



City of Pacifica

CONTRACT DOCUMENTS

FOR

COLLECTION SYSTEM PROJECTS FY 2020-21 SACRAMENTO EASEMENT (C005I)

(Project Plans and Specifications are only available through the City's e-Procurement Portal whose address is provided in the Notice To Bidders)

Bid Opening: JUNE 8, 2021, 2:00 PM

**Bid Location: Zoom Meeting
(or City Hall
170 Santa Maria Avenue
Pacifica, CA 94044 if Shelter in Place is lifted
and notified via addendum)**

Approved by the City Council of the City of Pacifica

**NOT FOR
BIDDING**

Recommended by:

Louis Sun, P.E.
Deputy Director of Public Works -
Wastewater

CITY OF PACIFICA
COUNTY OF SAN MATEO

COLLECTION SYSTEM PROJECTS FY 2020-21 SACRAMENTO EASEMENT (C005I)

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4/27/21

NOTICE TO BIDDERS

Project Title: 2021-04-30 Sacramento Eastement C00I - Specifications - 100%

SECTION I
PROJECT DESCRIPTION

I. PROJECT DESCRIPTION

COLLECTION SYSTEM PROJECTS FY 2020-21 SACRAMENTO EASEMENT (C005I)

The “COLLECTION SYSTEM PROJECTS FY 2020-21 SACRAMENTO EASEMENT (C005I)” is comprised of installing approximately 1235 LF of sewer mainlines in the Sharp Park neighborhood in the City of Pacifica (City). The project includes replacement of approximately 1235 LF of 6-inch vitrified clay pipe (VCP) sanitary sewer mainline with new 8-inch HDPE pipe by pipe bursting and new PVC pipe by open trench; lateral reconnection; and I&I resealing of 1 manhole and replacement of 1 manhole.

These specifications were prepared by or under the direction of the following professional engineer:

Nelson Schlater

Nelson Schlater, P.E

City of Pacifica

Professional Engineering License No. C-66547

Expires on 6/30/2022

SECTION II
NOTICE TO BIDDERS

II. NOTICE TO BIDDERS

COLLECTION SYSTEM PROJECTS FY 2020-21 SACRAMENTO EASEMENT (C005I)

BIDS shall be submitted electronically on or before 2:00 PM on June 8, 2021, to the City's e-Procurement Portal:

<https://secure.procurenow.com/portal/cityofpacific>

The City is accepting electronic bid submissions. Bidders shall create a FREE account with ProcureNow by signing up at <https://secure.procurenow.com/signup>. Once you have completed account registration, browse back to <https://secure.procurenow.com/portal/cityofpacific>, click on "Submit Response", and follow the instructions to submit the electronic bid. The Documents will be available for download 5/11/21; any earlier downloads are for informational purposes only and do not constitute the issued for bid set.

Bids may be withdrawn through the City's e-Procurement Portal, the responding firm may "unsubmit" their proposal in ProcureNow. After withdrawing a previously submitted proposal, the responding firm may submit another proposal at any time up to the deadline for submitting proposals prior to the bid opening, but no bidder may withdraw his or her bid for a period of thirty (30) days after the opening thereof.

A Bidder's Package may be viewed in, and an electronic copy can be obtained on, the City's e-Procurement Portal whose address is listed above. **Bidders must register and obtain a complete set of bid documents in order to be an eligible bidder.**

Bidders shall submit all inquiries regarding this bid via the City's e-Procurement Portal whose address is listed above. Please note the deadline for submitting inquiries. All answers to inquiries will be posted on the City's e-Procurement Portal. Bidders may also click "Follow" on this bid to receive an email notification when answers are posted. It is the responsibility of the bidder to check the website for answers to inquiries.

It is sole responsibility of the bidder to see that their bid is complete, all information requested has been submitted, and that their bid is submitted in the proper time. Any proposal submitted after the scheduled closing time will be rejected. All proposals submitted shall include a completed "Proposal", identifying unit costs.

Due to the COVID-19 pandemic, the in-person bid opening scheduled for 2:00 PM on Tuesday, June 8, 2021 will be conducted remotely via Zoom Meeting. Please notify Nelson Schlater at nschlater@ci.pacific.ca.us before 9:00 AM on the day before the bid opening for information on how to attend via Zoom Meeting or via telephone. A link to the live bid opening video conference will be provided. A conference phone line will also be open if you are unable to join the video conference but wish to listen to the bid opening.

There is no pre-bid conference for the Project.

Sealed Bid for Construction of:

COLLECTION SYSTEM PROJECTS FY 2020-21 SACRAMENTO EASEMENT (C005I)

Following the closure of the bid submittal period, bids will be publicly opened and read for performing work as follows:

Furnishing all labor, materials, equipment, and performing all work necessary and incidental to the construction of the project known as **COLLECTION SYSTEM PROJECTS FY 2020-21 SACRAMENTO EASEMENT (C005I)** according to drawings and specifications as prepared by the City of Pacifica and according to the Contract Documents. The “COLLECTION SYSTEM PROJECTS FY 2020-21 SACRAMENTO EASEMENT (C005I)” is comprised of installing approximately 1235 LF of sewer mainlines in the Sharp Park neighborhood in the City of Pacifica (City). The project includes the replacement of approximately 1235 LF of 6-inch vitrified clay pipe (VCP) sanitary sewer mainline with new 8-inch HDPE pipe by pipe bursting and new PVC pipe by open trench; lateral reconnection; and I&I resealing of 1 manhole and replacement of 1 manhole.

The **COLLECTION SYSTEM PROJECTS FY 2020-21 SACRAMENTO EASEMENT (C005I)** must commence as soon as the contract is awarded.

Substantial Completion of this Project shall be completed within 45 calendar days from the Notice to Proceed. The Contractor shall pay to the City of Pacifica Five Hundred Dollars (\$500) for each and every calendar days’ delay in finishing the work in excess of the Contract Time, as modified in accordance with the Contract Documents.

Bidding procedures are prescribed in the Contract Documents. This is a Public Works project. Bids shall be executed upon the bid forms provided, which are a part of the Contract Documents. Each bidder must submit with its bid security in one of the following forms: cash, cashier's check payable to the City, a certified check payable to the City, or a bid bond in the form included with the bid documents, executed by an admitted surety insurer, made payable to the City. The guaranty shall be in the amount of ten percent (10%) of the amount bid, and shall be forfeited should the bidder, if awarded the contract, fail to enter into the same, or fail to furnish in a timely manner the bonds and/or proof of insurance required under the Contract Documents.

Pursuant to Section 1770, et. seq. of the California Labor Code, the successful bidder and all subcontractors shall pay not less than the prevailing rate of per diem wages as determined by the Director of the California Department of Industrial Relations. Copies of such prevailing rate of per diem wages are on file at the Calera Creek Water Recycling Plant, 700 Coast Highway, Pacifica, California to view and will be made available to any interested party on request.

Pursuant to Public Contract Code Section 22300, for monies earned by the Contractor and withheld by the City of Pacifica to ensure the performance of the Contract, the Contractor may, at its option, choose to substitute securities meeting the requirements of Public Contract Code Section 22300.

All bidders shall be licensed under the provisions of the Business and Professions Code to do the type of work contemplated in the project. In accordance with provisions of California Public Contract Code Section 3300, the City has determined that the Contractor shall possess one of the following: a valid Class A, General Engineering Contractor license, C-34 Pipeline license, or C-42 Sanitation Systems license at the time that the bid is submitted. Failure to possess the specified license shall render the bid non-responsive.

Effective March 1, 2015, all prime contractors and sub-contractors must have a current registration with the Department of Industrial Relations at the time bids are received and throughout the duration of the project. If a prime contractor is not registered at the time bids are received their bid will be deemed non responsive. If a sub-contractor is not registered at the time bids are received, they must be registered within 24 hours of the bid opening, otherwise their bid will be deemed non-responsive. In the case that a sub-contractor's bid is deemed non-responsive, the prime contractor shall substitute that subcontractor with a responsive and responsible registered subcontractor per Section 4107 of the Public Contract Code.

For more information please go to the DIR website at <https://www.dir.ca.gov/Public-Works/PublicWorksLawsRegsDetDec.html>. To register with Department of Industrial Relations please go to the following website: <https://efiling.dir.ca.gov/PWCR/ActionServlet?action=displayPWCRRegistrationForm>.

Effective immediately, the prime contractor shall post job site notices prescribed by California Code of Regulations, Title 8 Section 16541 (d).

SB 854 Notice Requirements:

- ***No contractor or subcontractor may be listed on a bid proposal for a public works project (submitted on or after March 1, 2015) unless registered with the Department of Industrial Relations pursuant to Labor Code section 1725.5 [with limited exceptions from this requirement for bid purposes only under Labor Code section 1771.1(a)].***
- ***No contractor or subcontractor may be awarded a contract for public work on a public works project (awarded on or after April 1, 2015) unless registered with the Department of Industrial Relations pursuant to Labor Code section 1725.5.***
- ***This project is subject to compliance monitoring and enforcement by the Department of Industrial Relations.***

The successful bidder will be required to furnish a faithful performance bond in the amount equal to one hundred percent (100%) of the Contract Price, and a labor and materials bond in the amount equal to one hundred percent (100%) of the Contract Price. The successful bidder will be required to obtain a business license from the City's Finance Department at 170 Santa Maria Avenue, Pacifica, CA 94044.

The City reserves the right to reject any or all bids; to make any awards or any rejections in what it alone considers to be in the best interest of the City and waive any irregularities in the bids.

The contract will be awarded, if at all, to the responsible bidder that submits the lowest responsive bid.

The successful bidder must ensure that employees and applicants for employment are not discriminated against on the basis of age, color, race, national origin, ancestry, religion, sex, sexual preference, marital status, and shall comply with the Americans with Disabilities Act.

Selected General Contractor may approach residents about private lateral replacement. Note that this activity would be between the General Contractor and willing residents and is not explicitly a part of this contract. The City will provide residents a letter informing them of this opportunity.

SECTION III
INFORMATION FOR BIDDERS

III. INFORMATION FOR BIDDERS

COLLECTION SYSTEM PROJECTS FY 2020-21 SACRAMENTO EASEMENT (C005I)

SCOPE AND LOCATION OF WORK

The work to be performed under this contract consists of the furnishing of all labor, materials and equipment for the construction of **COLLECTION SYSTEM PROJECTS FY 2020-21 SACRAMENTO EASEMENT (C005I)** complete, and in satisfactory operating condition, all as shown on the Contract Documents and/or as specified herein. The work is to be performed in the City of Pacifica.

INSPECTION OF SITE OF WORK

Bidders are required to inspect the site of the work in order to satisfy themselves, by personal examination or by such other means as they may prefer, of the location of the proposed work and the actual conditions of and at the site. Bidders may apply to the Engineer for additional information and explanation before submitting bids. However, no supplemental information requested or furnished shall vary the terms of the Contract Documents or affect the Contractor's sole responsibility to satisfy himself as to the conditions of the work to be performed. No claim for additional compensation will be allowed which is based upon a lack of knowledge of the actual conditions or location of the work. Bidders are alerted to the prevalence of poison oak in the work area.

Submission of a proposal by the bidder shall constitute acknowledgment that the bidder has relied, and is relying, on its own examination of (a) the site of the work; (b) access to the site; (c) all other data, matters, and things requisite to the fulfillment of the work, (d) project information and plans and specifications, and on their own knowledge of existing facilities on and in the vicinity of the site of the work to be constructed under the contract, and not on any representation or warranty of the City, or lack of knowledge of the above items. Removal, relocation, or protection of existing public utilities not identified by the City shall be done in conformance with Section 4215 of the Government Code.

EXAMINATION OF CONTRACT DOCUMENTS

Each bidder shall thoroughly examine and be familiar with legal and procedural documents, general conditions, soil testing if any, City Standard Plans, Drawings and Specifications, drawings and addenda (if any). Submission of a proposal shall constitute acknowledgment, upon which the City may rely, that the bidder has thoroughly examined and is familiar with the Contract Documents. Failure or neglect of a bidder to receive or examine any of the Contract Documents shall in no way relieve them of any obligation with respect to their proposal or to the Contract. No claim for additional compensation will be allowed which is based upon a lack of knowledge of any Contract Documents.

INTERPRETATION OF CONTRACT DOCUMENTS

No oral representation or interpretations will be made to any bidders as to the meaning of the Contract Documents. **Requests for interpretation shall be made via the City's e-Procurement Portal whose address is listed in the Notice to Bidders, and submitted at least five (5) calendar days before the time announced for opening the proposals.** Interpretations, where necessary, will be made by the Engineer in the form of an addendum to the Contract Documents and, when issued, will be sent as promptly as is practical to all parties to whom the bid documents have been issued. All such addenda shall become part of the contract. Requests for information before and after the award of contract shall be directed to:

Nelson Schlater, PE
Senior Engineer - Public Works – Wastewater
700 Coast Highway
Pacifica, California 94044
Email: nschlater@ci.pacifica.ca.us

Phone: (415)722-8711

It shall also be the bidder's responsibility to call to the attention of the Engineer any missing pages in the Contract Documents, including the addenda. These items shall be brought to the attention of the Engineer in the same manner and timeframe as stated above for request for interpretation.

PROPOSAL

Proposals shall be made electronically via the City's e-Procurement Portal. Note that the bid form included in the bid documents for reference only, and does not replace the bidders requirement to complete the bid form electronically. All proposals shall provide all other information requested therein, and shall be signed by the bidder or an authorized representative, with their address.

Bidders must prepare and submit all required documents via the City's e-Procurement Portal.

If the proposal is made by an individual, his/her name, signature, and post office address must be shown.

If the proposal is made by a firm or partnership, the name and post office address of the firm or partnership and the signature of at least one of the general partners must be shown.

If the proposal is made by a corporation, the proposal shall show the name of the corporation and state under the laws of which the corporation is incorporated, the post office address of the corporation, and the signature of at least two officers authorized to sign on behalf of the corporation. Additionally, the proposal shall include a document empowering the signator(s) to execute the proposal and bind the corporation.

If the proposal is made by a joint venture, the proposal shall be signed by at least one of the joint venture firms in a format meeting with the requirements outlined above. Additionally, the proposal shall include a document empowering the signator(s) to execute the proposal and bind the joint venture.

Every contractor, other than a joint venture, who submits a bid, must, at the time the bid is submitted, have a California contractor's license in good standing. The license shall be in the class or classes specified in the Contract Documents. Any bid from an unlicensed contractor, other than those persons exempt under Business & Professions Code section 7028.15, shall be non-responsive and shall be rejected. This statute also makes it a misdemeanor for any person without a valid contractor's license (with specified exceptions) to submit a bid to act as a contractor to a public agency. The penalties on a bidder violating these provisions are severe.

Proposals that contain irregularities of any kind, may be rejected. Proposals may only be submitted via the City's e-Procurement Portal. No oral, telegraphic, or telephone (including facsimile) proposals or modifications will be considered.

ADDENDA

Each proposal shall include specific acknowledgment (in the space provided) of the receipt of all addenda issued during the bidding period. To receive addenda on the Project, bidder will need to go to the City's e-Procurement Portal and click "Follow" on the project. Ultimately, it is sole responsibility of each bidder to periodically check the City's e-Procurement Portal for any addenda on the Project.

Failure to so acknowledge all addenda may result in the proposal being rejected as not responsive.

BID PRICES

Bid prices shall include everything necessary for the completion of construction and fulfillment of the contract, including but not limited to, furnishing all transportation, materials, equipment, tools, excavation, utilities, sheeting, shoring, bracing and supports, plant and other facilities, and all management, superintendence, permits, labor and services. In the event that the product of a unit price and an estimated quantity does not equal the extended amount quoted, the unit price shall govern and the correct product of the unit price and the estimated quantity shall be deemed to be the amount bid.

TAXES

Bid prices shall include all applicable federal, state, and local taxes.

EXPERIENCE OF BIDDERS

At the time of bidding, and throughout the period of the contract, each bidder shall be licensed under the provisions of Business and Professions Code of the State of California, to do the type of work contemplated for the project.

It is the intention of the City to award a contract, if at all, to the lowest responsive responsible bidder who furnishes satisfactory evidence that it has the requisite experience and ability, and sufficient capital, facilities and plant to enable it to prosecute the work successfully and properly, and to complete the work within the time period named in the Contract Documents.

To determine the degree of responsibility to be credited to the bidder, the City will weigh any evidence that the bidder has performed satisfactorily other contracts of like nature and magnitude, and comparable difficulty and rates of progress, to the work. The City shall have sole discretion to determine what contracts are of like nature and magnitude, and comparable difficulty and rates of progress.

LISTS OF SUBCONTRACTORS

Each proposal shall list, the name and address of each subcontractor to whom the bidder proposes to sublet portions of the work in excess of one-half of one percent of the total amount of the proposal or \$10,000, whichever is greater. For the purpose of this paragraph, a subcontractor is defined as anyone who contracts with the Contractor to furnish materials and labor, labor only, and/or one who specially fabricates and/or installs a portion of the work or improvement according to detailed drawings contained in the Contract Documents. The Prime Contractor shall perform at least 50% of the work with their own forces. All subcontractor listings and subsequent substitutions, if any, shall be done in conformance with the Subletting and Subcontracting Fair Practices Act, Public Contract Code Section 4100 et seq.

PROPOSAL GUARANTY

The proposal shall be accompanied by a proposal guaranty bond duly completed by a corporate surety authorized to conduct business in the State of California for payment to the City of Pacifica in the sum of at least ten percent (10%) of the total amount of the proposal. The bond shall be on the form included in the Contract Documents. Alternatively, a certified or cashier's check, payable to the City of Pacifica in the sum of at least ten percent (10%) of the total amount of the proposal may be substituted for the proposal guaranty bond. The amount payable to the City of Pacifica under the proposal guaranty bond, or the certified or cashier's check, as the case may be, shall be forfeited to the City as liquidated damages in the case of the failure or neglect of the successful bidder to furnish, execute, and deliver to the City the required performance and payment bonds, and evidences of insurance, and to enter into, execute, and deliver to the City, the Agreement, on the form provided herewith, within ten (10) days after being notified in writing by the City that the award has been made.

MODIFICATION OF PROPOSAL

As described in Notice to Bidders, modification of proposals can be made as follows:

Bids may be withdrawn through the City's e-Procurement Portal, the responding firm may "unsubmit" their proposal in ProcureNow. After withdrawing a previously submitted proposal, the responding firm may submit another proposal at any time up to the deadline for submitting proposals prior to the bid opening.

POSTPONEMENT OF OPENING

NOTICE TO BIDDERS

Project Title: COLLECTION SYSTEM PROJECTS FY 2020-21 SACRAMENTO EASEMENT (C005I)

The City reserves the right to postpone the date and time for receiving and/or opening of proposals at any time prior to the date and time established in the Notice Inviting Bids.

NON-COLLUSION AFFIDAVIT

Section 7106 of the Public Contract Code requires that each bidder execute a Non-Collusion Affidavit in the form shown in the Contract Documents on all public works contracts. By signing the contract Proposal, Bidder agrees to all requirements of this Affidavit.

DISQUALIFICATION OF BIDDER

If there is a reason to believe that collusion exists among any of the bidders, none of the bids of the participants in such collusion will be considered, and the City may elect to reject all bids received.

REJECTION OF PROPOSALS

The City reserves the right to reject any proposals which are incomplete, obscure, or irregular, including but not limited to any proposals which omit a bid on any one or more items for which bids are required; any proposals which omit unit prices if unit prices are required; any proposal in which unit prices are unbalanced in the opinion of the City; any proposals accompanied by insufficient or irregular proposal guaranty; and any proposals from bidders who have previously failed to perform properly or to complete contracts of any nature on time.

RELIEF OF BIDDERS

Attention is directed to the provisions of Public Contract Code Section 5100, et seq., concerning relief of bidders, and in particular to the requirement therein that if a bidder claims a mistake was made in its bid, the bidder shall give the City written notice within five (5) calendar days after the opening of the bids of the alleged mistake, specifying in the notice, in detail, how the mistake occurred.

RETURN OF PROPOSAL GUARANTEES

The City will retain all proposal guarantees until the Agreement for the work has been fully executed and the City has received the bonds and evidence of insurance required to be furnished, or the City has acted to reject all bids. The City will return the proposal guarantees of unsuccessful bidders, other than those forfeited, promptly thereafter.

