspected for direction of opening, nozzle threading, operating-nut and cap-nut dimensions, tightness of pressure-containing bolting, cleanliness of inlet elbow, handling damage, and cracks. Defective hydrants shall be corrected or held for inspection by the City.

All hydrants shall stand plumb and shall have their nozzles parallel with or at right angles to the curb, with pumper nozzle facing the curb.

77-5.03 TESTING

Dry-barrel hydrants shall have the drain valves tested in the following manner:

1. Following the pressure test, open existing fire hydrant valve a few turns and allow hydrant to fill until water is at bottom of nozzle.

2. Close hydrant valve and observe water level drop. If drop in water level is not visible, place palm of hand over open nozzle to feel a noticeable suction. If water level drop is not detectable, the hydrant has failed the drainage test.

3. If the hydrant fails the drainage test, the drain valve may be clogged or backfill material does not permit free drainage. The Contractor shall make the necessary corrections and repairs to correct improper drainage.

77-5.03 PAYMENT

The Replace Damaged Fire Hydrant bid item shall be paid for on a per unit basis. Measurement shall be based on the actual number of Fire Hydrants installed. The contract unit price paid for each Fire Hydrant shall include full compensation for all labor, materials, tools, equipment and incidentals, and for doing all the work involved, complete and in place, as specified per EID Standard Drawing W17 of the El Dorado Irrigation District Design Standards and as directed by the City Engineer and Department of Public Works, and no additional compensation will be allowed.

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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 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 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.

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84 MARKINGS

Add to section 84-2.02A:

Pavement Paint shall be white paint, unless otherwise specified on the Project Plans.

Add to section 84-2.04:

The payment quantity for the Pavement Paint bid item is the area measured parallel to the ground surface, not including the additional quantity used for overlap.

Replace section 84-9.04 with:

Pavement striping to be removed as shown on the Project Plans shall be paid for under the Remove Striping bid item. The payment quantity for Remove Striping bid item is the length in feet of the striping removed measured parallel to the ground. The payment quantity for remove traffic stripe does not include the gaps in broken traffic stripes.

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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.