



STATE OF CALIFORNIA

**CITY OF PLACERVILLE  
ENGINEERING DEPARTMENT**

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**NOTICE TO BIDDERS, CONTRACT, AND PROPOSAL**

BOOK 2 OF 2

**FOR CONSTRUCTION OF**

**STORM DRAIN REPLACEMENT – UPPER BROADWAY  
AND POINT VIEW DRIVE**

**MEASURE L PROJECT**

City Project Number: 42320

April, 2026

Bids Open: 2:00 PM, June 25, 2026

Placerville City Hall  
Engineering Department  
3101 Center Street, 3<sup>rd</sup> Floor  
Placerville, CA 95667

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For use in connection with California Department of Transportation, Standard Specifications **Dated 2024**, and Caltrans Standard Plans, City of Placerville Standard Plans, State of California Labor Surcharge and Equipment Rental Rates, and Director of Industrial Relations General Prevailing Wage Rates.

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**CITY OF PLACERVILLE, CALIFORNIA  
ENGINEERING DEPARTMENT**

**STORM DRAIN REPLACEMENT  
UPPER BROADWAY AND POINT VIEW DRIVE**

**MEASURE L PROJECT**  
City Project Number: 42320

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



*ACSchiestel*

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Registered Professional Engineer (Civil)

**CITY OF PLACERVILLE, CALIFORNIA**  
**ENGINEERING DEPARTMENT**

**STORM DRAIN REPLACEMENT – UPPER BROADWAY AND POINT VIEW DRIVE**  
**CIP #42320**

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**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:** City of Placerville, Engineering Department

**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 Storm Drain Replacement – Upper Broadway and Point View Drive CIP #42302 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 Storm Drain Replacement – Upper Broadway and Point View Drive CIP #42302 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:** 2025 Standard Plans of the State of California, Department of Transportation and the current Revised Standard Plans as of 2025.

**Standard Specifications:** 2025 Standard Specifications of the State of California, Department of Transportation (Caltrans) and the current Revised Standard Specifications as of September 1<sup>st</sup>, 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.







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 whole 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. **NO EXCEPTIONS. NO RESUBMITTAL REQUIRED.**
2. **MAKE CORRECTIONS NOTED.** 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 staking shall be included in the various bid items, and no additional compensation will be allowed therefore.

**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:**









The Contractor shall be responsible to other contractors or City forces engaged in work on the site or adjacent thereto for all damages to their work, or persons employed thereon, or delays to their work, resulting from Contractor's failure to complete the work within the time for completion. Contractor shall adjust and coordinate his work with that of others so that no discrepancies result in the whole work, and shall defend and indemnify the City from all claims arising therefrom.

## **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 facilities/circulation.
5. Identify any impacted driveways, businesses, or residences.
6. Ensure a minimum of one driveway to each parking lot or parcel remains open at all times.
7. Ensure a minimum of one-half of a driveway remains open at all times where only one driveway to a business or residence exists, unless otherwise approved by the Engineer.
8. Require notice to parcel owners, businesses, and residents ten (10) working days in advance of when vehicle access will be altered or utility outages are to take place. Notice to parcel owners must include details of work, start date, and duration of work to take place in front of their property. This notice may be in the form of door-hangers, flyers, or other format deemed acceptable by the Engineer.

The Contractor shall submit traffic control plans, including closure plans, for review and obtain approval prior to any construction activities requiring temporary traffic control. The Engineer shall review and approve all traffic control systems, including hardware and location/placement, prior to beginning construction activities each workday. Public traffic shall be allowed to pass through the work area at all times unless a full road closure plan has been previously approved.

Full road closures will 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 2025 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, bicycle 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 and may continue to travel through this area during construction. The expectation is that the pre-construction bicycle and pedestrian circulation will be maintained during construction and any temporary facilities implemented by the contractor to accommodate the flow of bicyclists and pedestrians during construction will be equal to or better than the existing conditions.

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

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.

**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.

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), and install and remove all temporary construction area signage. This includes, but is not limited to, all temporary and semi-permanent construction area 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 12-3.11D with:**

Construction Area Sign (Measure L Tax) shall be placed at the start of the job and protected throughout construction. Payment shall be per each unit.

**Add to section 12-4.02A(2):**

Labor Day is a designated holiday that is observed on September 7<sup>th</sup>. 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 24<sup>th</sup>.

**Replace "Reserved" in section 12-5 with:**

**12-5.01 GENERAL**

Contractor shall notify the City, El Dorado Disposal, El Dorado County Fire District, Placerville Police Department, Placerville Downtown Association, El Dorado County Transit Authority, the local US Post Office

and Placerville Union School District Transportation Division 48 hours prior to any lane closures, including partial road closures.

**Replace “Reserved” in section 12-6.03D(1) with:**

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

**Requirements for Placing Temporary Pavement Markings and Striping**

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

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

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

**Replace the 1<sup>st</sup> Paragraph of section 12-6.04 with:**

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

**Replace Section 12-8 with:**

**12-8 CONSTRUCTION ZONE STANDARDS**

**12-8.01 GENERAL**

**12-8.01A Summary**

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

**12-8.02 Maintaining Traffic**

**12-8.02A Tow-Away Lanes**

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

**12-8.02B Metal Plating**

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

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

**12-8.02C Transitioning (Ramping)**

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



















Material for the pipe zone shall be 3/8 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**

Native soil may be used for trench backfill above the pipe zone in unpaved areas only. No Sand Equivalent or Durability Index requirements apply to native backfill; however, the material shall be free of organic matter, debris, and oversized rock and shall be compacted to the specified density.

### **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 ensure 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.

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, clean, native earth or type 2 aggregate base in unpaved areas. Only Class 2 aggregate base shall be used as trench backfill in paved areas. 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 90% unpaved areas. Paved areas 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**





**APPENDIX A – C**



**CONSTRUCTION FUNDING SIGN**