COMPLETING AND SIGNING FORMS

The Bidder's attention is directed to the forms included in the Contract Documents, which must be completed and signed. **FAILURE TO PROPERLY COMPLETE AND SIGN ANY FORMS MAY BE CAUSE FOR REJECTION OF A BID.**

DEBARRED CONTRACTORS AND SUBCONTRACTORS

No contractor or subcontractor who is ineligible to bid on work, or be awarded, a public works project under Labor Code sections 1771.1 or 1777.7 can bid on, be awarded, or perform work as a subcontractor on the Project. The Contractor is prohibited from performing work on the

Project with a subcontractor who is ineligible to perform work on a public works project under these sections of the Labor Code.

SHEETING AND SHORING

Pursuant to the provisions of California Labor Code Section 6707, each bid submitted in response to the Notice Inviting Bids shall contain, as a bid item, adequate sheeting, shoring, and bracing, or equivalent method, for the protection of life and limb in trenches and open excavation, which shall conform to applicable safety orders. By listing this sum, the bidder warrants that its action does not convey tort liability to the City, its consultants and sub consultants, and their directors, partners, officers, employees, agents and servants.

PROPOSED SUBSTITUTIONS

Bidders wishing to obtain prior approval of a material or system substitution for that specified shall submit all required documentation in compliance with procedures established in the Contract Documents.

Prior approval requests shall be received by the Engineer no later than ten (10) calendar days prior to bid date. If Engineer determines the requested material or system is equal to that specified, the Engineer will issue an addendum. If the Engineer rejects the proposed substitution, or does not respond before the bid date, the bidder shall furnish the specified items.

BID PROTEST PROCEDURES

Any bid protest relating to the form or content of the bidding or Contract Documents must be submitted in writing to the City Clerk, City of Pacifica, 170 Santa Maria Avenue, Pacifica, CA 94044 at least ten (10) business days before the original date set for the bid opening. Any bidder who submits a bid shall be deemed to have waived any protest to the form or content of the bidding or Contract Documents.

Any bid protest relating to the award of the contract for the Project must be submitted in writing to City Clerk, City of Pacifica, 170 Santa Maria Avenue, Pacifica, CA 94044. The protest must be received before 5:00 PM of the fifth business day following bid opening.

The initial protest document shall contain a complete statement of the basis for the protest. The protest shall refer to the specific portion(s) of the bid documents which forms the basis for the protest. The protest shall include the name, address and telephone number of the person representing the protesting party.

The party filing the protest shall concurrently transmit a copy of the initial protest document and any attached documentation to all other parties who have a direct financial interest that may be adversely affected by the outcome of the protest. Such parties shall include all other bidders or proposers who appear to have a reasonable prospect of receiving an award depending upon the outcome of the protest. The documents shall be transmitted by fax or overnight mail.

The procedure and time limits set forth in this paragraph are mandatory and are the bidders' sole and exclusive remedy in the event of bid protest. Failure to comply with these procedures shall

constitute a waiver of any right to further pursue the bid protest, including filing a Government Code claim or legal proceedings.

SECTION IV
CONTRACT PROPOSAL

IV. CONTRACT PROPOSAL

TO

**CITY OF PACIFICA
SAN MATEO COUNTY**

FOR

COLLECTION SYSTEM PROJECTS FY 2020-21 SACRAMENTO EASEMENT (C005I)

Name of Bidder _____ of

Business Address

Telephone (_____)

TO THE CITY COUNCIL OF THE CITY OF PACIFICA:

Pursuant to and in compliance with your Notice to Bidders for the Project identified above and the other Contract Documents relating thereto, the undersigned Bidder, being fully familiar with the terms of the Contract Documents, the current general prevailing wage rates, local conditions affecting the performance of the Project, the character, quality, quantities and scope of the work, and the cost of the work at the place of performance, hereby proposes and agrees, within the time stipulated in the Contract Documents, to furnish to the City of Pacifica all of the transportation, materials, equipment, tools, excavation, sheeting, shoring, bracing, supports, plant and other facilities, labor, services, permits, utilities, and other items necessary to conduct and complete the Project, all in strict conformity with the Contract Documents, including Addenda identified herein for the price set forth in the Bid Schedule.

Bidder declares that the only persons or parties interested in this proposal are those named herein, and that this proposal is made without collusion with any person, firm or corporation. Bidder proposes and agrees, if the proposal is accepted, that Bidder will execute a contract with the City, in strict conformity to the Contract Documents including providing acceptable insurance, security, and labor and materials and performance bonds, in the form set forth in the Contract Documents, and will perform the entire work for the prices set forth in the attached Bid Schedule, upon which the award of contract is made.

PROPOSED SUBCONTRACTORS

Pursuant to California Public Contract Code Section 4100 et seq., the following list gives the name, contractor's license number, business address, and portion of work (description of work to be done) for each subcontractor who will perform work or labor or render service to the prime contractor in or about the construction of the work or improvements, or a subcontractor licensed by the State of California who, under subcontract to the prime contractor, specifically fabricates and installs a portion of the work or improvement according to detailed drawings contained in the plans and specifications, in an amount in excess of one-half of 1 percent of the prime contractor's total bid or, in the case of bids or offers for the construction of streets or highways, including bridges, in excess of one-half of 1 percent of the prime contractor's total bid or ten thousand dollars (\$10,000), whichever is greater. Additional supporting data may be attached to this page. Each page shall be sequentially numbered, headed "Proposed Subcontractors" and shall be signed.

NAME	CONTRACTORS LICENSE	DIR REGISTRATION#	BUSINESS ADDRESS	PORTION OF WORK

The Prime Contractor shall perform at least 50% of the work with its own forces.

After the award of contract, substitutions of the above-listed proposed subcontractors may only be made with the prior approval of the Engineer in accordance with Public Contract Code section 4104.

The above information is part of the proposal. Signing this proposal on the signature portion thereof shall also constitute signature of this list of Proposed Subcontractors

**CONTRACTOR'S
EXPERIENCE AND FINANCIAL QUALIFICATIONS**

NOTE: EACH BIDDER MUST MEET THE EXPERIENCE REQUIREMENTS IN THE CONTRACT DOCUMENTS IN ORDER TO BE CONSIDERED A RESPONSIVE BIDDER.

The following statements as to the experience and financial qualifications of the bidder are to be submitted with the Contract Proposal, as a part thereof. The truthfulness and accuracy of the information is guaranteed by the bidder.

The bidder has been engaged in the contracting business, under the present business name, for _____ years. Experience in work of a nature similar to the Project extends over a period of _____ years.

The bidder, as a contractor, has successfully completed at least _____ projects of like magnitude, comparable difficulty and rates of progress to the work in the past _____ years, including: (list two or more projects).

The City shall have the sole discretion to determine whether listed projects are of like magnitude, comparable difficulty or rates of progress. Bidders shall provide such additional information regarding the listed projects as the City may request.

The bidder, as a contractor, has never failed to satisfactorily complete a contract except as follows: (name any and all exceptions and reasons therefore).

The bidder has satisfactorily completed the following contracts in the last three years, for the persons, firm or authority indicated, and to whom reference is made (list five contracts). (Provide a contact person and telephone number for each project.)

CONTRACT YEAR	TYPE OF WORK	AMOUNT	CONTACT

The names of all persons interested in the foregoing proposals as principals are as follows:
(NOTE: If Bidder or other interested person is a corporation, state the legal name of the corporation, along with the names of the president, secretary, treasurer, and manager thereof; if a general partnership, state true name of the firm, also the names of all individual partners composing the firm; if a limited partnership, the names of all general partners and limited partners; and if Bidder or other interested person is an individual, state first and last names in full.)

Contractor's License Number:

License Renewal Date: _____

Business name of bidder: _____

SCHEDULE OF BID PRICES

(PROVIDED FOR REFERENCE ONLY - BIDDER SHALL USE ELECTRONIC BID FORM)

Bid Item No.	<u>Bid Item</u>	Quantity	Unit	Unit Price	Cost
1.	Traffic Control	LS	LS		
2.	Stormwater Pollution Prevention	LS	LS		
3.	Sheeting, Shoring, & Bracing	LS	LS		
4.	Potholing	LS	LS		
5.	Pipe Burst existing 6" sewer and Replace with 8" HDPE Pipe (DR17)	895	LF		
6.	Open Trench existing 6" VCP and Replace with 8" PVC Pipe (SDR 26) – See note 1	340	LF		
7.	Manhole Replacement	1	EA		
8.	Manhole I&I Reseal	1	EA		
9.	Connect (E) Lateral to (N) Mainline	13	EA		
10.	8" Lamp Hole	3	EA		
TOTAL BID PRICE (Sum Bid Items 1 through 10)					

Notes:

1. Five-foot stretch of new PVC pipe to be installed downstream of MH SPI3 to tie into existing 6-in sewer main shall be 6-in but shall be compensated for at the same unit price as specified in bid item 6.

Total Bid Price: Items 1 through 10, inclusive, and all work incidental thereto and connected herewith).

EVALUATION OF BIDS AND AWARD OF CONTRACT

The lowest responsive, responsible bidder will be selected based on the lowest TOTAL BID PRICE.

In the event of a conflict between the Item prices and the Total Bid Price, the Total Bid Price shall govern.

If the proposal is made by a corporation, the proposal shall show the name of the corporation and identify the state in which the corporation is incorporated, the post office address of the corporation, and the signature of at least two officers authorized to sign on behalf of the corporation. Additionally, the proposal shall include a document empowering the signator(s) to execute the proposal and bind the corporation.

BID AMOUNT OF EACH OF THE ABOVE BID ITEMS MUST BE FILLED IN AND COMPLETED IN INK.

*Signature of Bidder:

- If corporation, two officers signatures are required.

Company Name (printed):

The Total Amount Bid includes the summation of Bid Items 1 through 15 and represents the total price bid to provide the work as shown in the Contract Documents.

Signed: _____

Name: _____

Title: _____

Bidder acknowledges receipt of Addendum:

Addendum Number

Received

THE BIDDER MUST ACKNOWLEDGE RECEIPT OF ALL ADDENDA. Not checking the box for all issued addenda will disqualify the bid.

The undersigned agrees, if awarded the Contract, that said Bidder and all of said Bidder's subcontractors, shall pay to all laborers, workers and mechanics employed in the execution of the Contract not less than the general prevailing rate of per diem wages and rates for overtime and

legal holidays in the locality in which the Work is to be performed, as determined by the Director of Industrial Relations in accordance with California Labor Code Section 1770, which schedule shall be available for review at City's principal office.

The Project is a public work. Therefore, the prime contractor and all subcontractors for the Project must be registered with the California Department of Industrial Relations pursuant to the provisions of Labor Code Section 1725.5 in order to be qualified to bid on, be listed in a bid proposal, or engage in the performance of any work under the Contract for the Project. A bid shall not be accepted, nor any contract or subcontract be entered into without proof of the contractor or subcontractor's current registrations to perform public work pursuant to Labor Code Section 1725.5. The undersigned Bidder hereby certifies that she/he/it, and all subcontractors listed in the Proposed Subcontractors form included with this proposal form are registered pursuant to that Section. The undersigned Bidder hereby further certifies that his/her/its Department of Industrial Relations registration number is listed below.

Pursuant to Labor Code Section 1771.4, the Project is subject to compliance monitoring and enforcement by the Department of Industrial Relations. The prime contractor shall post jobsite notices as prescribed by regulation and the prime contractor and each subcontractor shall furnish the records specified in Labor Code Section 1776 directly to the Labor Commissioner as specified in said Section 1771.4. Pursuant to Labor Code Section 1773.3, the City shall provide notice to the Department of Industrial Relations of the award of the contract for the Project within five days of the award.

This sheet must accompany bid.

Signature

Title

Date

DIR Number

SECTION V
CONTRACT FOR CONSTRUCTION

V. CONTRACT FOR CONSTRUCTION

COLLECTION SYSTEM PROJECTS FY 2020-21 SACRAMENTO EASEMENT (C005I)

This Contract for construction is made this ___ day of _____, 2021 between the City of Pacifica (Owner or City) and _____ (Contractor). The work described below shall be performed in accordance with the all plans, specifications and other Contract Documents attached to or incorporated into this Agreement.

[NOTE: the following section must be modified for each project to include ALL documents that are part of the Contract Documents.]

The following documents are incorporated into and made part of this Contract by this reference:

- Notice to Bidders
- Information for Bidders
- Contract Proposal (including list of subcontractors, proposed material suppliers, Bidder's Experience, and Bid Schedule)
- Certificates of Insurance
- Lien Waivers, Bid Bond, Non-Collusion Affidavit, Faithful Performance Bond, Bond For Payment of Labor and Materials, Guarantee
- General Condition
- Special Provisions
- Technical Specifications
- Project Plans
- General Specifications
- Addenda, if any

The documents shall be referred to collectively as the "Contract Documents".

SECTION 1 - SCOPE

Contractor shall furnish all necessary management, supervision, labor, materials, tools, supplies, equipment, plant, services, engineering, testing and/or any other act or thing required to diligently and fully perform and complete the work generally described as follows:

COLLECTION SYSTEM PROJECTS FY 2020-21 SACRAMENTO EASEMENT (C005I)

Contractor shall comply with all requirements of the Contract Documents. Where there is a conflict between the requirements of the several Contract Documents, the more stringent requirements shall govern.

Without limiting the foregoing description, Contractor's scope of work includes, but is not limited to, the following:

- Submit all required samples, product data, certificates, operations and maintenance instructions, guarantees, and other submittals no later than five (5) days after the date the City issues a Notice to Proceed.
- Obtain all necessary permits and approvals for the Work.
- Comply with all applicable federal, state and local laws and guidelines.
- Protect all materials to be used in the Work in accordance with the specifications.
- Protect existing facilities and personal property. Contractor shall be solely responsible for all damage to the building or contents.
- Attend a preconstruction conference with City to discuss schedule, access, sequence of work, and other issues.
- Prepare and submit a written daily activity report to City for each day on which work is performed, including weekends and holidays when worked, and submit the reports to the City no later than the next business day. The daily reports shall, at a minimum, include the following information: construction activities and locations, construction crew sizes of general and subcontractors, start or completion of activities, progress on construction activities (including units or portions of work completed), tests or inspections performed, deliveries of material or equipment, delays or potential delays, visitors to the site, weather conditions, construction equipment used, and personal injuries or damage to property.
- The Contractor shall be responsible for unloading, hoisting and otherwise handling its own materials, supplies and equipment.
- Coordinate with owner-scheduled use or events at the Project site.
- The Contractor is responsible for researching and complying with all local codes, agencies and jurisdictions that regulate and govern the Work.
- Contractor shall set up, identify, coordinate, provide safe access, and obtain all inspections for its work, as required by any authorized agency or applicable code, prior to covering up work.

SECTION 2 - PRICE

A. City agrees to pay, and Contractor agrees to accept, the sum of _____ Dollars (\$ _____) (the "Contract Price") subject to adjustments for changes in the work as may be directed in writing by City, as payment in full for the Work.

B. Contractor shall submit a payment application in the amount of the contract sum upon completion of the Work and satisfaction of all conditions of the Contract Documents. City shall make payment within 30 days of receipt of application, less five percent retention. City shall

release the retained funds no less than thirty-five (35) days after the date the City accepts the Work.

C. Pursuant to Public Contract Code Section 22300, for monies earned by the Contractor and withheld by the City to ensure the performance of the Contract, the Contractor may, at its option, choose to substitute securities meeting the requirements of Public Contract Code Section 22300.

D. Contractor agrees to furnish, as a condition of payment, payroll affidavits, receipts, vouchers, and other documents, in form satisfactory to City, prior to receipt of any payment. Contractor shall submit Conditional and Unconditional waivers and release of lien upon (as provided in Civil Code Section 3262) on behalf of itself and suppliers that furnished labor, material, equipment or services to the Project.

SECTION 3 - ENTIRE AGREEMENT

This Contract for Construction, including the documents incorporated herein, represents the entire agreement between City and Contractor and supersedes any prior written or oral representations.

SECTION 4 - TIME

A. Project must commence as soon as the contract is awarded. Contract will be awarded within 30 days from the bid opening. Project is to be completed within 45 calendar days from the Notice to Proceed (Contract Time). The Contractor shall pay to the City of Pacifica Five Hundred Dollars (\$500) for each and every calendar days delay in finishing the work in excess of the Contract Time, as modified in accordance with the Contract Documents.

B. Time is of the essence of this Agreement.

C. Contractor shall provide City with scheduling information in a form acceptable to City, including any changes made by City in the scheduling of work. Contractor shall coordinate its work with that of all other contractors, subcontractors and suppliers so as not to delay or damage their performance.

D. It is further agreed that in case Contractor fails to complete the Work in all parts and requirements within the Contract Time, the City shall have the right to extend the Contract Time or not, as may seem best to serve the interest of the City; and if it decides to extend Contract Time, City shall further have the right to charge to the Contractor, his heirs, assigns or sureties, and to deduct from the final payment for the Work, all or any part, as it may deem proper, of the actual cost of engineering, inspection, superintendence, and other overhead expenses which are directly chargeable to the Contract, and which accrue during the period of such extension.

E. The Contractor will not be assessed with liquidated damages or the cost of engineering and inspection during the delay in the completion of the Work caused by acts of God or of the public enemy, fire, floods, epidemics, quarantine restrictions, strikes, freight embargoes, and unusually severe weather or delays of subcontractors due to such causes; provided, that the Contractor shall within five (5) days from the beginning of any such delay, notify the City, in writing of the

causes of delay. The City shall ascertain the facts and the extent of delay, and his findings thereon shall be final and conclusive.

F. In the event that Contractor's work is delayed for any reason, including acts of City, Contractor's sole remedy shall be an extension of time equal to the period of delay, provided Contractor has given City written notice of the commencement of delay within 48 hours of its occurrence.

SECTION 5 - LABOR

A. The Contract is subject to the provisions of Part 7 of Division 2 of the California Labor Code (Sections 1720 and following), and Contractor and any subcontractor shall pay not less than the specified prevailing rates of wage to all workers employed in performance of the Work. Pursuant to the provisions of Section 1770 of the Labor Code of the State of California, the City Council of the City of Pacifica has obtained the general prevailing rate of wages and employer payments for health and welfare, vacation, pension and similar purposes in the City, a copy of which is on file at the Calera Creek Water Recycling Plant, and shall be made available for viewing to any interested party upon request.

B. Contractor's attention is directed to the provisions in Section 1777.5 and 1777.6 of the Labor Code concerning the employment of apprentices by the Contractor or any subcontractor under the Contractor. It shall be the responsibility of the Contractor to effectuate compliance on the part of itself and any subcontractors with the requirements of said sections in the employment of apprentices. Information relative to apprenticeship standards, wage schedules, and other requirements may be obtained from the Director of Industrial Relations, ex-officio the Administrator of Apprenticeship, San Francisco, California, or from the Division of Apprenticeship Standards and its branch offices.

C. Pursuant to the requirements of Division 4 of the Labor Code, the Contractor will be required to secure the payment of worker's compensation to its employees in accordance with the provisions of Section 3700 of the Labor Code. Prior to commencement of work, the Contractor shall sign and file with the City a certification in the following form:

"I am aware of the provisions of Section 3700 of the Labor Code which require every employer to be insured against liability for worker's compensation or to undertake self-insurance in accordance with the provisions before commencing the performance of the work of this contract."

D. The Contractor or subcontractor shall, as a penalty to the state or political subdivision on whose behalf the contract is made or awarded, forfeit twenty-five dollars (\$25) for each worker employed in the execution of the contract by the respective contractor or subcontractor for each calendar day during which the worker is required or permitted to work more than 8 hours in any one calendar day and 40 hours in any one calendar week in violation of the provisions of this article.

E. Contractor certifies that it is aware of and has complied with the provisions of California Labor Code Section 6401.7, which requires every employer to adopt a written injury and illness prevention program.

SECTION 6 - CHANGES IN WORK

A. Contractor shall make no changes in the Work without written direction from the City. Contractor shall not be compensated for any change made without any such written direction. No changes in the work covered by this Agreement shall exonerate any surety or any bond given in connection with this Agreement.

B. If the City directs the Contractor in writing to make changes in the Work that materially affect the cost of performing the Work, the Contract Price will be adjusted based on one of the following:

- i. Where the Work involved is covered by unit prices contained in the Contract Documents, by application of unit prices to the quantities involved in the changed Work;
- ii. By establishment of new unit prices and related quantities for the changed Work;
- iii. By a combination of existing and new unit prices and related quantities for the changed Work; or
- iv. By mutual acceptance of a lump sum.

C. If the City directs the Contractor in writing to make changes in the Work that materially affect the time required to perform the Work, the City will make a reasonable adjustment to the Contract Time.

D. There is no allowable mark-up for extra work or changes in work.

SECTION 7 - CLAIMS

A. If any dispute shall arise between City and Contractor regarding performance of the Work, or any alleged change in the work, Contractor shall timely perform the disputed work and shall give written notice of a claim for additional compensation for the work to City within ten (10) days after commencement of the disputed work. Contractor's failure to give written notice within the ten (10) day period constitutes an agreement by Contractor that it will receive no extra compensation for the disputed work.

B. No claim, potential claim, dispute or controversy shall interfere with the progress and performance of the Work or any changes thereto, and Contractor shall proceed as directed by Owner in all instances with its Work, including any disputed Work, or any changes thereto and that any failure of Contractor to comply herewith and to proceed with its work shall automatically be deemed a material breach of this Contract entitling Owner to all remedies available under Section 10 or other provision of this Contract and applicable law. Except as provided elsewhere in the Contract Documents, Owner shall continue to make payments in accordance with the Contract.

SECTION 8 - INSPECTION AND PROTECTION OF WORK

A. Contractor shall make the Work accessible at all reasonable times for inspection by the City. Contractor shall, at the first opportunity, inspect all material and equipment delivered to the jobsite by others to be used or incorporated in the Contractor's work and give prompt notice of any defect therein. Contractor assumes full responsibility to protect the work done hereunder until final acceptance by the City.

B. When the Work is completed, Contractor shall request, in writing, a final inspection. Within ten (10) days of the receipt of such request, the City shall make a final inspection. The Contractor or its representatives may be present at the final inspection. The purpose of such final inspection shall be to determine whether the Work has been completed in accordance with the Contract Documents, including all change orders and all interpretations and instructions previously issued.

C. All materials the City has determined do not conform to the requirements of the Contract Documents will be rejected, whether in place or not. They shall be removed immediately from the site of the work, unless otherwise permitted by the City. No rejected material shall be used in the Work, unless the defects have been corrected and approval in writing has been given by the City. The cost of re-testing material or workmanship that fails to pass the first test shall be borne by the Contractor. Upon failure of the Contractor to comply promptly with any order of the City made under the provisions in this section, the City shall have authority to cause the removal and replacement of rejected material and to deduct the cost thereof from any monies due or to become due the Contractor.

SECTION 9 - ASSIGNMENT AND SUBCONTRACTING

A. Contractor shall give personal attention to the performance of the Work and shall keep the Work under its control.

B. No subcontractors will be recognized as such, and all persons engaged in the work of construction will be considered as employees of the Contractor, who will be held responsible for their work which shall be subject to the provisions of the Contract and specifications.

C. No subcontractor who is ineligible to bid work on, or be awarded, a public works project under Labor Code Sections 1771.1 or 1777.7 can bid on, be awarded or perform work as a subcontractor on the Project. The Contractor is prohibited from performing work on the Project with a subcontractor who is ineligible to perform work on a public works project under these sections of the Labor Code.

D. When a portion of the work which has been subcontracted by the Contractor is not being prosecuted in a manner satisfactory to the Engineer or Collection Manager or they're representative, the subcontractor shall be removed immediately on the request of the Engineer or Collection Manager and shall not again be employed on the work.

E. Contractor may not assign performance of the Contract except upon written consent of the City.

SECTION 10 - TERMINATION

A. Should Contractor fail within three (3) calendar days from receipt of City's written notice to correct any contractual deficiencies, including but not limited to failure perform the Work in accordance with the Contract Documents, failure to comply with the directions of City, or failure pay its creditors, City may terminate this Agreement. Following a termination for default, City shall have the right to take whatever steps it deems necessary to correct and complete the Work and charge the cost thereof to Contractor, who shall be liable for the full cost of City's corrective action, including reasonable overhead, profit and attorneys' fees.

B. City may at any time terminate the Contract at City's convenience upon five days written notice to Contractor; in the event of termination for convenience, Contractor shall recover only the actual cost of work completed to the date of termination, which costs are documented to City's satisfaction, plus a reasonable amount not to exceed fifteen percent (15%) of the actual cost of the Work performed for overhead and profit. Contractor shall not be entitled to any claim or lien against City for any additional compensation or damages in the event of such termination.

C. If City terminates Contractor for cause, and if it is later determined that the termination was wrongful, such default termination shall automatically be converted to and treated as a termination for convenience. In such event, Contractor shall be entitled to receive only the amounts payable under this section, and Contractor specifically waives any claim for any other amounts or damages, including, but not limited to, any claim for consequential damages or lost profits.

SECTION 11 - HOLD HARMLESS AND INDEMNIFICATION

A. The City of Pacifica and all officers and employees thereof connected with the Work, including but not limited to the Director of Wastewater, Collection Manager, Engineer, Design Engineer, Inspector, Construction Manager, and City Council, elected and appointed officials, City volunteers and servants, City contractors and agents (collectively the "Indemnitees"), shall not be answerable or accountable in any manner: for any loss or damage that may happen to the Work or any part thereof; for any loss or damage to any of the materials or other things used or employed in performing the Work; for injury to or death of any person; or for damage to property from any cause except losses due to sole or active negligence of the City of Pacifica' officers or employees.

B. To the fullest extent allowed by law, Contractor shall defend, indemnify and hold harmless the Indemnitees from all liability, penalties, costs, losses, damages, expenses, causes of action, claims or judgments, including attorney's fees and other defense costs, resulting from injury to or death sustained by any person (including Contractor's employees), or damage to property of any kind, or any other injury or damage whatsoever, which injury, death or damage arises out of or is in any way connected with the performance of the Work, regardless of the Contractor's fault or negligence, including any of the same resulting from City's alleged or actual negligent act or omission, or its agents, contractors or employees; except that said indemnity shall not be applicable to injury, death or damage to property arising from the sole or active negligence or willful misconduct of City, its officers, agents, or servants who are directly responsible to City.

This indemnification shall extend to claims asserted after termination of this Contract for whatever reason.

C. In addition to any remedy authorized by law, so much of the money due the Contractor under and by virtue of the contract as shall be considered necessary by the City, may be retained by the City of Pacifica until disposition has been made of such suits or claims for damage.

SECTION 12 - BONDS AND INSURANCE

A. Bonds.

i. Within ten (10) days after being notified of the award of the contract, and before the City will execute the agreement for construction, the Contractor to whom the Contract is awarded shall furnish and file with the City Performance and Payment Surety bonds as set forth below.

ii. Contractor shall submit a faithful performance bond on the form provided with the Contract Documents, duly executed by a responsible corporate surety listed in the United States Department of the Treasury circular entitled "Companies Holding Certificates of Authority as Acceptable Sureties on Federal Bonds and as Acceptable Reinsuring Companies," authorized to do business in the State of California and acceptable to City conditioned upon the faithful performance by the Contractor of all requirements of the Contract Documents. The amount of said bond shall be in a sum no less than one hundred percent (100%) of the total Contract Price.

iii. Contractor shall also submit a bond on the form provided with the Contract Documents, duly executed by a responsible corporate surety listed in the United States Department of the Treasury circular entitled "Companies Holding Certificates of Authority as Acceptable Sureties on Federal Bonds and as Acceptable Reinsuring Companies," authorized to do business in the State of California and acceptable to City, which in all respects complies with Civil Code sections 3247-3252, inclusive. This bond, hereinafter referred to as a "payment bond," shall be in a sum no less than one hundred percent (100%) of the Contract Price.

B. Insurance.

i. Contractor shall obtain, at its sole cost and expense, all insurance required by this section 12.B. Certificates of such insurance and copies of the insurance policies and endorsements shall be delivered to City within ten (10) days after being notified of the award of the contract, and before execution of the agreement for construction by the City.

ii. The insurance requirements specified herein shall apply to all subcontractors. The Contractor shall designate appropriate insurance limits for subcontractors. It shall be the responsibility of the Contractor to ensure that all subcontractors comply with this provision, and to verify their compliance when requested by the City. The Contractor shall not allow any subcontractor to commence work until all insurance required of the subcontractor has been obtained and verified by the Contractor and submitted to the City. Subcontractors shall furnish original certificates and endorsements as verification of insurance coverage. Upon request, Contractor shall deliver certificates of insurance or copies of the insurance policies and

endorsements of all subcontractors; provided, however, that this authority shall not relieve Contractor of its obligation to ascertain the existence of such insurance.

iii. The insurance required by this article shall be maintained by Contractor in full force and effect at all times during prosecution of the Work and until the expiration of the warranty period following the final completion and acceptance thereof by City, and every policy shall be endorsed to state that it shall not be assigned, cancelled, or reduced in coverage without thirty (30) days' prior written notice to City. Every policy shall also be endorsed to state that the City shall be given written notice of nonrenewable at least thirty (30) days prior to the nonrenewable date.

iv. The parties defined as "Indemnitees" above in Section 11, are collectively defined herein as the "Additional Insureds."

v. Liability Insurance. This insurance shall protect the Contractor from claims for bodily injury and property damage which may arise because of the nature of the work or from operations under this Contract.

- a. Coverage shall be at least as broad as:
 - (i) Commercial General Liability coverage (Insurance Services Office form number GG 0001 – "occurrence" form).
 - (ii) Owners and Contractors Protective Liability Coverage form – Coverage for Operations of Designated Contractor (Insurance Services Office form G0009 11 88).
 - (iii) Insurance Services Office form number CA 0001 covering Automobile Liability, code 1 "any auto," and endorsement CA 0025.
 - (iv) Workers' Compensation insurance as required by the Labor Code of the State of California and Employers Liability insurance.
- b. The Commercial General Liability Insurance shall include the following coverage:
 - (i) Premises – Operations;
 - (ii) Owner's/Independent Contractors and Contractor's Protective;
 - (iii) Products - Completed Operations;
 - (iv) Personal Injury - (False Arrest, Libel, Wrongful Eviction, etc.);
 - (v) Broad Form Property Damage – including to the maximum extent possible, coverage for the Assumption of Liability Pursuant to Completed Operations;

- (vi) Blanket Contractual liability, including the indemnity agreement in this contract
 - (vii) Separation of Insureds / Cross-Liability Provisions
 - (viii) Duty to Defend all Insureds
 - (ix) Deletion of any limitation on Coverage for Bodily Injury or Property
 - (x) Damage Arising out of Subsidence or Soil or Earth Movement.
 - (xi) A provision that the annual general aggregate and the products and completed operations annual aggregate shall apply separately to the Project.
 - (xii) Pollution Legal Liability Endorsement
 - (xiii) XCU - (Explosion, Collapse, Underground Damage)
- c. Coverage shall not extend to any indemnity coverage for the sole or active negligence of the additional insured in any case where any agreement to indemnify the additional insured would be invalid under Civil Code Section 2782(b).
- d. Contractor shall maintain limits no less than:
- (i) Commercial General Liability: Two Million Dollars (\$2,000,000) combined single limit per occurrence for bodily injury, personal injury and property damage.
 - (ii) Automobile Liability: One Million Dollars (\$1,000,000) combined single limit per accident for bodily injury and property damage.
 - (iii) Workers' Compensation and Employers Liability: Workers' compensation limits as required by the Labor Code of the State of California and Employers Liability limits of One Million Dollars (\$1,000,000) per accident.
- e. At the option of the Contractor, primary limits may be less than required, with an Umbrella Policy providing the additional limits needed. This form of insurance will be acceptable provided that the Primary and Umbrella Policies both provide the insurance coverage herein required, including all additional insured requirements. The umbrella policy shall be provided on a "following form" basis with coverage at least as broad as provided on the underlying commercial General Liability insurance.

- f. Contractor shall furnish the City with certificates of insurance and with original endorsements effecting coverage required by this clause. The certificates and endorsements for each insurance policy are to be signed by a person authorized by that insurer to bind coverage on its behalf. The certificates and endorsements are to be on forms provided by the City, provided that the forms conform to these requirements, and are to be received and approved by the City before work commences. The City reserves the right to require complete, certified copies of all required insurance policies, including endorsements affecting the coverage required by these specifications, at any time.
- g. Contractor shall include all subcontractors as insureds under its policies or shall furnish separate certificates and endorsements for each subcontractor. All coverage for subcontractors shall be subject to all of the requirements stated herein.
- h. Insurance is to be placed with insurers with a Bests' rating of no less than A:VIII.
- i. Originals of the following endorsements shall be attached to the liability insurance policy and delivered to City:
 - (i) The Commercial General Liability policy of insurance shall be endorsed to name as Additional Insureds using ISO Form CG201185. This policy shall provide coverage to each of the additional insureds with respect to the Work.
 - (ii) The Automobile Liability policy of insurance shall be endorsed to name the Additional Insureds. This policy shall provide coverage to each of the Additional Insureds with respect to the Work.
 - (iii) Workers' Compensation and Employers Liability. The insurer shall agree to waive all rights of subrogation against the Additional Insureds.
 - (iv) The policy shall be endorsed to provide primary coverage to the full limit of liability stated in the declarations, and provide that if the additional insureds have any other insurance or self-insurance against the loss covered by this policy, that other insurance shall be excess insurance and not contribute with contractor's policy.
 - (v) Any failure to comply with reporting provisions of the policies shall not affect coverage provided to the City, its officials, employees or volunteers.
 - (vi) Coverage shall state that the Contractor's insurance shall apply separately to each insured against whom claim is made or suit is brought, except with respect to the limits of the insurer's liability.

- (vii) The insurer shall waive all rights of subrogation against the Additional Insureds for losses arising from work performed by the Contractor for the City.
 - (viii) An endorsement shall be attached which states that the coverage is primary insurance and that any insurance or self-insurance fund maintained by or available to Additional Insureds shall be in excess of Contractor's insurance and shall not be called upon to contribute to a loss covered by the policy.
 - (ix) The policy must provide that it shall not be cancelled, suspended, voided or changed nor may the "retroactive date" of the policy or any renewal or replacement policy be changed without thirty (30) days' prior written notice to the City.
 - (x) A cross-liability endorsement must be included to the effect that each insured is covered as if separate policies had been issued to each insured.
 - (xi) The liability coverage may be either on a blanket basis or a policy which specifically identifies this agreement with a contractual liability endorsement.
- j. Any deductibles or self-insured retentions must be declared to and approved by the City. At the option of City, the insurer shall reduce or eliminate such deductibles or self-insured retentions as respects the City, its officers, agents, construction manager, employees and volunteers or the Contractor shall procure a bond guaranteeing payment of losses and related investigation, claims administration and defense expenses.

C. Waiver of Subrogation. City and Contractor waive all rights against each other and against all other subcontractors for loss or damage to the extent covered by Builder's Risk or any other property or equipment insurance applicable to the Project, except such rights as they may have to the proceeds of such insurance less their pro-rata share of the deductible. If the policies of insurance referred to in this section require an endorsement or consent of the insurance company to provide for continued coverage where there is a waiver of subrogation, the owners of such policies will cause them to be so endorsed or obtain such consent.

D. Insurance Requirements are Material Elements of Performance. In the event of the breach of any provision of this paragraph, or in the event of any notices received which indicate any required insurance coverage will be diminished or canceled, City, at its option, may, notwithstanding any other provisions of this Agreement to the contrary, immediately declare a material breach of this Agreement and suspend all further work pursuant to this Agreement.

SECTION 13 - CLAIMS RESOLUTION

Disputes arising under this Agreement shall be resolved in accordance with the procedures set forth in Section 20104.50 of the Public Contract Code.

SECTION 14 - WARRANTY

Contractor warrants to City that all materials and equipment furnished shall be new, free from faults and defects and of good quality. Contractor hereby warrants its work against all deficiencies and defects for the period required by the Special Provisions or the longest period permitted by the law of this State, whichever is less.

SECTION 15 - LAWS TO BE OBSERVED

A. Contractor shall keep itself fully informed of all existing and future state and federal laws and county and municipal ordinances and regulations which in any manner affect those engaged or employed in the work, or the materials used in the work, or which in any way affect the conduct of the Work, and of all such orders and decrees of bodies or tribunals having any jurisdiction or authority over the same.

B. Contractor shall at all times observe and comply with, and shall cause all of its agents and employees to observe and comply with all such existing and future laws, ordinances, regulations, orders, and decrees of bodies or tribunals having any jurisdiction or authority over the work; and shall protect and indemnify the City, and all officers and employees thereof connected with the work, including but not limited to the Deputy Director of Public Works - Wastewater, against any claim or liability arising from or based on the violation of any such law, ordinance, regulation, order, or decree, whether by the City's representative or their employees. If any discrepancy or inconsistency is discovered in the plans, drawings, specifications, or contract for the work in relation to any such law, ordinance, regulation, order or decree, Contractor shall forthwith report the same to the City in writing.

SECTION 16 - MISCELLANEOUS

A. Utility Facilities.

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

ii. If Contractor while performing the Work discovers utility facilities not identified in the Contract Documents, Contractor shall immediately notify the City and the utility owner. City shall arrange the removal, relocation, or protection of existing main or trunk line utility facilities located at the site of the Work but not identified in the Contract.

iii. If the Contractor is required to locate, repair damage not due to the Contractor's failure to exercise reasonable care, and remove or relocate existing main or trunk line utility facilities, it shall be compensated under the Changes section of this Contract, including payment for equipment on the Project necessarily idled during such work.

iv. Contractor will not be entitled to damages or additional payment for delays caused solely by the failure of City, or the owner of the utility, to provide for removal or relocation of existing main or trunk line utility facilities not identified in the Contract Documents, except for equipment necessarily idled during such work.

v. Contractor shall not be assessed liquidated damages for delay in completing the Work solely attributable to the failure of City, or the owner of the utility, to provide for removal or relocation of existing main or trunk line utility facilities not indicated in the Contract Documents with reasonable accuracy.

vi. The right is reserved by the City and the owners of facilities or their authorized agents, to enter the Project site for the purpose of making such changes as are necessary for the rearrangement of their facilities or for making necessary connections or repairs to their properties. Contractor shall cooperate with forces engaged in such work and shall conduct its operations in such a manner as to avoid any delay or hindrance to the work being performed by such other forces.

vii. Attention is directed to the possible existence of underground facilities not known to the City of Pacifica, or in a location different from that which is shown on the plans or in the Contract Documents. The Contractor shall take all steps reasonably necessary to ascertain the exact location of all underground facilities prior to doing work that may damage such facilities or interfere with their service, including but not limited to calling USA to mark utilities.

B. Differing Site Conditions.

i. The Contractor shall promptly, and before the following conditions are disturbed, notify the City in writing of any:

- a. Material that the Contractor believes may be material that is hazardous waste, as defined in Section 25117 of the Health and Safety Code that is required to be removed to a Class I, Class II, or Class III disposal site in accordance with provisions of existing law.
- b. Subsurface or latent physical conditions at the site differing materially from those indicated in this Contract, or
- c. Unknown physical conditions at the site of any unusual nature, differing materially from those ordinarily encountered and generally recognized as inherent in work of the character provided for in this Contract.

ii. The City shall promptly investigate the conditions, and if it finds that such conditions do materially so differ, or do involve hazardous waste, and cause an increase or decrease in the Contractor's cost of, or the time required for, performance of any part of the Work, it shall issue a change order under the provisions described in the Contract Documents.

iii. No claim of the Contractor under this clause shall be allowed unless the Contractor has given the notice required in the Contract Documents.

iv. In the event a dispute arises between the City and the Contractor as to whether the conditions materially differ, or involve hazardous waste, or cause a decrease or increase in the Contractor's cost of, or time required for, performance of any part of the work, Contractor shall not be excused from completing the Work as provided in the Contract Documents. The Contractor shall proceed with all work to be performed under the Contract. The Contractor shall

retain any and all rights provided either by this Contract or by law which pertain to the resolution of disputes and protests.

C. Records and Audits.

i. Contractor and its subcontractors shall establish and maintain records pertaining to this contract. Contractor's and subcontractors' accounting systems shall conform to generally accepted accounting principles and all records shall provide a breakdown of total costs charged under this contract, including properly executed payrolls, time records, invoices and vouchers.

ii. Contractor shall permit City and its authorized representatives to inspect and examine Contractor's books, records, accounts, and any and all data relevant to this Contract at any reasonable time for the purpose of auditing and verifying statements, invoices, or bills submitted by Contractor pursuant to this contract and shall provide such assistance as may be reasonably required in the course of such inspection. City further reserves the right to examine and re-examine said books, records, accounts, and data during the three (3) year period following the termination of this Contract; and Contractor shall in no event dispose of, destroy, alter, or mutilate said books, records, accounts, and data in any manner whatever for three (3) years after the termination of this Contract.

iii. Pursuant to California Government Code Section 10532, the parties to this Contract shall be subject to the examination and audit of representative of the Auditor General of the State of California for a period of three (3) years after final payment under the contract. The examination and audit shall be confined to those matters connected with the performance of this contract including, but not limited to, the cost of administering the contract

SECTION 17 - WAIVERS OF LIEN

Upon request the Contractor shall submit a complete list of major suppliers and/or subcontractors who will be providing material and/or labor for the performance of the Work, and shall submit with each payment request waivers of lien from each major supplier and/or subcontractor. A sample of this form to be used will be furnished by the City.

SECTION 18 - BACK CHARGES

Charges from Contractor to City will not be honored or paid by City unless the charges are authorized and approved by City at the time the work is being performed for which a charge is to be submitted.

SECTION 19 - CLEAN-UP

Contractor will remove from the project site all debris resulting from performance of the Work no less often than daily. If Contractor fails to do so, City may, after twenty-four (24) hours' notice to Contractor, clean up the site and deduct the cost from the Contract Price.

SECTION 20 - LICENSE REQUIREMENT

Contractor's attention is directed to Business and Professions Code Sections 7000 et seq. concerning the licensing of contractors. At the time Contractor enters into this Contract and all times Contractor is performing the Work, Contractor shall have a valid license issued by the Contractors State License Board in the classification stated in the Contract Documents. Contractor and all subcontractors shall be licensed in accordance with the laws of this State and any contractor or subcontractor not so licensed is subject to penalties imposed by such laws.

CONTRACTORS ARE REQUIRED BY LAW TO BE LICENSED AND REGULATED BY THE CONTRACTORS' STATE LICENSE BOARD WHICH HAS JURISDICTION TO INVESTIGATE COMPLAINTS AGAINST CONTRACTORS IF A COMPLAINT REGARDING A PATENT ACT OR OMISSION IS FILED WITHIN FOUR YEARS OF THE DATE OF THE ALLEGED VIOLATION. A COMPLAINT REGARDING A LATENT ACT OR OMISSION PERTAINING TO STRUCTURAL DEFECTS MUST BE FILED WITHIN 10 YEARS OF THE DATE OF THE ALLEGED VIOLATION. ANY QUESTIONS CONCERNING A CONTRACTOR MAY BE REFERRED TO THE REGISTRAR, CONTRACTORS' STATE LICENSE BOARD, P.O. BOX 26000, SACRAMENTO, CALIFORNIA 95826.

IN WITNESS THEREOF, three identical counterparts of this Agreement, each of which shall for all purposes be deemed an original thereof, have been fully executed by the parties hereinabove named, on the day and year first hereinabove written.

CITY OF PACIFICA,
A Municipal Corporation:

Kevin Woodhouse, City Manager

ATTEST:

Sarah Coffey, City Clerk

APPROVED AS TO FORM:

Michelle Kenyon, City Attorney

CONTRACTOR:

By _____

Title

SECTION VI-A
GENERAL CONDITIONS

VI-A. GENERAL CONDITIONS

COLLECTION SYSTEM PROJECTS FY 2020-21 SACRAMENTO EASEMENT (C005I)

1. Specifications and Plans

The work embraced herein shall be done in accordance with the project plans, these specifications, the standard plans of the City of Pacifica, the Standard Plans and Specifications of the State of California, Caltrans, and other standard construction references insofar as the same may apply and in accordance with provisions herein. The Special Provisions describe which specifications and plans are part of this contract.

The drawings and specifications are intended to be complementary and that shown in one but not the other is to be included as if shown in both. Anything not expressly set forth in either but which is necessarily implied shall be furnished as though specifically both shown and mentioned without extra charge. Should anything be omitted from the drawings which is necessary for proper execution of the work herein described, it shall be the duty of the Contractor to notify the Engineer or authorized representative before signing the contract.

Scaling of prints shall be avoided and, when done, shall be the Contractor's responsibility. Given dimensions shall take precedence. Consult the Engineer for all necessary dimensions that are not given. Check all field dimensions, existing site or building conditions, locations and sizes before proceeding.

Omissions or errors, if discovered in the drawings or specifications, shall be brought to the attention of the Engineer. No work is to proceed where there is any uncertainty as to the meaning of these documents.

Contractor shall consult the Engineer if at any time a variation in the construction or in the quality of materials as specified would be beneficial or expedite the execution of this work or that of the other trades. The Contractor will be allowed to vary from the documents only after written approval of the City is obtained.

2. Shop Drawings

Shop drawings will be required on this project.

3. Definitions

The term "Owner" or "City" shall mean "City of Pacifica" and the authorized representative acting on the City's behalf, such as the Consultant, Design Engineer, Construction Manager, and Program Manager.

The term "Engineer" shall mean "City Engineer" or the authorized representative, acting on the City's behalf, such as the Consultant, Design Engineer, or Construction Manager.

The term “Inspector” shall be the Engineer or the City’s authorized job inspector or any independent inspection service acting on the City’s behalf.

The term “Specification” shall mean these project specifications and shall encompass all sections thereof, appendices, attachments, contracts, standard specifications, agreement forms, bond forms and guarantees.

The term “Standard Plan and/or Standard Specifications” shall mean Caltrans, latest edition or the City of Pacifica Standard drawings.

The term “Plans” or “Project Plans” shall mean the plans for this project, standard plans, standard drawings or standard details.

The term “Contractor” shall mean the entity submitting the contract bid proposal and executing the contract documents.

The term “Subcontractor” shall mean any contractor working under and for the Contractor.

4. **Dust Control and Cleanup**

During the construction period, the Contractor shall not generate any visible dust. The premises shall also be kept free from the accumulation of waste material or rubbish. A water truck and a sweeper shall be on site and operational at all times. Failure to meet this requirement may result in project shutdown.

The final cleaning shall leave the facilities ready for use or occupancy with no additional cleanup. Clean up dirt, grease, asphalt, etc. from all surfaces. Use no cleaning materials which will damage finishes.

At the completion of the contract, the Contractor shall remove all remaining litter, debris, materials, temporary structures and equipment from the site. The premises shall be left in a clean and orderly condition acceptable to the Engineer.

5. **Proposal Requirements and Conditions**

The bidder’s attention is directed to “Proposal Requirements and Conditions” of the Caltrans Standard Specifications.

6. **Award and Execution of Contract**

The bidder’s attention is directed to “Award and Execution of Contract” of the Caltrans Standard Specifications for the requirements and conditions concerning the award and execution of contract except that the number of working days shall be counted from the Notice to Proceed.

7. **Beginning of Work and Time of Completion**

Attention is directed to “Beginning of Work and Time of Completion” of the Caltrans Standard Specifications and these General Conditions. The Contractor shall begin work and shall diligently prosecute the same to completion as noted in the “Notice to Bidders.” The number of working days shall be counted from the Notice to Proceed.

8. **Public Safety and Site Security**

Contractor shall be responsible for public safety and convenience during all phases of work. The Contractor shall provide the City with a 24-hour emergency number.

Contractor shall designate a Public Safety Person responsible for site safety as well as site security.

In the event Contractor leaves the job overnight in an unsafe condition, or fails to provide for public safety and convenience, City may take action to provide necessary requirements and will deduct the cost of doing so from subsequent Contractor payments.

All applicable safety regulations shall be complied with to protect the public and the Contractor’s employees. Strict compliance with Cal/OSHA and NESHAP safety requirements in doing the work is required.

9. **Failure to Perform**

The determination by the Engineer of the question as to whether the Contractor has failed to perform any of the terms of the contract shall be conclusive upon the Contractor, surety and any and all other parties who may have any interest in the contract or any portion thereof.

The foregoing provision of this section shall be in addition to all other rights and remedies available to the City under the law.

10. **Termination by Owner for Cause**

Owner may terminate the contract pursuant to the provisions of this article, for the following causes:

1. Contractor is insolvent or has made a general assignment for the benefit of creditors, or a receiver has been appointed on account of the insolvency of Contractor.
2. Contractor or any of its subcontractors materially violates any of the provisions of the Contract Documents or fail to perform the work within the time specified in the current Construction Schedule, as properly modified for time extensions.

3. Contractor or any of its subcontractors should fail to make prompt payment to subcontractors or material supplies for material or for labor, unless such failure arises from a failure on the part of Owner to make prompt payment on account of such work or material.
4. Contractor or subcontractor persistently disregards laws, ordinances or the instructions of the Engineer or Owner.
5. Contractor fails to abide by a property stop work notice or fails to correct rejected work or materials.
6. Contractor fails to provide and keep in full force and effect all required insurance or fails to cause all subcontractors to so comply.
7. Contractor fails to supply a sufficient number of properly skilled workers or proper materials.
8. Contractor commits any substantial violation of the terms and conditions of the Contract Documents which constitutes a material breach of the contract.

11. **Retention of Legal Rights**

Inspection by the Engineer, or by any of his duly authorized representatives, any order, measurement, or certificate by the Engineer, any order by the City for the payment of money, acceptance of any work or any extension of time, or any possession taken by the City shall not operate as a waiver of any provision of the contract, or any power therein reserved to the City, or any right to damages therein provided. Any waiver of any breach of the contract shall not be held to be a waiver of any other or subsequent breach.

The City reserves the right to correct any error that may be discovered in any estimate that may have been paid, and to adjust the same to meet the requirements of the contract and specifications. The City reserves the right to claim and recover by process of law, sums as may be sufficient to correct the error or make good any deficit in the work resulting from such error, dishonesty or collusion discovered in the work after the final payment has been made.

12. **Estimates and Payments**

On or about the first day of each calendar month, the Contractor shall submit to the Engineer an approximate measurement of all work done and materials stored on site and will certify to the approximate value of such work and materials based upon the prices set forth in the bid schedule and to an estimate of the value of all extra work performed in accordance with the provisions of the contract during the preceding calendar month.

No payment or partial payment will be made for materials not incorporated in the work.

Upon Contractor's request for payment, the City will make partial payment to the Contractor for the work performed to the close of the previous month; said partial payment will be made in accordance with the certified estimate made by the Engineer as set forth herein. The City will retain 5% of the amount of each such estimate until 45 days after the date of recordation of the notice of completion on which project is accepted as complete and until all obligations of the Contractor under the contract have been discharged.

Whenever the Contractor shall deem all work under the contract to have been completed in accordance therewith, he shall so notify the Engineer who will promptly ascertain whether such be the fact, and if not will so notify the Contractor in detail of any additional work required. When all the provisions of the contract have been fully complied with to the satisfaction of the Engineer, he will proceed with all reasonable diligence to measure all work done and all materials furnished and will make a final and complete estimate of the value of such work done and materials furnished and will certify to the City Council said estimate and the date of completion of the work. The Council will take prompt action thereon and will furnish the Contractor with a statement of acceptance or of exceptions.

At 45 days from the date of final acceptance of the work by the Council, the difference between said final estimate and all payments theretofore made to the Contractor shall be due and payable to the Contractor, excepting only such sum or sums as may lawfully be withheld in accordance with the provisions of the contract. Acceptance by the Contractor of said payment made in accordance with said final estimate shall operate as and shall be a release to the City, its officers, agents, and employees, excepting only claims against the City for any amount withheld by it at the time of such payment.

13. **Right of City to Withhold Payments**

The City may withhold or nullify the whole or any part of any partial or final payment to such an extent as may be reasonably necessary to protect it from loss on account of:

Defective work not remedied, irrespective of when any such work be found defective;

Claims or liens filed or reasonable evidence indicating probable filing of claims or liens;

Failure of the Contractor to make payments promptly for labor, materials, equipment, or other facilities, or to subcontractors;

A reasonable doubt that the work can be completed by the City for the balance then unearned by the Contractor in the event the City at that time elects to take over work or to terminate the contract pursuant to the Caltrans Standard Specifications;

A reasonable doubt that the Contractor can complete the work within the agreed time limits;

Costs to the City resulting from failure of the Contractor to complete the work within the proper time;

Damage to other work or property.

Whenever the City, in accordance herewith, withholds any monies otherwise due under the contract, written notice of the amount withheld and the reasons therefor will be given to the Contractor, and when the Contractor removes the grounds for such withholding, the City will promptly pay to the Contractor the amount so withheld.

14. **Substitution of Securities in Lieu of Retainage**

The Contractor may elect to receive 100 percent of payments due under the contract documents from time to time, without retention from any portion of the payment by the Owner, by depositing securities of equivalent value with the Owner in accordance with the provisions of Public Contract Code 22300. Such securities, if deposited by the Contractor, shall be valued by the Owner, whose decision on valuation of the securities shall be final. Securities eligible for investment under this provision shall be limited to those listed in Public Contract Code 22300 and Section 16430 of the California Government Code.

Pursuant to Section 22300 of the California Public Contract Code (Section 10263 of the Public Contract Code for State Agencies), the Contractor may substitute securities for any money held by the Owner to insure performance of the contract. At the request and expense of the Contractor, securities equivalent to the amount withheld shall be deposited with the Owner or with a state or federally chartered bank as an escrow agent, who shall return such securities to the Contractor upon satisfactory completion of the contract. Deposit of securities with an escrow agent shall be subject to written agreement in accordance with the provisions of Section 22300. The Owner shall not certify that the contract has been completed until at least 45 days after filing by the Owner of a Notice of Completion. Securities eligible for investment under this Section shall be limited to those listed in Section 16430 of the California Government Code, bank or savings and loan certificates of deposit, interest bearing demand deposit accounts, standby letters of credit, or any other security mutually agreed upon by the Contractor and the public agency.

15. **Prevailing Wage Rates**

The Contractor shall post, in a location on the job site, the prevailing wage rate Determination which is applicable to this project.

16. **Liquidated Damages**

In the event Contractor, for any reason, shall have failed to perform the work herein specified, within the time herein required and to the satisfaction of the Engineer, City may, in lieu of any other of its rights and authorized under this contract, deduct from payments or credits due contractor after such breach, a sum equal to **\$500.00** as

liquidated damages for each calendar day beyond the date herein provided for the completion of such work.

17. **Discrimination**

No discrimination shall be made in the employment of persons upon public works because of the race, sex, age, color, national origin, creed, sexual orientation or marital status of such persons and every contractor for public works violating this section is subject to all the penalties imposed for a violation of Section 1735 of the California Labor Code.

18. **Employment of Apprentices**

Attention is directed to the provisions in Sections 1777.5 (Chapter 1411, Statutes of 1967) and 1777.6 of the Labor Code concerning the employment of apprentices by the Contractor or any subcontractor under him.

The Contractor and any subcontractor shall comply with the requirements of Sections 1777.5 and 1777.6 in the employment of apprentices.

Information relative to apprenticeship standards, wage schedules and other requirements may be obtained from the Director of Industrial Relations, ex officio the Administrator of Apprenticeship, San Francisco, California, or from the Division of Apprenticeship Standards and its branch offices.

19. **Materials and Supplies**

All materials and supplies called for by the plans and specifications shall be new unless otherwise specified.

Whenever in the specifications or on the plans any material, process or article is indicated or specified by patent or proprietary name or by the name of the manufacturer, such name shall be deemed to have been used for the purpose of facilitating the description of the material, process or article desired and shall be deemed to be followed by the words "or approved equal."

Proposed alternate materials and methods must be submitted for approval by the Engineer at least one week prior to the opening of bids or actual construction. Failure to comply with this provision will automatically disqualify such alternate substitutions. If, in the judgement of the Engineer, the proposed substitute does not equal the material, process or article specified, the Contractor shall furnish the material, process or article as specified in these specifications. Materials and supplies described in words which have a well-known technical or trade meaning shall refer to such recognized standards.

All federal and state laws and regulations now imposed by competent authority and relating to any materials required to be furnished under the specifications are hereby made controlling and a part of the specifications.

20. Existing Utilities

Shutdowns of utilities for any reason shall be subject to approval by the City and shall require at least 48 hours prior notice, excluding weekends or holidays. When extended shutdowns are required, the Contractor shall provide standby service for normal occupancy requirements.

Before starting work, coordinate work and obtain clearance from utility companies and/or governmental agencies which supply existing or proposed services to project.

Unless they are shown to be removed, protect active utility lines shown on these plans or otherwise made known to the Contractor prior to excavating. If utilities are damaged, they shall be repaired or replaced at no additional cost to the Owner.

If active utility lines are encountered and are not shown on these plans or otherwise made known to the Contractor, the Engineer shall be immediately notified and Contractor shall then take the necessary steps promptly to assure that service will not be interrupted. If service is interrupted by work performance under this section, immediately restore service by repairing damaged utility at no additional cost to the City.

If existing utilities interfere with permanent facilities being constructed under this contract, immediately notify Engineer.

Do not proceed with permanent relocations or utilities until you receive written instructions from Engineer.

The Contractor shall be responsible for contacting USA, Underground Service Alert at 1-800-642-2444.

21. Protection

The Contractor shall provide adequate protection for all parts of the existing site, its improvements and its occupants throughout the work. All damage done to existing property shall be neatly repaired or replaced at the Contractor's expense. Work shall be executed in a careful and orderly manner with the least possible disturbance to public and occupants of the area.

Contractor's attention is directed towards the careful removal of asphalt pavement adjacent to existing concrete pavement. Care shall be taken by the Contractor not to damage, crack, chip or break any portion of the existing concrete pavement during asphalt removal. Any damage, crack, chip or break shall be repaired and/or replaced per City standard and to the satisfaction of the Engineer the cost of which shall be borne solely by the Contractor without additional compensation.

The Contractor shall protect and save any and all utilities. Any time existing utilities are exposed, inspector shall be notified. Repairs on existing utilities shall not be performed without prior approval and inspection of the City Inspector.

The Contractor shall repair or replace any damage occurring from his operations to pursue completion of the contract. The repairs and replacement shall be to the satisfaction of the Engineer and according to City standards and practices. The minimum repair or replacement shall be equal to surrounding existing conditions or better, and the Engineer's decision as to acceptable repair or replacement shall be final. The burden of proof as to whether there was existing damage by the Contractor shall rest with the Contractor. This is a nonpayment item.

The Contractor shall conduct his operations in such a manner as to avoid damage to existing improvements and adjacent property.

The site shall be maintained in a neat and orderly manner at all times. All existing facilities shall be protected and, if they are damaged or destroyed by the Contractor, shall be restored or replaced in kind at his expense, to their original conditions, or better, as approved by the City or other owner thereof. The site shall be secured at the conclusion of each workday.

If it is necessary, during the performance of the work, to remove and replace any existing facilities (e.g. — sidewalks, fences, etc.), such removal and replacement shall be included in the various items of work and no additional compensation will be allowed therefor.

Tree roots:

No tree root shall be unnecessarily cut in trenching operations. Excavation around roots shall be performed by hand. Where a root conflicts with the required location of the underground facility being installed, the root shall be trimmed neat at the edge of the excavation or trench, and shall be painted with an approved tree seal, as directed by the Engineer. Said work shall be included in the various items of work and no additional compensation will be allowed therefor.

22. **Field Office, Enclosures and Storage**

Fences, enclosures, storage areas, etc. for use by the Contractor for the storing of tools and materials shall be located where approved by the City. The City has no obligation to provide a location to be used by the Contractor for material and/or equipment storage. Contractor's enclosures for onsite storage shall be presentable on the outside, with no graffiti and/or other potentially off-putting external painting. Any such enclosures that have graffiti and/or other potentially off-putting external painting shall be removed from the site by Contractor at no expense to City.

Such fences, enclosures, storage areas, etc. are the Contractor's option. No payment shall be made therefor.

23. Inspection and Tests

Inspectors, employed by the City, shall be authorized to inspect all work done and all materials furnished. Such inspection may extend to all or any part of the work on the project and to the preparation, fabrication or manufacture of the materials to be used. An inspector is not authorized to revoke, alter or waive any requirements of the specifications. He is authorized to call the attention of the Contractor to any failure of the work or materials to conform to the specifications and contract. He shall have the authority to reject materials or suspend the work until any question at issue can be referred to and decided by the Engineer.

An inspector will in no case act as foreman or perform other duties for the Contractor, nor interfere with the Contractor's management of the work. Any advice which an inspector may give the Contractor shall in no way be construed as binding to the Engineer or to the City, or as releasing the Contractor from fulfilling all the terms of the contract.

In case the Contractor refuses to suspend operations on verbal order, the inspector giving such verbal order will then issue the order in writing. After placing the order in the hands of the person in charge of the work for the Contractor, the inspector will immediately leave the job. Work done during the absence of the inspector will not be accepted or paid for.

The Contractor shall prosecute work only in the presence of an authorized inspector or authorized representative of the Engineer, and any work done without such inspection shall be at the Contractor's risk and be subject to rejection.

The Contractor shall furnish the Engineer with every reasonable facility for ascertaining whether or not the work, as performed, is in accordance with the requirements and intent of the specifications and contract. The Contractor shall at all times and for any purpose permit the Engineer and any of his representatives and representatives of the City to have access to the work and the premises used by the Contractor. The Engineer and his representatives and representatives of the City shall at all times have access to all places where machinery or materials are being manufactured, produced or fabricated for use on the work, and shall have full facilities for determining that all such machinery or materials are being made strictly in accordance with the specifications and plans. The Contractor shall, whenever so requested, provide facilities and assistance for weighing or measuring any of the materials.

In the event any materials, equipment or work are required by law, ordinance or regulation of any public authority, or by the specifications or otherwise, to be specifically tested or approved, the Contractor shall give the Engineer timely notice of its readiness for inspection or test, and of the date set for such if the inspection is to be made by other than the Engineer.

24. Defective Work or Materials

The Contractor shall promptly remove all work condemned by the Engineer as failing to conform to the contract and shall promptly replace and re-execute such work in accordance with the contract and without additional expense to the City, and shall bear all costs of making good any work destroyed or damaged by such removal or replacement.

Any materials condemned or rejected by the Engineer as not meeting the requirements of these specifications may be branded or otherwise marked by the Engineer and shall, on demand, be at once removed by the Contractor to a satisfactory distance from the work. If the Contractor does not remove such material within a reasonable time, fixed by written notice, the City may remove and store the materials at the expense of the Contractor. If the Contractor does not pay the expense of such removal and storage within ten days thereafter, the City may, upon ten days' written notice, sell such materials at auction or at private sale. The City will account for the net proceeds thereof after deducting all the costs and expenses that should have been borne by the Contractor.

No partial payment, inspection, taking possession of, or other act made or done by the Engineer or the City with respect to the work prior to the final completion and acceptance thereof shall affect or prejudice the right of the Engineer or the City to reject any defective work or material or to require the complete fulfillment of all the provisions of the contract.

If the Engineer deems it expedient and not in the best interests of the City to correct work injured or done not in accordance with the contract, the defective work may be accepted subject to an equitable deduction from the contract price which may be made therefor by the City upon certificate from the Engineer.

25. Schedule of Operations and Preconstruction Meeting

The Contractor shall submit to the Engineer, within five (5) days after Notice to Proceed, a prepared schedule of operations. Subject to the approval of the Engineer, the proposed construction schedule may be revised to facilitate the Contractor's operations. A preconstruction conference will be held, at a location selected by the Engineer within seven (7) days after the Notice to Proceed for the purpose of review and approval of said schedule, and to discuss construction procedures. The Contractor shall be represented by his superintendent of work. The Engineer will be represented by all members of his organization having direct control or supervision of the project.

26. Temporary Suspension of Work and Extension of Time for Performance

When conditions at the site of the proposed work are unsatisfactory for the prosecution of a part or all of the work as adjudged by the Contractor and he is forced to suspend such work until reasonable conditions for its prosecution exist, he may request, in writing, that the Engineer authorize such suspension of work. Without the Engineer's approval, any suspensions violate this specification. Unsatisfactory conditions may include, but not

limited to: inclement weather, strikes, excessive high or low ambient temperature and inability of delivery of materials by suppliers for good reason.

When, in the opinion of the Engineer, suspensions of work are not due to the fault or negligence of the Contractor, the time of performance as set forth in the Agreement will be extended by the Engineer, in writing, by a period of time equal to that lost due to the delay occasioned by the allowed suspension, all at no additional cost to the City and without waiver of remedies for nonproliferation of the work.

Such allowed suspension of work shall not relieve the Contractor of his responsibilities.

In the event that a disagreement shall arise between the Engineer and the Contractor over time of performance as extended by the Engineer due to an allowed suspension of work, the Contractor may request an extension from the City Council. Such requests shall be filed with the Engineer, addressed to him, at least twenty days prior to the expiration of the time of performance as modified. The ruling of the City Council shall be final and conclusive.

27. **Contract Documents**

After the award of the contract, City will post conformed documents for download by the Contractor.

28. **Safety Requirements**

All applicable safety regulations, **including County COVID-19 Health and Safety Guidelines in place at the time of the bid**, shall be complied with to protect the public and the Contractor's or subcontractor's employees. Strict compliance with Cal/OSHA and other agency requirements in doing the work is required.

29. **Laws and Regulations**

The Contractor shall comply with all local, regional, State and Federal laws and regulations at all times. In addition, the Contractor shall meet the standards set by the Air Quality Act for Noise and Pollution. If there is any conflict between these specifications and provisions and any laws or regulations, the matter shall be brought to the attention of the Engineer immediately.

30. **Permits and Licenses**

All necessary permits or approvals from any agency shall be obtained by the Contractor at the Contractor's expense before any work is started.

No charges will be made for City issued permits. However, a City of Pacifica business license shall be purchased by the Contractor and all subcontractors. All Contractors and subcontractors shall have all required licenses.

31. **Sound Control Requirements**

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

Each internal combustion engine, used for any purposes on the job or related to the job, shall be equipped with a muffler of a type recommended by the manufacturer. No internal combustion engine shall be operated on the project without said muffler.

32. **Air Pollution Control**

The Contractor shall comply with all air pollution control rules, regulations, ordinances and statutes which apply to any work performed pursuant to the contract, involving any air pollution control rules, regulations, ordinances and statutes specified in Section 11017 of the Government Code.

33. **Water Pollution and Erosion Control**

General:

Contractor shall take all measures necessary to prevent debris from entering the storm drain and sewer systems. Best Management Practice (BMP) shall be enforced at all times.

Water pollution and erosion control work is intended to provide prevention, control, and abatement of water pollution and siltation to drainage systems, streams, waterways and other bodies of water, and shall consist of constructing those facilities that may be shown on the plans, specified herein or in the special provisions, required as a condition of a permit or directed by the Engineer.

Scheduling of work:

No grading or other surface or ground cover disturbing work will be permitted to take place between the calendar dates of October 15 through April 15 without an approved and implemented erosion control plan. In order to provide effective and continuous control of water pollution and erosion, it may be necessary for the Contractor to perform the contract work in small or multiple units, on and out of phase schedule, and with modified construction procedures. The Contractor shall coordinate water pollution and erosion control work with all other work done on the contract.

Contractor's program:

Before starting any work on a project, the Contractor shall submit to the Engineer for his acceptance, a program to control water pollution and erosion during construction of the project including a Contractor prepared Erosion and Sedimentation Control Plan figure showing the location and type of each sedimentation and erosion control measure. The program shall show the schedule for and the measures that the Contractor proposes to

take in connection with construction of the project to minimize the effects of the work upon adjacent drainage systems, streams and bodies of water and shall be consistent with the "Manual of Standards for Erosion and Sediment Control Measures" written and distributed by ABAG. The Contractor shall not perform any clearing and grubbing, excavation or other vegetation or surfacing disturbing work, other than that authorized by the Engineer, until the Contractor's program has been approved. The City will not be liable to the Contractor for failure to accept all or any portion of an originally submitted or revised water pollution and erosion control program, nor for any delays to the work due to the Contractor's failure to submit an acceptable program.

Correction of inadequate pollution and erosion control measures:

If the measures being taken by the Contractor are inadequate to control water pollution or erosion effectively, the Engineer may direct the Contractor to revise operations and the water and erosion control program. The directions will be in writing and will specify the items of work for which the Contractor's water pollution and erosion control measures are inadequate. No further work shall be performed on those items until the water pollution control measures are made adequate and, if also required, a revised water pollution and erosion control program has been accepted. The Engineer will notify the Contractor of the acceptance or rejection of any submitted revised water pollution and erosion control program in not more than 5 working days of its submittal.

Responsibility and payment for removal of silt from storm drains, channels and retention basins:

When, as a result of the absence, failure or inadequacy of the Contractor's water pollution and erosion control measures, silt is deposited in any storm drain, storm water channel, retention basin, catch basin, or any other drainage structure or facility, the Contractor shall be required to completely clean and remove all silt from said drainage structure or facility and from all downstream elements of the drainage system of which the structure or facility is a part, for whatever distance the Engineer determines likely to have received silt as a result of the absence, failure or inadequacy of the Contractor's water pollution and erosion control measures. Should the Contractor fail to respond promptly to the Engineer's demand for removal of silt and correction of the absence or inadequacy he deems to be the cause, the Engineer will take steps he deems appropriate, including hiring others to remove silt and to stop additional silt from the Contractor's operations to enter any part of the storm drain and related systems. On City projects, the cost of such action by the Engineer shall be deducted from any monies due or to become due the Contractor. On private jobs, the costs will be billed to the Contractor and a Stop Work Order shall be placed on the entire job until the bill is paid.

Abatement of other water pollution:

The cleanup of water pollution by chemicals, petroleum products, cement or by the escape of any other material that is harmful or potentially harmful, from the work site as a result of the Contractor's operations, into drainage systems, their receiving waters,

waterways or other bodies of water shall be the financial responsibility of the Contractor. The means of cleanup and the party or parties to be engaged to perform the cleanup work shall be determined by the Engineer in consultation with appropriate hazardous materials, pollution control, safety, health and wildlife authorities and officials. The Contractor shall immediately carry out cleanup orders issued to him through or by the Engineer and shall make the work site accessible to personnel and equipment from outside pollution control resources called in by the Engineer. On City projects, the cost of cleanup action called for by the Engineer and performed by outside resources shall be deducted from any monies due or become due the Contractor. On private jobs, the costs will be billed to the Contractor and a Stop Work Order shall be placed on the entire job until the bill is paid.

Other requirements:

The Contractor's submittal and the Engineer's approval of the Contractor's water pollution and erosion control program shall not relieve the Contractor from responsibility for compliance with Sections 5650 and 12015 of the Fish and Game Code or other applicable statutes relating to prevention or abatement of water pollution and erosion control. The Contractor is advised that if the area covered by the project exceeds 5 acres, he is required to file a Notice of Intent and a Storm Water Pollution Prevention Plan with the State Water Resources Control Board before starting work.

Compensation:

Unless there is a contract bid item or items for water pollution and erosion control work, full compensation for conforming to the requirements of this section shall be considered as included in the prices paid for the various items of work and no additional compensation will be allowed therefor.

34. Environmental Protection Requirements

The Contractor shall exercise every reasonable precaution to protect streams, lakes, reservoirs, bays, detention ponds, drainage facilities and the waters therein from pollution by fuels, oils, bitumens, calcium chloride, mud, silt and other harmful materials. Care shall be exercised to preserve all vegetation beyond the limits of construction.

Stormwater pollution prevention:

The Contractor is advised that the City of Pacifica and all other municipal stormwater dischargers in San Mateo County are co-permittees under the National Pollutant Discharge Elimination System (NPDES) Permit Number CAS612008. This permit prohibits the discharge of illicit discharges (nonrainwater) into the storm drain system unless specifically exempt. As a condition of this permit, the City of Pacifica and San Mateo County have implemented a local Stormwater Management Plan, adopted respective enabling ordinances prohibiting illicit discharges and adopted "Best Management Practices" (BMPs) to assist contractors and citizens with alternatives. The central goal of the Stormwater Management Plan and BMPs is to reduce the amount of

pollution in runoff and establish procedures to address and control stormwater pollution resulting from both public and private sector construction activity within the City. The types of construction contracts controlled by this section include site improvement work, street and utility replacement or improvement, drainage work and general construction. All work performed under this contract and all contractors and their associates and/or employees are required to comply with all applicable stormwater regulations and to implement BMPs at all times. Guidelines and BMPs are available from the Pacifica Planning Department.

Source reduction and recycling:

The California Integrated Waste Management Act of 1989 (AB 939) mandates that 25 percent of the waste stream in the City of Pacifica be diverted from landfill by 1995 and that this diversion increase to 50 percent by 2000. AB 939 also required the City of Pacifica to prepare and adopt a Source Reduction and Recycling Element (SRRE) outlining recommended programs to meet the above noted diversion goals. One of the approved SRRE programs is to require the utilization of recycled construction materials for City projects. All work performed under this contract and all contractors and their associates and/or employees shall utilize recycled materials and recycle construction materials where feasible. Construction/Demolition Recycling Resources Lists are available from the Pacifica Planning Department and the California Integrated Waste Management Board.

Contractor shall reuse or recycle any useful construction materials generated during the project.

Disposal:

At the end of each working day, the Contractor shall collect all scrap, debris and waste material and dispose of such materials properly.

The Contractor shall inspect dumpsters for leaks and contact trash hauling contractors to replace or repair dumpsters that leak.

The Contractor shall not discharge water on site from cleaning dumpsters.

The Contractor shall arrange for regular waste collection before dumpsters overflow.

Hazardous material/waste management:

a. **Storage:**

The Contractor shall label and store all hazardous materials, such as pesticides, paints, thinners, solvents, and fuels; and all hazardous wastes, such as waste oil and antifreeze; in accordance with the City of Pacifica Hazardous Materials Storage Ordinance and all applicable State and Federal regulations.

The Contractor shall store all hazardous materials and all hazardous wastes in accordance with secondary containment regulations, and it is recommended that these materials and wastes be covered, as needed, to avoid potential management of collected rain water as a hazardous waste.

The Contractor shall keep an accurate, up-to-date inventory, including Material Safety Data Sheets (MSDSs), of hazardous materials and hazardous wastes stored on-site, to assist emergency response personnel in the event of a hazardous materials incident.

b. Usage:

When rain is forecast within 24 hours or during wet weather, the Engineer may prevent the Contractor from applying chemicals in outside areas.

The Contractor shall not over-apply pesticides or fertilizers and shall follow material manufacturer's instructions regarding uses, protective equipment, ventilation, flammability, and mixing of chemicals. Over-application of a pesticide constitutes a "label violation" subject to an enforcement action by the San Mateo County Agriculture Department.

c. Disposal:

The Contractor shall use secondary containment, such as a drip pan, to catch leaks or spills any time that vehicle or equipment fluids are dispensed, changed or poured.

The Contractor shall keep a stockpile of spill cleanup materials, such as rags or absorbents, readily accessible on site.

The Contractor shall clean up leaks and spills of vehicle or equipment fluids immediately and dispose of the waste and cleanup materials as hazardous waste, as described in the section above.

The Contractor shall not wash any spilled material into streets, gutters, storm drains or creeks and shall not bury spilled hazardous materials.

The Contractor shall report any hazardous materials spill to the City of Pacifica Building Division at (650) 738-7344.

The Contractor shall inspect vehicles and equipment arriving on site for leaking fluids and shall promptly repair leaking vehicles and equipment. Drip pans shall be used to catch leaks until repairs are made.

The Contractor shall recycle waste oil and antifreeze to the maximum extent practicable.

The Contractor shall comply with federal, state and city requirements for aboveground storage tanks.

d. Contractor training and awareness:

The Contractor shall train all employees/subcontractors on the stormwater pollution prevention requirements contained in these specifications.

The Contractor shall inform subcontractors of the stormwater pollution prevention contract requirements and include appropriate subcontract provisions to ensure that these requirements are met.

The Contractor shall post warning signs in areas treated with chemicals.

e. Activity-specific requirements:

The following requirements shall be met on all projects within the City of Pacifica that include the listed activities.

(1) Dewatering operations:

Sediment control: The Contractor shall route water through a control to the stockpile or dispose of it in a trash container. The Contractor shall not use water to wash down fresh asphalt concrete pavement.

(2) Sawcutting:

During sawcutting, the Contractor shall cover or barricade catch basins using control measures such as vacuum, filter fabric, straw bales, sandbags and fine gravel dams to keep slurry out of the storm drain system. When protecting a catch basin, the Contractor shall ensure that the entire opening is covered.

The Contractor shall shovel, absorb or vacuum sawcut slurry and pick up the waste prior to moving to the next location or at the end of each working day, whichever is sooner.

If sawcut slurry enters catch basins, the Contractor shall remove the slurry from the storm drain system immediately.

(3) Contaminated soil management:

On all projects involving grading or excavation, the Contractor shall look for contaminated soil as evidenced by site history, discoloration, odor, differences in soil properties, abandoned underground tanks or pipes or

buried debris. If the project is not within an area of known soil contamination and no evidence of soil contamination is found, then testing of the soil shall only be required if directed by the Engineer. The Contractor shall follow the section below if contamination is found.

If the project is within an area of known soil contamination or evidence of soil contamination is found, then soil from grading or excavation operations shall be tested. The soil shall be managed as required by the Pacifica Fire Department or other designated agency.

If the project is found to be within an area of soil contamination not identified by the City in the project specifications, a change order shall be negotiated to cover additional work performed by the Contractor.

(4) Concrete, grout and mortar waste management:

Material management:

The Contractor shall store concrete, grout and mortar away from drainage areas and ensure that these materials do not enter the storm drain system.

Concrete truck/equipment washout:

The Contractor shall not wash out concrete trucks or equipment into streets, gutters, storm drains or creeks.

The Contractor shall perform washout of concrete trucks or equipment off-site or in a designated area on-site where the water will flow onto dirt or into a temporary pit in a dirt area. The Contractor shall let the water percolate into the soil and dispose of the hardened concrete in a trash container. If a suitable dirt area is not available, then the Contractor shall collect the wash water and remove it off-site.

35. **Layout of Work**

All layout shall be done by the Contractor and must be approved by the City.

36. **Substitutions**

Substitutions in material or methods of construction, when necessary because of material shortages or in order to avoid serious delay may be made only after they are approved by the Engineer in writing.

37. **Traffic Control and Public Access**

The Contractor shall be responsible for proper traffic control to assure work site safety.

The Contractor shall submit a traffic control plan to the Engineer for review prior to commencement of work. No street or sidewalk closure shall be allowed without prior approval of the Engineer.

Continuous safe public access shall be maintained to residential, retail and commercial structures at all times.

Barricade open depressions and holes which occur in the performances of this work. Post warning light on property adjacent to, or with public access to, the work site.

Operate warning light during hours from dusk to dawn each day and as otherwise required.

Protect structures, utilities, sidewalks, pavements and other facilities from damage caused by settlement, lateral movement, undermining, washout and other hazards created by operations under the specified work.

38. **Material and Workmanship**

All materials and workmanship are to be the best of their respective kinds. The terms “or equal,” “approved,” “selected” and so forth shall mean as approved, etc. by the Engineer. All materials and equipment used should be in accordance with the manufacturer’s printed directions.

Use adequate numbers of skilled workmen who are thoroughly trained and experienced in necessary crafts and who are completely familiar with the specified requirements and methods needed for proper performance of work specified. Use equipment adequate in terms of size, capacity and numbers to accomplish work in a timely manner.

39. **Extra Work**

Extra work not bid at a unit price as a singular item of work shall be performed per Caltrans Standard Requirements.

40. **Compliance with Public Contract Code, Article 1.5**

This contract is governed by Public Contract Code, Article 1.5, Resolution of Construction Claims and is incorporated into these specification by reference.

41. **Drug-Free Workplace**

The Contractor is required to comply with the Drug-Free Workplace Act of 1988. The requirements of the Drug-Free Workplace Policy are described in City of Pacifica Administrative Policy Number 46.

42. **Harassment and Discrimination**

The Contractor is required to comply with City of Pacifica Administrative Policy Number 33, Harassment and Discrimination in the Workplace.

43. **Payroll Records**

Contractor and each subcontractor shall keep an accurate payroll record, showing the name, address, social security number, work week and the actual per diem wages paid to each journeyman, apprentice, worker or other employee employed by him in connection with the public work. Each covered contractor and subcontractor must on a weekly basis provide the City a copy of all payrolls for the preceding weekly period signed by the authorized officer or employee of the contractor who supervises the payment of wages. Each payroll submitted must be accompanied by a "Statement of Compliance."

SECTION VI-B
SPECIAL PROVISIONS

VI-B. SPECIAL PROVISIONS

COLLECTION SYSTEM PROJECTS FY 2020-21 SACRAMENTO EASEMENT (C005I)

1. **Summary of Work — Scope**

The Contractor shall furnish all labor, materials, equipment, permits, licenses and services required to perform the construction of the work described in the project description and as shown on the documents and as specified herein.

2. **Project Plans**

Plans for the work to be done are part of these specifications, included in the bid documents, part of the construction contract and shall be on site in the Contractor’s possession during construction. The project plans for the work are entitled **“COLLECTION SYSTEM PROJECTS FY 2020-21 SACRAMENTO EASEMENT (C005I)”**.

3. **Standard Plans**

Caltrans, latest edition or the City of Pacifica Standard drawings.

4. **Standard Specifications**

The following standard specifications are referenced in these specifications and are part of the bid documents and construction contract:

↳ Standard Specifications of the State of California, Caltrans.

↳ Standard Specifications for Public Works Construction, Building News Inc.

5. **Additional Standards and Codes**

All work done under this contract shall conform to all standards and codes which apply to the work. Such standards and codes include, but may not be limited to:

↳ ASTM, Annual Book of Standards, American Society for Testing and Materials

↳ MUTCD, Manual On Uniform Traffic Control Devices

The most current edition of each of these publications, at the time of bid opening, shall apply.

6. **Conflicts between Plans and Specifications**

In cases of conflict between any portions of these plans and specifications, the order of precedence shall be as follows:

1. Addenda
2. Contract Technical Specifications.
3. Contract Plans
3. Contract Special Provisions.
4. Contract General Conditions.
5. Standard Specifications.
6. Standard Plans.

7. **Cooperation**

Attention is directed to Sections 7-1.14, “Cooperation,” and 8-1.10, “Utility and Non-Highway Facilities,” of the Standard Specifications and these Special Provisions.

In addition, Contractor shall specifically coordinate with the following entities (listed contact or equivalent person):

North Coast County Water District
2400 Francisco Boulevard
Pacifica, California 94044
Contact: Bob Lange
(650) 355-3462

PG&E
245 Market Street
San Francisco, CA 94105
Contact: Julia Grinberg
(415) 973-6931

AT&T
840 West San Bruno Avenue
San Bruno, California 94066
Contact: Nestor Mauricio
(650) 872-6066

Comcast Construction Dept.
860 Stanton Rd.
Burlingame, CA 94010
Contact: Karl Lorenz
(415) 859-0539

SamTrans (San Mateo County Transit District)
1250 San Carlos Avenue
P.O. Box 3006
San Carlos, California 94070-1306

8. Obstructions

Attention is directed to Sections 8-1.10, "Utility and Non-Highway Facilities," and 15, "Existing Highway Facilities," of the Standard Specifications and these Special Provisions.

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

Underground Service Alert — Northern California (USA)
Telephone: 800-642-2444

9. Mobilization/Demobilization

Mobilization/demobilization shall conform to the provisions in Section 11, "Mobilization," of the Standard Specifications. Mobilization shall be incidental and there shall be no separate payment made therefor.

10. Construction Area Signs

Construction area and detour signs shall be furnished, installed, maintained and removed when no longer required in accordance with the provisions in Section 12, "Construction Area Traffic Control Devices," of the Standard Specifications and these Special Provisions. All construction area and detour signs shall be incidental to other items of work and there shall be no payment made therefor.

11. Maintaining Traffic

One Lane in each direction shall remain open at all times. Attention is directed to Sections 7-1.08, "Public Convenience," 7-1.09, "Public Safety," and 12, "Construction Area Traffic Control Devices," of the Standard Specifications and to the section entitled Public Safety elsewhere in these Special Provisions and these Special Provisions. Nothing in these Special Provisions shall be construed as relieving the Contractor from his responsibility as provided in said Section 7-1.09.

A traffic control plan shall be submitted for review by the Engineer.

Road closures shall be requested 72 hours in advance of schedule.

Lane closures shall conform to the provisions in the section of these Special Provisions entitled Traffic Control System for Lane Closure.

12. Traffic Control System for Lane Closure

A traffic control system shall consist of closing portions of the parking lot or adjacent to work areas between the hours of 8:00 AM and 5:00 PM, Monday through Friday in accordance with the provisions of Section 12, "Construction Area Traffic Control Devices," of the Standard Specifications, the provisions under Maintaining Traffic elsewhere in these Special Provisions and these Special Provisions.

Contractor shall provide a Changeable Message Sign at any location seven (7) days in advance of the closure and during the day of closure. The exact wording is to be approved by the Engineer.

The provisions in this section will not relieve the Contractor from his responsibility to provide such additional devices or take such measures as may be necessary to comply with the provisions in Section 7-1.09, "Public Safety," of the Standard Specifications.

Each vehicle used to place, maintain and remove components of a traffic control system shall be equipped with a Type II flashing arrow sign which shall be in operation when the vehicle is being used for placing, maintaining or removing said components. The sign shall be controllable by the operator of the vehicle while the vehicle is in motion. A separate flashing arrow sign shall be in place in both directions before lane closures.

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

Lane closures are to be made during work periods only, Monday to Friday, 9:00 AM to 4:00 PM. At the end of each work period, all components of the traffic control system, except portable delineators placed along open trenches or excavation adjacent to the traveled way, shall be removed from the traveled way and shoulder. If the Contractor so elects, said components may be stored at selected central locations, approved by the Engineer, within the limits of the road right-of-way.

The cost of the above work will be included in the bid item Site Preparation/Traffic Control and no additional compensation will be allowed therefor.

13. Parking Interferences

In any areas where parked vehicles would interfere with the work, temporary "Tow-away, No Parking — Construction Zone" signs, indicating the times and dates applicable, shall be adequately posted at least 72 hours prior to towing of any vehicles.

The Contractor shall be responsible for furnishing, posting and maintaining the temporary “No Parking” signs. Temporary “No Parking” signs shall be mounted on A frame barricade with flashing lights. Temporary “No Parking” signs shall not be greater than 40 feet apart. The Contractor shall notify the Pacifica Police Department if any towing is required. Vehicles blocking the work will not be considered cause for delay of work.

The cost of the above work will be included in the bid item Site Preparation/Traffic Control and no additional compensation will be allowed therefor.

14. **Programming of Work**

All work shall be performed during weekdays, Monday through Friday, and during the hours, 8 AM to 6 PM only. The Contractor shall obtain prior written permission from the Engineer to vary the hours of operations from the above stated hours. Such permission may be revoked as deemed necessary by the Engineer or any of his representatives. The Contractor shall reimburse the City for all overtime inspection services performed.

15. **Quality Assurance**

The Contractor shall submit certifications for each source of supply and for each construction material employed on the project. Certifications shall indicate that the material meets the specification requirements.

16. **Cleanup**

The Contractor shall not allow the site of work and staging areas to become littered with trash and waste material, and shall maintain the same in a neat and orderly condition throughout the construction period.

Sidewalks, street area, parking strips, planting strips and driveway approaches must be kept reasonably clean after the work has progressed beyond the immediate vicinity.

17. **Measurements**

All cost for measurement shall be included with other items of work and no additional compensation shall be allowed therefor.

18. **Not Used**

SECTION VII
WAIVERS, BONDS, AND GUARANTEE
FORMS

CONDITIONAL WAIVER AND RELEASE UPON PROGRESS PAYMENT

COLLECTION SYSTEM PROJECTS FY 2020-21 SACRAMENTO EASEMENT (C005I)

Upon receipt by the undersigned of a check from _____ maker of the check in the sum of \$ _____ amount of check payable to _____ payee of check and when the check has been properly endorsed and has been paid by the bank upon which it is drawn, this document shall become effective to release any mechanic's lien, stop notice, or bond right the undersigned has on the job of _____ owner located at _____ job description to the following extent. This release covers a progress payment for labor, services, equipment, or material furnished to _____ your customer through _____ date only and does not cover any retentions retained before or after the release date; extras furnished before the release date for which payment has not been received; extras or items furnished after the release date. Rights based upon work performed or items furnished under a written change order which has been fully executed by the parties prior to the release date are covered by this release unless specifically reserved by the claimant in this release. This release of any mechanic's lien, stop notice, or bond right shall not otherwise affect the contract rights, including rights between parties to the contract based upon a rescission, abandonment, or breach of the contract, or the right of the undersigned to recover compensation for furnished labor, services, equipment, or material covered by this release if that furnished labor, services, equipment or material was not compensated by the progress payment. Before any recipient of this document relies on it, said party should verify evidence of payment to the undersigned.

Dated: _____ Company Name

By: _____ Title

UNCONDITIONAL WAIVER AND RELEASE UPON PROGRESS PAYMENT

COLLECTION SYSTEM PROJECTS FY 2020-21 SACRAMENTO EASEMENT (C005I)

The undersigned has been paid and has received a progress payment in the sum of \$ _____ for labor, services, equipment, or material furnished to _____ your customer on the job of _____ owner located at _____ job description and does hereby release any mechanic's lien, stop notice, or bond right that the undersigned has on the above referenced job to the following extent. This release covers a progress payment for labor, services, equipment, or materials furnished to _____ your customer through _____ date only and does not cover any retentions retained before or after the release date; extras furnished before the release date for which payment has not been received; extras or items furnished after the release date. Rights based upon work performed or items furnished under a written change order which has been fully executed by the parties prior to the release date are covered by this release unless specifically reserved by the claimant in this release. This release of any mechanic's lien, stop notice, or bond right shall not otherwise affect the contract rights, including rights between parties to the contract based upon a rescission, abandonment, or breach of the contract, or the right of the undersigned to recover compensation for furnished labor, services, equipment, or material covered by this release if that furnished labor, services, equipment, or material was not compensated by the progress payment.

Dated: _____ Company Name

By: _____ Title

NOTICE: THIS DOCUMENT WAIVES RIGHTS UNCONDITIONALLY AND STATES THAT YOU HAVE BEEN PAID FOR GIVING UP THOSE RIGHTS. THIS DOCUMENT IS ENFORCEABLE AGAINST YOU IF YOU SIGN IT, EVEN IF YOU HAVE NOT BEEN PAID. IF YOU HAVE NOT BEEN PAID, USE A CONDITIONAL RELEASE FORM.

CONDITIONAL WAIVER AND RELEASE UPON FINAL PAYMENT

COLLECTION SYSTEM PROJECTS FY 2020-21 SACRAMENTO EASEMENT (C005I)

Upon receipt by the undersigned of a check from _____ in the sum of \$ _____ payable to _____ and when the check has been properly endorsed and has been paid by the bank upon which it is drawn, this document shall become effective to release any mechanic's lien, stop notice, or bond right the undersigned has on the job of _____ Owner located at _____ job description. This release covers the final payment to the undersigned for all labor, services, equipment, or material furnished on the job, except for disputed claims for additional work in the amount of \$ _____. Before any recipient of this document relies on it, the party should verify evidence of payment to the undersigned.

Dated: _____ Company Name

By: _____ Title

UNCONDITIONAL WAIVER AND RELEASE UPON FINAL PAYMENT

COLLECTION SYSTEM PROJECTS FY 2020-21 SACRAMENTO EASEMENT (C005I)

The undersigned has been paid in full for all labor, services, equipment or material furnished to _____ your Customer on the job of _____ Owner located at _____ job description and does hereby waive and release any right to a mechanic's lien, stop notice, or any right against a labor and material bond on the job, except for disputed claims for extra work in the amount of \$_____.

Dated: _____ Company Name

By: _____ Title

NOTICE: THIS DOCUMENT WAIVES RIGHTS UNCONDITIONALLY AND STATES THAT YOU HAVE BEEN PAID FOR GIVING UP THOSE RIGHTS. THIS DOCUMENT IS ENFORCEABLE AGAINST YOU IF YOU SIGN IT, EVEN IF YOU HAVE NOT BEEN PAID, USE A CONDITIONAL RELEASE FORM.

BID BOND

KNOW ALL PERSONS BY THESE PRESENT, that _____, hereinafter called PRINCIPAL, and _____ a corporation duly organized under the laws of the State of having its principal place of business at _____ in the State of _____ and authorized to do business in the State of California, hereinafter call SURETY, are held and firmly bound unto the City of Pacifica, hereinafter called the OBLIGEE, on order, in the sum of _____ Dollars (\$ _____) (being at least ten percent (10%) of the total amount of PRINCIPAL 's proposal) lawful money of the United States, for the payment of which we bind ourselves, our heirs, executors, administrators, successors, and assigns, jointly and severally, firmly by these presents.

THE CONDITIONS OF THIS OBLIGATION ARE SUCH THAT:

WHEREAS, the PRINCIPAL has submitted its Proposal for the project entitled **COLLECTION SYSTEM PROJECTS FY 2020-21 SACRAMENTO EASEMENT (C005I)** to the OBLIGEE, said Proposal, by reference thereto, being hereby made a part hereof.

NOW, THEREFORE, if said Proposal is rejected or, in the alternate, if said Proposal is accepted and the PRINCIPAL signs and delivers a Contract and furnishes evidence of insurance and a Performance Bond and Payment Bond, in the form and within the time required by the Proposal and the Contract Documents, then this obligation shall become null and void, otherwise the same shall remain in full force and effect and upon default of the PRINCIPAL shall be forfeited to the OBLIGEE, it being expressly understood and agreed that the liability of the SURETY for any and all default of the PRINCIPAL shall be the amount of this obligation as herein stated, as liquidated damages. Such forfeiture and liquidated damages under this bond shall be without prejudice to the OBLIGEE'S right to pursue any excess actual damages from the PRINCIPAL for breach of contract or otherwise.

The SURETY, for value received, hereby agrees that the obligations of said SURETY and its bond shall not be impaired or affected by any extension of the time within which the OBLIGEE may accept such Proposal, and the SURETY hereby waives notice of any such extension.

In the event suit is brought upon this bond by the OBLIGEE and judgment is recovered, the SURETY shall pay, in addition to the sum set forth above, all costs incurred by the OBLIGEE in such suit, including reasonable attorney's fees and expert witness fees, to be fixed by the court.

Signed this _____ day of _____

PRINCIPAL:

BY _____

--AND--

SURETY:

BY _____

Note: Signature of person executing for SURETY must be notarized and evidence of corporate authority attached.

NON-COLLUSION AFFIDAVIT

PUBLIC CONTRACT CODE 7106

COLLECTION SYSTEM PROJECTS FY 2020-21 SACRAMENTO EASEMENT (C005I)

The bidder declares that the bid is not made in the interest of, or on behalf of, any undisclosed person, partnership, company, association, organization, or corporation; that the bid is genuine and not collusive or sham; that the bidder has not directly or indirectly induced or solicited any other bidder to put in a false or sham bid, and has not directly or indirectly colluded, conspired, connived, or agreed with any bidder or anyone else to put in a sham bid, or that anyone shall refrain from bidding; that the bidder has not in any manner, directly or indirectly, sought by agreement, communication, or conference with anyone to fix the bid price of the bidder or any other bidder, or to fix any overhead, profit, or cost element of the bid price, or of that of any other bidder, or to secure any advantage against the public body awarding the contract of anyone interested in the proposed contract; that all statements contained in the bid are true; and, further, that the bidder has not, directly or indirectly, submitted his or her bid price or any breakdown thereof, or the contents thereof, or divulged information or data relative thereto, or paid, and will not pay, any fee to any corporation, partnership, company, association, organization, bid depository, or to any member or agent thereof to effectuate a collusive or sham bid.

Note: The above Non-Collusion Affidavit is part of the proposal. Signing this proposal on the signature portion thereof shall also constitute signature of this Non-Collusion Affidavit.

Bidders are cautioned that making a false certification may subject the certifier to criminal prosecution.

*Signature of Bidder:

- If corporation, two officers signatures are required.

Company Name (printed):

Signed: _____

Name: _____

Title: _____

FAITHFUL PERFORMANCE BOND

KNOW ALL PERSONS BY THESE PRESENTS:

WHEREAS, the City of Pacifica, California ("Owner") and _____ ("Contractor"), have entered into a written contract for furnishing of all labor, materials, equipment, transportation and services for the construction of the **COLLECTION SYSTEM PROJECTS FY 2020-21 SACRAMENTO EASEMENT (C005I)** (hereinafter referred to as the "Construction Contract"); and

WHEREAS, Contractor is required by the terms of the Construction Contract to furnish a bond for the faithful performance of all terms and conditions of the Construction Contract;

NOW, THEREFORE, Contractor, as principal, and _____ (hereinafter referred to as "Surety"), as surety, are held and firmly bound unto Owner in the penal sum of _____ Dollars (\$_____), lawful money of the United States, for the payment of which sum well and truly to be made as provided in this Performance Bond.

1. Contractor and Surety, jointly and severally, bind themselves, their heirs, executors, administrators, successors and assigns to Owner for the performance of the Construction Contract, which is incorporated herein by reference.
2. If Contractor timely performs each and every obligation under the Construction Contract, Surety and Contractor shall have no obligation under this Bond, except to participate in conferences as provided in Subparagraph 3.1.
3. Surety's obligation under this Performance Bond shall arise after:
 - 3.1 Owner has declared a Contractor Default and has notified Contractor and Surety at its address described in Paragraph 10 below that Owner has declared a Contractor Default and has requested and attempted to arrange a conference with Contractor and Surety to be held not later than seven days after receipt of such notice to discuss methods of performing the Construction Contract; and
 - 3.2 Owner has agreed to pay the Balance of the Agreement Price, as calculated under the terms of the Construction Contract, to Surety in accordance with the terms of the Construction Contract or to a contractor selected to perform the Construction Contract in accordance with the terms of the Construction Contract with Owner.
4. When Owner has satisfied the conditions of Paragraph 3, Surety shall promptly and at Surety's expense take one of the following actions:
 - 4.1 Arrange for Contractor, with consent of Owner, to perform and complete the Construction Contract; or
 - 4.2 Undertake to perform and complete the Construction Contract itself, through its agents or through independent contractors; or

- 4.3 Obtain bids or negotiated proposals from qualified contractors acceptable to Owner for a contract for performance and completion of the Construction Contract, arrange for a contract to be prepared for execution by Owner and the contractor selected with Owner's concurrence, to be secured with performance and payment bonds executed by a qualified surety equivalent to the bonds issued on the Construction Contract, and pay to Owner the amount of damages as described in Paragraph 6 in excess of the Balance of the Agreement Price, as calculated under the terms of the Construction Contract, incurred by Owner resulting from Contractor's Default; or
- 4.4 Waive its right to perform and complete, arrange for completion, or obtain a new Contractor and with reasonable promptness under the circumstances:
 - 4.4.1 After investigation, determine the amount for which it may be liable to Owner and, as soon as practicable after the amount is determined, tender payment thereof to Owner; or
 - 4.4.2 Deny liability in whole or in part and notify Owner citing specific reasons therefore.
5. If Surety does not proceed as provided in Paragraph 4 within twenty days from receipt of the notice described in paragraph 3.1 (whether or not a conference has been held pursuant to paragraph 3.1), or such longer period upon which Owner and Surety may agree in writing, Surety shall be deemed to be in default on this Bond. If the Surety proceeds as provided in Subparagraph 4.4, and Owner refuses the payment tendered or the Surety has denied liability, in whole or in part, without further notice Owner shall be entitled to enforce any remedy available to Owner.
6. After Owner has declared a Contractor Default, and if Surety elects to act under Subparagraph 4.1, 4.2, or 4.3 above, then the responsibilities of Surety to Owner shall not be greater than those of Contractor under the Construction Contract, and the responsibilities of Owner to Surety shall not be greater than those of the Owner under the Construction Contract. To the limit of the amount of this Performance Bond, but subject to commitment by Owner of the Balance of the Agreement Price to mitigation of costs and damages on the Construction Contract, Surety is obligated without duplication for:
 - 6.1 The responsibilities of Contractor for correction of defective work, materials and equipment and completion of the Construction Contract;
 - 6.2 Additional legal, design professional, construction management and delay costs resulting from the Contractor's Default, and resulting from the actions or failure to act of the Surety under Paragraph 4; and
 - 6.3 Liquidated damages, or if no liquidated damages are specified in the Construction Contract, actual damages caused by delayed performance or non-performance of Contractor.

- 7. Surety shall not be liable to Owner or others for obligations of Contractor that are unrelated to the Construction Contract, and the Balance of the Agreement Price shall not be reduced or set off on account of any such unrelated obligations. No right of action shall accrue on this Bond to any person or entity other than Owner or its heirs, executors, administrators or successors.
- 8. Surety hereby waives notice of any change, including changes of time, to the Construction Contract or to related subcontracts, purchase orders and other obligations.
- 9. Any proceeding, legal or equitable, under this Bond may be instituted in any court of competent jurisdiction. The prevailing party in any such action shall be entitled to recover its attorneys' fees, to be taxed as an item of costs.
- 10. Notice to Surety, Owner or Contractor shall be mailed or delivered to the address, or sent via facsimile to the facsimile number, shown on the signature page.
- 11. Definitions:
 - 11.1 Balance of the Agreement Price: The total amount payable by Owner to Contractor under the Construction Contract after all proper adjustments have been made, including allowance to Contractor of any amounts received or to be received by Owner in settlement of insurance or other claims for damages to which Contractor is entitled, reduced by all valid and proper payments made to or on behalf of Contractor under the Construction Contract.
 - 11.2 Construction Contract: The agreement between the Owner and the Contractor identified on the first page of this bond, including all Contract Documents and changes thereto.
 - 11.3 Contractor Default: Failure of the Contractor, which has neither been remedied nor waived, to perform or otherwise to comply with the terms of the Construction Contract.

CONTRACTOR, as principal:

SURETY:

By: _____

By: _____

Its: _____

Its: _____

Address:

Address:

FAX: _____

FAX: _____

Note: Signature of person executing for SURETY must be notarized and evidence of corporate authority attached.

BOND FOR PAYMENT OF LABOR AND MATERIALS

KNOW ALL PERSONS BY THESE PRESENTS:

WHEREAS, the City of Pacifica, California (hereinafter referred to as "Owner") and _____ (hereinafter referred to as "Contractor"), have entered into a written contract for furnishing of all labor, materials, equipment, transportation and services for the construction of the **COLLECTION SYSTEM PROJECTS FY 2020-21 SACRAMENTO EASEMENT (C005I)** (hereinafter referred to as the "Construction Contract"); and

WHEREAS, Contractor is required by the terms of the Construction Contract to furnish a bond to secure payment for all work, labor, materials, equipment or services furnished in connection with the Construction Contract;

NOW, THEREFORE, Contractor, as principal, and _____ (hereinafter referred to as "Surety"), as surety, are held and firmly bound unto Claimants, as defined herein, in the penal sum of _____ Dollars (\$ _____), lawful money of the United States, for the payment of which sum well and truly to be made as provided in this Payment Bond.

1. Contractor and Surety, jointly and severally, bind themselves, their heirs, executors, administrators, successors and assigns to Owner to pay for work, labor, materials, equipment, services, or other items furnished for use and actually used in the performance of the Construction Contract, which is incorporated herein by reference.
2. With respect to Owner, this obligation shall be null and void if Contractor:
 - 2.1 Promptly makes payment, directly or indirectly, for all sums due Claimants, and
 - 2.2 Defends, indemnifies and holds Owner harmless from claims, demands, liens or suits by any person or entity whose claim, demand, lien or suit is for the payment for work, labor, materials, equipment, services or other items furnished for use in the performance of the Construction Contract, provided Owner has promptly notified Contractor and Surety (at the address described in Paragraph 12) of any claims, demands, liens or suits and tendered defense of such claims, demands, liens or suits to Contractor and Surety.
3. With respect to Claimants, this obligation shall be null and void if Contractor promptly makes payment, directly or indirectly, for all sums due.
4. Surety shall have no obligation to Claimants under this Bond until:
 - 4.1 Claimants who are employed by or have a direct contract with Contractor have given notice to Surety (at the address described below) and sent a copy, or notice thereof, to Owner, stating that a claim is being made under this Payment Bond and, with substantial accuracy, the amount of the claim.
 - 4.2 Claimants who do not have a direct contract with the Contractor:

- 4.2.1 Have furnished written notice to Contractor and sent a copy, or notice thereof, to Owner, as required by and conforming with Civil Code sections 3252 and 3091; and
 - 4.2.2 Not having been paid within 30 days of sending the required notice, have sent a written notice to Surety (at the address described below) and sent a copy to the Owner, stating that a claim is being made under this Payment Bond and enclosing a copy of the previous written notice furnished to Contractor.
5. When the Claimant has satisfied the conditions of Paragraph 4, Surety shall promptly and at Surety's expense take the following actions:
 - 5.1 Send an answer to the Claimant, with a copy to Owner, within 20 days after receipt of the claim, stating the amounts that are undisputed and the basis for challenging any amounts that are disputed.
 - 5.2 Pay or arrange for payment of any undisputed amounts.
6. Surety's total obligation shall not exceed the amount of this Payment Bond, and the amount of this Payment Bond shall be credited for any payments made in good faith by Surety.
7. Amounts owed by Owner to Contractor under the Construction Contract shall be used for the performance of the Construction Contract and to satisfy claims, if any, under the Performance Bond. By Contractor furnishing and Owner accepting this Payment Bond, they agree that all funds earned by Contractor in the performance of the Construction Contract are dedicated to satisfy obligations of Contractor and Surety under this Bond, subject to the Owner's priority to use the funds for the completion of the work or the satisfaction of Owner's claims, including liquidated damages, under the Construction Contract.
8. Surety shall not be liable to Owner, Claimants or others for obligations of the Contractor that are unrelated to the Construction Contract. Owner shall not be liable for payment of any costs or expenses of any Claimants under this Payment Bond, and shall have under this Payment Bond no obligation to make payments to, give notices on behalf of, or otherwise have any obligation to Claimants under this Payment Bond.
9. Surety hereby waives notice of any change, including changes of time, to the Construction Contract or to related subcontracts, purchase orders and other obligations.
10. No suit or action shall be commenced by a Claimant under this Bond other than in a court of competent jurisdiction. The prevailing party in any such action shall be entitled to recover its attorneys' fees, to be taxed as costs.
11. Notice to Surety, Owner or Contractor shall be mailed or delivered to the address shown on the signature page.

12. This Payment Bond has been furnished to comply with Civil Code sections 3247 through 3252. Any provision in this Payment Bond conflicting with those statutory requirements shall be deemed deleted and provisions conforming to such statutory or other legal requirement shall be deemed incorporated herein. The intent is that this Payment Bond shall be construed as a statutory bond and not as a common law bond.

13. Upon request by any person or entity appearing to be a potential beneficiary of this Payment Bond, the Contractor shall promptly furnish a copy of this Payment Bond or shall permit a copy to be made.

14. DEFINITIONS

14.1 Claimant: An individual or entity identified in California Civil Code sections 3181 or 3248.

14.2 Construction Contract: The agreement between Owner and Contractor identified above, including all Contract Documents and changes thereto.

CONTRACTOR, as principal:

SURETY:

By: _____

By: _____

Its: _____

Its: _____

Address:

Address:

FAX: _____

FAX: _____

Note: Signature of person executing for SURETY must be notarized and evidence of corporate authority attached.

GUARANTEE

We hereby guarantee the “**COLLECTION SYSTEM PROJECTS FY 2020-21 SACRAMENTO EASEMENT (C005I)**”, for one year from date of filing of the Notice of Completion.

We agree to repair or replace to the satisfaction of the Owner any and all such work that may prove defective in workmanship or materials within that period, ordinary wear and tear and unusual abuse or neglect excepted, together with all other work which may be damaged or displaced in so doing.

In the event of our failure to comply with the above-mentioned conditions within a reasonable time after being notified in writing we collectively and separately do hereby authorize the Owner to proceed to have the defects repaired and make good at our expense, and will pay the costs and charges therefore immediately upon demand.

(Signature of Subcontractor)

Dated: _____

(Signature of Contractor)

(Contractor must co-sign with each subcontractor.)

Assemble and bind three sets of all certificates, warranties and maintenance manuals into clearly organized files and present the file to the City at the completion of the work.

SECTION VIII

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LEFT BLANK)**

SECTION IX
GENERAL SPECIFICATIONS

IX. GENERAL SPECIFICATIONS

SECTION IX-A - CONSTRUCTION STANDARDS

IX-A1. MATERIALS OF CONSTRUCTION

The sections that follow establish the specific material requirements for sewer pipe products, manholes, and other miscellaneous sewer appurtenances.

Submit complete specifications, catalog information and cuts, descriptive drawings, and literature for each equipment item to be furnished under this Section for review and approval by Engineer, with all exceptions to the Specifications noted. Provide submittals for:

- a. Pipe (including gaskets),
- b. Structures, and
- c. Fittings
- d. Manhole rehabilitation-related work

IX-A1-1. Sewer Pipe and Fittings

Unless otherwise approved by the Engineer, sewer pipe shall be limited to HDPE and PVC pipe. See Project Plans for sewer pipe size and material to be used. Although requirements for all acceptable pipe materials are provided herein, not all pipe materials specified below may be used.

IX-A1-1.01. Polyvinyl Chloride Pipe ("PVC" Pipe)

PVC pipe and fittings for sizes 4-inch through 14-inch shall meet the requirements of ASTM D3034, SDR 26, cell classification 12454-B or 12454-C. PVC pipe and fittings for sizes 18-inch through 27-inch shall meet the requirements of ASTM F679, Wall T-1, cell classification 12454-C. All pipe and fittings shall be no older than 6 months from date of manufacture and made of virgin material free of cracks, holes, etc.

Bell and spigot joints shall meet the requirements of ASTM D3212 with integral bell push-on type elastomeric gasket joints. Field cut joints and connections to other piping materials shall be made with a mechanical compression joint composed of: a heavy duty synthetic rubber sealing component; two (2) Type 316 stainless steel clamps; Type 305 stainless steel nuts and bolts; and an adjustable stainless steel shear ring. Grouted connections to cast-in-place concrete manhole bases shall be made with a rubber ring water stop.

Pipe fittings having either spiral or concentric external reinforcing ribs will not be acceptable.

Installation of PVC pipe shall meet the requirements of ASTM D2321. All field cut PVC pipe shall be beveled and lubricated before joining.

IX-A1-1.02. HDPE Pipe and Fittings

HDPE pipe shall conform to ASTM F714-94, "Polyethylene (PE) Plastic Pipe (SDR-PR) Based on Outside Diameter," or ASTM D3035-93 "Polyethylene (PE) Plastic Pipe (DR-PR) Based on Controlled Outside Diameter."

HDPE pipe shall have a Plastic Pipe Institute (PPI) material designation of PE 3408, a cell classification of PE 345434C per ASTM D3350, and have an established hydrostatic design basis of 1600 psi at 73 degrees F.

All HDPE fittings shall be manufactured from the same resin type, grade, and cell classification as the pipe, and shall be fully pressure rated. All pipe and fittings shall be no older than 6 months from date of manufacture and made of virgin material free of cracks, holes, etc.

IX-A1-2. Manholes

This section covers the materials of construction for standard, drop, shallow, and sampling/metering manholes. All manholes shall be constructed of precast reinforced concrete concentric cone sections with a minimum access opening of twenty-four (24) inches. Eccentric cones may be used upon specific approval by the Engineer. Material specifications are as follows:

Manhole Component	Material Specification
Concrete	Materials, handling, finishing, and curing as specified in Section IX-A10 Minor Concrete and as shown on Standard Manhole detail in the drawings set which is based on the City of Pacifica Standard DWG. No. WW102 Standard Manhole. Manhole bottom shall be Class B concrete.
Precast Sections	Circular precast concrete, ASTM C478 except as modified. Vacuum tested.
Medium thickness	Six (6) inches.
Reinforcement	In accordance with ASTM C478 and City of Pacifica Standard Manhole Detail.
Openings	Circular with surfaces grooved or roughened to improve mortar bond.
Mortar	Commercial strength non-shrink grout.
PVC Pipe Waterstop	1-inch Geargrip Adapter, polyisoprene material, 40 Durometer, ASTM 361.
Gaskets	
Mastic	Fed Spec SS-S-210.
Plastic	Fed Spec SS-S-00210.

Coal Tar Paint	Carboline "Bitumastic Super-Service Black," Porter "Tarmastic 103," Tnemec "450 Heavy Tnemecol," or equal.
Asphalt Varnish	Fed Spec TT-V-51.
Coatings	ASTM A 48, Class 35B or better with asphalt varnish coating applied at the foundry.
Manhole Frame and Covers	Frame and cover shall match existing. Replacement frame and covers (if necessary) shall be Phoenix Iron Works "P1090," Clay and Bailey "No. 2008BV," Neenah "R-1736S," or equal. Dimensions shall match existing. .
Manhole Steps	Prohibited.
Brick Manholes	Not Allowed.

The manhole cover and its seat in the frame shall be machined so that the cover will sit evenly and firmly in the frame and shall be match-marked. Manhole lids shall be stamped "Sanitary Sewer" as shown on City Standard Drawings. Where the Engineer deems necessary for heightened protection of the public or its facilities, PAMREX hinged manhole frame and locking cover, or approved equal, may be required.

If castings arrive on the job without a foundry coating, one (1) coat of coal tar paint shall be applied. Before painting, all castings shall be thoroughly cleaned and properly supported. All loose rust shall be removed by wire brushing. Castings shall not be handled until the paint is dry and hard. The coating shall not become brittle when cold or sticky when hot.

Rejection of a manhole section may be made if: (1) there are damaged or cracked ends, where such damage would prevent making a satisfactory joint; (2) any continuous crack having a surface width of 0.01 inches or more and extending for a length of twelve (12) inches or more, regardless of position in the wall; (3) fractures or cracks passing through the wall except for a single end joint that does not exceed the joint depth; or (4) surface defects indicating honeycombed or open texture.

When manholes are constructed in natural or manmade drainage courses or flood channels, the manhole covers shall be watertight and shall be fitted with a composition gasket and bolted down with eight (8) stainless steel cap screws. To further alleviate infiltration, all interior concrete surfaces including the manhole shafts shall have at least one (1) coat of primer and two (2) coats of protective coating (Amercoat 64 primer, and Amercoat 320 protective coating, or approved equal). In other undeveloped areas above the high water level, bolt-down vandal-proof manhole covers shall be used.

IX-A1-3. Saddle Fittings for Sanitary Sewer Mains Replaced by Pipe Bursting

Saddle fittings used for connecting existing lateral sewers to existing mains that have been replaced with HDPE by pipe bursting method shall be heat fusion stub saddle and shall be fabricated of a material approved by the Engineer. The heat fusion stub saddle shall conform to the requirements of the Plan Drawings.

IX-A1-4. Lamp Holes

Lamp hole covers shall be the appropriately sized D&L Supply Company 45-degree angled model H-6520 thru H-6532 (more specifically H-6530 for 6" pipe and H-6531 for 8" pipe) or approved equivalent. Lamp holes shall be installed in accordance with manufacturer specification. Lamp hole size shall be selected based on the new sanitary sewer pipe the lamp hole serves. Contractor shall grout the annular space between the outside diameter of the sewer pipe and the inside diameter (dimension "C" for H-6530 and H-6530) of angled lamp hole cover.

IX-A2. INSTALLATION OF SEWER PIPE AND APPURTENANCES**IX-A2-1. Pipe and Fittings**

Sewer pipe laying shall proceed upgrade with the spigot ends of bell and spigot pipe pointing in the direction of flow. Sewer pipe entering and leaving manholes or other structures shall have a joint installed not less than twenty-four (24) inches but not more than four (4) feet from the manhole base.

In all cases, flexibility of joints in or at the manhole base shall be preserved to prevent damage to the pipe by differential settlement.

IX-A2-2 Manholes

Standard, drop, and shallow manholes shall be constructed in accordance with the City Standard Drawings or details provided in the bid documents, whichever is more stringent. All materials for precast manhole sections shall conform to the requirements set forth in Section IX-A1-2.

Manholes shall not be located in easements with steep slopes. However, when manhole is required under special circumstances to be installed in steep slopes, the standard, drop, and shallow manholes shown in City Standard Drawings may be installed subject to the approval of the Engineer. Use of manholes in steep slopes shall be reviewed by the Engineer on a case-by-case basis.

IX-A2-2.01. Assembly of Precast Sections

All wall and floor joints shall be cleaned prior to setting any manhole sections. These sections shall be set into position using a preformed plastic sealing gasket or mastic sealing gasket. If the plastic gaskets are used, they shall be in strict conformance with the manufacturer's recommendations including application of a primer coat, drying the joint, and careful use of the gasket to avoid displacement. If mastic is used, it shall be first approved by the Inspector and shall be placed to provide a tight joint.

The top cone section shall be set at such an elevation that not more eighteen (18) inches height of entrance or manhole throat is present with the manhole cover at finish grade.

IX-A2-2.02. Manhole Base and Channels

Sewer lines shall first be laid as a whole pipe through manholes. After the manhole floor and walls have been set, the top half of the piping within the manhole shall be carefully cut off to within one (1) inch longitudinally of the inside wall of the pre-cast section and the sides mortared to form a smooth channel as indicated on City Standard Drawings unless otherwise shown on the Improvement Plans or directed by the Engineer.

Unless otherwise required by the Engineer, the width of the opening at the top of base block shall be the inside diameter of the pipes in the manhole.

In the manholes where the pipe cannot be laid through, the pipes shall be joined by smooth curves, worked to conform with the lower halves of the pipe.

In angle point manholes and in junction manholes, the pipes shall be joined by smooth curves, warped to conform with the lower halves of the pipe. In all cases, the upper portion of the manhole channel from the midpoint of the pipes in the manhole to the top of the base block shall be constructed vertically.

The manhole channel shall be completed in the original pour, unless otherwise directed by the Engineer.

IX-A2-2.03. Adjustments to Surface Grade During Construction

The Contractor shall set the transition section to match the adjacent pavement grade. The Contractor shall coordinate the fitting of entrance sections, frames, and covers with the final paving so that the finished manhole covers blend neatly with the street surface. Successful completion of the testing of sewer line does not relieve the Contractor from making these final adjustments.

Frames and covers shall be installed on top of manholes to positively prevent all infiltration of surface or ground water into manholes. Frames shall be set in a bed of mortar with the mortar carried over the flange of the ring as shown on City Standard Drawings. On sloping finish grade, frames and covers shall be installed as shown on City Standard Drawings unless otherwise shown on the Improvement Plans or directed by the Engineer.

Manholes located in unimproved easements or undeveloped areas not subject to vehicular traffic shall be provided with wire mesh reinforced concrete encasement. In addition, a marker post shall be erected not more than four (4) feet from the center of the manhole. The post shall be provided with the necessary identification marks as required by the Engineer.

IX-A2-2.04. Adjustment to Surface Grade After Construction

The Contractor shall be required to make any adjustments in the manhole cover sections during the one-year guarantee period if there is additional paving work. This work consists of removing and replacing the manhole frame and the grade rings. Adjustments shall be accomplished by excavating as necessary, lifting off the frame and grade rings as directed, thoroughly cleaning the

frame's bottom bearing surface, coating it with asphalt paint similar to the original coating, removing the old mortar from the manhole cone and grade rings, and replacing the existing frame and grade rings to the new grade as specified for new manholes.

IX-A2-2.05. Manhole Collar

All manhole collars shall be poured only after the frame has been centered over the manhole shaft. Unless otherwise specified by the Engineer, in unpaved areas a concrete collar shall be poured around the frame and shaft so as to securely anchor the frame to the shaft. In paved areas, concrete shall be poured around the manhole frame and shaft in lieu of rock base to a point two (2) inches below the rim unless otherwise required by the City or other public agency having jurisdiction.

IX-A2-2.06. Manholes with Drop Connections

When a drop connection is shown on the Improvement Plans, it shall be included as part of the manhole construction. The drop shall be made with approved fittings outside the manhole shaft. The lower pipe shall be constructed into the base block by the channeling procedures, as detailed in Section IX-A2-2.02. The lower fittings shall be encased in CDF.

After the manhole shaft is in place, the upper pipe run shall be constructed through the precast wall (flush with the inner wall). The space between the pipe and the precast section shall be mortared to a watertight condition. This pipe and drop shall then be encased in concrete to the point where the upstream sewer trench is of normal width and depth.

IX-A2-2.07. Pipe Stubout on Future Connections - NOT USED

IX-A2-2.08. Flexible Pipe Connections to Manholes

All lateral sewers and all sewer mains entering manholes shall have a rubber sealing gasket, as supplied by the pipe manufacturer, firmly seated perpendicular to the pipe axis, around the pipe exterior, and cast into the structure as a water stop (Fernco or approved equal).

IX-A2-2.09. Manhole Protection

During construction, particular care must be taken to protect the manhole from damage and to keep rock, dirt, and debris from getting into the sewer. After the sewer pipe through the manhole has been broken out and the channel finished, a close fitting board cover shall be placed over channel and covered with building paper. A temporary metal plate cover, of adequate strength, close fitting, and well secured, shall be placed over the manhole opening until the frame and cover are permanently installed. Manholes in undeveloped areas, which are above finish grade as required, shall be secured with wire mesh and concrete.

IX-A2-2.10. Manhole Frame and Cover Replacement

Where indicated, frames and covers shall be replaced to positively prevent all infiltration of surface or ground water into manholes. Frames shall be set in a bed of mortar with the mortar carried over the flange of the ring as shown on City Standard Drawings. On sloping finish grade, frames and covers shall be installed as shown on City Standard Drawings unless otherwise shown on the Improvement Plans or directed by the Engineer.

IX-A2-2.11. Adjust Manhole to Grade

This work consists of adjusting the manhole frame and the grade rings so that the manhole rim matches the surrounding grade. Adjustments shall be accomplished by lifting off the frame and grade rings necessary to raise or lower the manhole rim as necessary. The frame's bottom bearing surface shall be thoroughly cleaned, coated with asphalt paint similar to the original coating, removing the old mortar from the manhole cone and grade rings (if necessary), replacing the existing frame and installing new grade rings (as necessary) or adjusting existing grade rings so that the manhole rim matches the surrounding grade.

IX-A2-2.12. Trough and Shelf Rehabilitation

This work consists of rehabilitating the manhole trough (channel) and shelf to provide a smooth channel with unimpeded flow. Remove all loose grout and rubble and rebuild channel by shaping and repairing slope of shelves and channel to match existing invert elevations into and out of the manhole. Work shall include alignment of inflow and out flow ports to prevent deposition of solids at transition point(s).

Unless otherwise required by the Engineer, the width of the channel shall be the inside diameter of the pipes served by the manhole.

IX-A2-2.13. Chimney Rehabilitation

Where indicated, chimney rehabilitation includes replacement of adjusting rings/concrete collars or brick and mortar with new adjusting rings/concrete collars or brick and mortar, sealing the manhole chimney inside and outside with at least one (1) coat of primer and two (2) coats of protective coating (Amercoat 64 primer, and Amercoat 320 protective coating, or approved equal).

IX-A2-2.14. Reset Manhole Frame and Cover

Where indicated, remove and reset the frame and cover from existing manholes. All existing frames shall be thoroughly cleaned, including the bottom bearing surface, and recoated with asphalt paint similar to the original coating, prior to reinstallation. Repair top of manhole walls/cone where necessary including removing the old mortar from the manhole cone to provide sound base for adjusting existing grade rings, or installing new concrete grade rings so that the manhole rim matches the surrounding grade. Seal the adjustment rings as stated in IX-A2-2.13. As shown in the Standard Manhole detail, pour concrete around frame.

IX-A2-2.15. Infiltration and Inflow (I&I Reseal)

See Manhole Rehabilitation Specification 02550.

IX-A2-3. Cleanouts

Cleanouts shall consist of a wye branch fitting of the same diameter as the side sewer and installed so the open end of the wye branch is directed to facilitate cleaning. The riser from the wye branch shall be brought to finish grade.

IX-A2-4. Lateral Sewers

The Contractor shall replace only City owned sections of each lateral sewer pipe shown on the Improvement Plans. Workmanship shall be equal to that specified for the sewer main. The Contractor shall record the location of each lateral POC by measuring the distance in feet along the sewer main from the nearest manhole to the lateral POC. The Contractor shall record the manhole number, distance to the POC and associated address in a table to be submitted to the City at the end of the project.

No lateral sewer shall be covered until the Engineer has observed the lateral connection to the main or provided authorization to cover.

The Contractor shall mark the location of all lateral sewers with the letter "S" at least two (2) inches (50 mm) high engraved into the curb at the time of curb installation. For laterals in vacant lots or where no concrete curbs exist, Contractor shall furnish and place 2" x 2" x 12" long hubs at the property line directly above the end of the pipe, with the letters "H.L." and the depth to the lateral marked on the hub with paint.

Unless otherwise stated by the Engineer or on the Improvement Plans, lateral sewers shall be installed at the point of connection to the main as shown on the Drawings and plugged at the lot line in preparation for the leakage test. Laterals shall consist of factory-made standard wye branch or tee fittings with ends to suit the street sewer pipe, tilted to match existing lateral alignment, and plugged with factory-made removable plugs.

IX-A2-4.01. Deep Lateral Sewers

Lateral sewers shall not slope more steeply than 45 degrees. Lateral sewers sloping more than 30 degrees, but less than 45 degrees, shall be cradled in concrete. Lateral sewers sloping 30 degrees or less shall be bedded and laid to the same standards as street sewers, without need for cradling in concrete. Vertical chimneys shall not be allowed.

IX-A2-4.02. Backflow Protection

Where the Contractor's work includes backflow devices on private property, as specifically called for on the Improvement Plans, such devices are to be placed in well-drained locations near the premises being protected, with unobstructed access for observation and repair.

IX-A2-4.03. Abandonment

Lateral sewers to be temporarily abandoned shall be plugged at property line or as directed by the Engineer. Lateral sewers to be permanently abandoned shall be plugged at the sewer main.

IX-A2-5. Lamp Holes

Lamp holes shall be constructed in accordance with manufacturer specifications. All materials for lamp holes shall conform to the requirements set forth in Section IX-A1-6. Lamp hole frames shall be set in a concrete collar.

IX-A3. CONNECTIONS WITH EXISTING CITY FACILITIES

General locations where new sewer mains are to connect to existing manholes and sewer mains are shown on the Improvement Plans. It shall be the responsibility of the Contractor to determine the exact location and depth of the existing manholes and sewers prior to the installation of any new sewer pipe and manhole.

IX-A3-1. Connection of New Sewer Main to Existing Sewer Facilities

Connection of new sewer mains to existing lines shall be made at existing manholes.

Where the connection is to be made into an existing manhole, the Contractor shall make the connection by breaking through the manhole base, cutting a rough channel through the manhole shelf to the existing channel, installing the new pipe with a water stop, finishing the new channel within the manhole, and repairing any damage to the structure. Where the connection is to be made by constructing a new manhole on an existing sewer, the manhole and new connection shall conform to details as shown in City Standard Drawings unless otherwise shown on the Improvement Plans or directed by the Engineer. The existing sewer shall not be broken until immediately before the cleaning and flushing operation commences.

Where the connection is to be made at a removed rodding inlet or plug, an air test fitting shall be installed at the connection of new and existing pipelines installed in preparation for testing as directed by the Engineer.

Approved mechanical expanding type temporary plugs shall be installed in each of the following cases.

1. If there is an existing manhole at the beginning of a new system, a plug shall be installed in the new pipe at the existing manhole and another plug installed on the downstream side of the first manhole upstream in the new system pipeline.
2. If the Contractor constructs a new manhole at the beginning of a new system and an existing pipe is in the new manhole, a plug shall be installed on the downstream sides of the first two (2) manholes upstream from the existing manhole.
3. If the new system begins at an existing rodding inlet or stub, a plug shall be installed on the downstream sides of the first (2) two manholes upstream from the beginning of the new system.

4. Temporary plugs shall be installed in the open ends of sewer lines while adjusting, repairing, or pouring the top blocks on rodding inlets or similar structures.

All temporary plugs shall be installed, secured, and removed in the presence of the Inspector. Temporary plugs shall remain intact until immediately prior to the beginning of the cleaning and flushing operation. Premature removal of the plug may result in the Contractor being required to clean existing downstream sewer mains. In case of neglect or refusal by the Contractor to perform such cleaning, the District shall execute the work and bill the Contractor or the Contractor's surety for costs incurred.

IX-A3-2. Connection of New Lateral Sewer to Existing Sewer Facilities

Where wyes or tees were previously installed on the main sewer, the lateral sewer shall be connected to the wye or tee as provided for the particular connection. Lateral connections to existing manholes shall be as detailed on City Standard Drawings unless otherwise shown on the Improvement Plans or directed by the Engineer.

New wye branch or tee fittings shall be installed when a connection shall be made to an existing sewer main without previously installed connection fittings. A new connection fitting shall be of the same size and type of material as the main line. The Contractor shall be responsible for all necessary bypass pumping to maintain sewer service while connecting fittings and laterals are installed. All Work shall conform to City Standard Drawings unless otherwise shown on the Improvement Plans or directed by the Engineer.

Tapping and saddle installation shall only be used upon approval of the Engineer for cases where disruption of existing sewer service is unavoidable. Tapping and saddles shall be tap-tite or approved equal. Tapping and saddle connections shall be made as follows:

Excavation to permit a minimum of three (3) inches of concrete under the main and six (6) inches on the sides shall be made. The exterior of the sewer main shall then be cleaned thoroughly around its entire outside circumference, and twelve (12) inches each way measured from the center of the saddle. An opening shall then be cut in the barrel of the main sewer pipe and carefully trimmed to permit a snug fit for the spigot end of the saddle. Care shall be taken that no fragments of pipe are allowed to remain in the main sewer. The saddle shall then be installed as shown on City Standard Drawings unless otherwise shown on the Improvement Plans or directed by the Engineer. After this operation is complete and before any pipe is connected to the saddle, the Work must be inspected and approved by the Inspector. Following this approval, concrete shall be poured into the excavated area around the pipe to completely encase the main to the lip of the saddle bell.

IX-A3-3. Joining Pipes of Different Materials

When pipes of different materials are joined together, the joint shall use a stainless steel banded rubber compression type coupling with stainless steel shear band, with bushings as required.

Couplings shall be Fernco Shielded, Mission Rubber Company Flex-Seal ARC Shielded Adjustable sewer Repair Couplings or approved equal, or as directed by the Engineer.

Connections to existing PVC, VCP, DIP, cast iron, or asbestos cement sewer mains shall be made by cutting and removing a portion of the existing main, and installing a new spool of pipe, and adjustable repair couplings for connecting to the existing main. Contractor is responsible to verify existing sewer main material.

Joining pipes of different materials between manholes shall not be permitted. The same type of pipe material shall be used between manholes.

IX-A4. TESTING, CLEANING, AND TELEVISION INSPECTION

Testing, cleaning, and television inspection requirements shall be as follows. Upon successful completion of testing, access to manholes must be maintained at all times.

IX-A4-1. Testing

All completed sewer mains shall be tested by and at the expense of the Contractor in the Inspector's presence prior to acceptance of Work and prior to connection to the existing sewer line. The conditions under which testing shall be performed shall be as follows:

1. After all proposed Work has been completed.
2. After the installation of all other underground utilities.
3. In improved areas, after the roadway base rock has been placed and compacted.
4. In unimproved areas, after the backfill is satisfactorily compacted.
5. After access to all manholes has been provided.

IX-A4-2. Air Testing

Contractor shall have the option to air test gravity sewers in lieu of water testing gravity sewers.

Air Test: Test lines between manholes with low pressure air. Safety requires a regulator or relief valve on pressurizing equipment, set at 4 psig. No one will be allowed in manholes while there is air pressure against test plugs.

1. Plug all pipe outlets to resist test pressure. Give special attention to laterals.
2. Plug all other pipes in both upstream and downstream manholes and fill manholes with clear water to just above the line plugged for testing. Any bubbles appearing during the test indicate leakage past a plug or in part of the test equipment
3. Compute the test pressure by multiplying 0.43 times the elevation difference (in feet) of the upstream manhole rim and the invert of the line under test at the downstream manhole. The result is in psig and may be rounded to the nearest half psig. The test pressure shall be not less than 3.5 psig, nor more than 6.0 psig. Total line length included in any test section shall not exceed 400 feet.
4. Supply air into the line until test pressure is attained. Allow at least 5 minutes for air temperature in the test section to stabilize.

5. Reestablish the test pressure and start a stop watch. Determine the time required for pressure to drop 0.5 psig.
6. If the pressure does not drop during the stabilization period, and no additional air has been added, the section undergoing test will have passed without further testing.
7. The pipe section will also have passed if the time observed for the pressure to drop 0.5 psig is greater than that determined by using the following table:

Pipe Size, Inches	Time
4	4 minutes 2 seconds
6	6 minutes 0 seconds
8	7 minutes 37 seconds
10	9 minutes 8 seconds
12	10 minutes 58 seconds
14	12 minutes 30 seconds
16	14 minutes 32 seconds

When a combination of more than one pipe size is under test, the calculated time for the larger pipe shall apply.

IX-A4-3. NOT USED

IX-A4-4. Water Exfiltration Test

Sewers shall be tested between successive manholes by plugging the lower end and the inlet of the upper manhole or from manhole to upper lamp hole. The pipe and manhole shall be filled with water to a point four (4) feet (or if manhole is shallow, 6-inches below grade) above the invert at the center of the upper manhole, or in the presence of ground water, four (4) feet above the average adjacent ground water level. The allowable leak shall be computed as follows over a period of at least a one-hour test:

$E = 0.00002 \text{ LDEH}$

L = Length of line being tested including laterals in feet.

D = Internal diameter of pipe in inches.

E = Allowable leakage in gpm.

H = Elevation between upper manhole water surface and invert of pipe at lower manhole (or if ground water present, upper manhole water surface and ground water at lower manhole).

IX-A4-5. Testing Deflection of HDPE Sewer Pipe

The inside diameter of an installed section of HDPE sewer pipe shall not be allowed to deflect more than five (5) percent. All HDPE pipe main sewers shall be checked by means of a pipe deflection gauge. The pipe deflection shall be checked in the presence of the Inspector after the placement of all trench backfill and prior to surface restoration.

The pipe deflection gauge shall be fabricated to permit passage through installed sections of pipelines within the specified maximum five (5) percent deflection of the base inside diameter of

the HDPE pipe. Any section(s) of plastic pipe that does not permit deflection gauge passage will not be accepted and said section(s) shall be properly repaired or replaced and rechecked as directed by the Engineer.

Re-rounding through the use of a vibratory machine will not be permitted.

IX-A4-6. Testing of Manholes

- The test shall be conducted prior to paving.
- All lift holes shall be filled with non-shrink grout.
- All pipe inlets and outlets in the manhole shall be plugged sufficiently secure to hold against vacuum pressure.
- The rubberized test plate shall be placed on the cone after potential leaks on the top of the cone have been sealed.
- A vacuum of ten (10) inches of mercury shall be drawn and the vacuum pump shut off. With the valves closed, the time shall be measured for the vacuum to drop to nine (9) inches. Following are the minimum test times for respective manhole barrel inside diameters:

Test Times	Inside Diameter
60 seconds	48-inch
75 seconds	60-inch
90 seconds	72-inch

If a manhole fails the test, repairs shall be made with non-shrink grout. Retesting shall proceed until passing test is conducted.

IX-A4-7. Cleaning

Upon satisfactory completion of the testing and after all necessary repairs and adjustments have been made including setting manhole frames to final elevations, the entire new system of sewers and manholes shall be cleaned. Before beginning the cleaning operation, a standard sand trap (Southwest Flexible Co., or equal) shall be placed in the manhole at which the new work connects to the District's system, and it will remain in place until all solid matter has been removed. Under no conditions shall material other than clear flushing water be discharged into the District's system before final acceptance of the new work. Splattered mortar and all irregularities shall be removed from the flow channels, leaving smooth dense uniform surfaces finished in a thoroughly first-class manner.

The entire system of new sewer shall be cleaned using high-velocity sewer cleaning equipment (hydro-jet). All high-velocity sewer cleaning equipment shall be constructed for ease and safety of operation. The equipment shall have a selection of two or more high-velocity nozzles. The nozzles shall be capable of producing a scouring action from 15 to 45 degrees in all size lines designated to be cleaned. Equipment shall also include a high-velocity gun for washing and scouring manhole walls and floor. The gun shall be capable of producing flows from a fine spray

to a solid stream. The equipment shall carry its own water tank, auxiliary engines, pumps, and hydraulically driven hose reel.

Prior to the beginning of this work, excessive amounts of debris shall be removed by the Contractor.

Solid material washed into the lowest manhole(s) shall be removed from the system. The standard sand trap between the new work and the District system shall be removed only after all phases of the work have been approved after final inspection.

IX-A4-8. Television Inspection

Upon completion of sewer cleaning by the Contractor, all sewer main lines shall be television inspected by the City prior to acceptance. Prior to TV inspection, the Contractor shall thread ¼-inch nylon rope from structure to structure. The cost of television inspection shall be included in the sewer inspection fees per City Code and collected in advance. If it is necessary to television inspect sewer lines more than once, additional fees shall be collected in advance.

IX-A5. ABANDONMENT OF SANITARY MAIN AND MANHOLES

This item shall govern the abandonment of sanitary sewer mains and manholes required on the plans to be abandoned.

The sanitary sewer and associated manhole shall be cleaned and filled with a cementitious low strength material. The sanitary sewer facility shall be abandoned in accordance with the specifications herein outlined and in conformity with the limits shown on the plans. Abandoning of sanitary sewer lines and manholes shall not occur until all existing sanitary sewer services have been transferred to another line and directed by the Engineer.

Existing manhole covers shall be returned to City to a location directed by the WWTP Inspector or Engineer.

IX-A5-1. Materials

Materials for abandonment of sanitary sewer pipe and manholes shall be:

Sanitary Sewer Pipe: A cement based grout shall be used to fill the void of the existing sanitary sewer main. The grouting material must have a strength of at least 100 PSI and shall have flow characteristics appropriate for filling a sanitary sewer. The grout mix designed and method of installation shall be approved by the Engineer prior to beginning operation. The existing sanitary sewer shall be cut and capped at each end where the sanitary sewer pipe connects to MH's ULA25 and ULX2.

Manholes: The sanitary sewer manhole shall be filled to the top of the remaining concrete structure with the same material used to abandon the sanitary sewer line.

IX-A5-2 Construction

Abandonment of sanitary sewer lines shall be accomplished by installing the grout material with sufficient pressure and in numerous locations. The method of installation shall be able to meet the requirement of completely filling the existing sanitary sewer line and any voids adjacent to the sanitary sewer line. The method shall adequately provide for the removal and legal disposal of the existing sewer materials in the system. The method shall provide for the release of air. When intermediate points are required to be constructed for the abandonment of the system, they shall be a part of the abandonment project process.

The concrete structure of the manhole shall be removed to a depth of two feet (2') under proposed subgrade or finished ground elevation.

IX-A6. TRENCHING AND BACKFILLING

All trenching and backfilling shall conform to the provisions in Section 19, "Earthwork", of the Standard Specifications and these Specifications, City of Pacifica Standard Drawings and Project Plans.

The Contractor will notify adjacent property owners of the work schedule and necessary access restrictions.

IX-A6-1 Trenching

In general a trench is defined as an excavation in which the depth is greater than the width of the bottom of the excavation. Trench shall include excavation for appurtenant structures including but not limited to, manholes, pipes, transition structures, junction structures and boring pits.

The Contractor shall verify the location of existing underground utilities before trenching.

Existing Portland cement concrete pavement and bituminous pavement to be removed for installation of a pipeline before being broken and removed, shall be neatly sawn along the edges of the area to be removed to a depth of one-and-one-half (1-1/2) inches, with a concrete pavement saw. This shall be in straight lines parallel to the trench.

Except by permission of the Engineer, the maximum length of open trench shall be 200 feet or the distance necessary to accommodate the amount of pipe installed in a single day, whichever is the greater. The distance is the collective length at any location, including open excavation, pipe laying and appurtenant construction and backfill which has not been temporarily resurfaced.

No excavations shall remain open longer than is necessary to perform the work. If, in the opinion of the Engineer, the Contractor is not pursuing the work with diligence, the Engineer may require an excavation to be backfilled and protected with temporary paving or covered with steel traffic plates, even though that particular installation is not complete. No additional payment will be made for this additional work.

At the close of work each day, all open trenches shall be backfilled or covered with steel traffic plates and full access to all roads and driveways shall be provided.

The trench shall be excavated to a depth required to allow for placement of bedding material.

Where the bottom of the trench at sub-grade is found to be unstable or to include ashes, cinders, all types of refuse, vegetable or other organic material or large pieces or fragments of inorganic material which is unstable or in the judgement of the Engineer should be removed, the Contractor shall excavate and remove such unsuitable material to the width and depth ordered by the Engineer. Before the pipe is laid, the sub-grade shall be stabilized by backfilling and compacting two (2) inch layers of foundation material. Foundation material should consist of a minimum of 12 inches of clean, durable, 1½-inch crushed rock wrapped in a 6 oz./sy non-woven geotextile. The geotextile shall be designed for separation, stabilization and permeability and constructed of polyester, nylon, and/or polypropylene formed into a stable network meeting the minimum parameters shown in Table 1.

Table 1 – Geotextile Fabric Requirements

Property	Test Value	Test Method
Weight	6 oz/yd ²	ASTM D5261
Grab tensile strength	150 lbs.	ASTM D4632
Puncture strength	80 lbs.	ASTM D4833
Permittivity	1.0 sec ⁻¹	ASTM D4491
UV Resistance	70%	ASTM D4355

When either ground water or surface run-off is encountered, the Contractor shall furnish, install, maintain, and operate all necessary pumps, materials and equipment to keep excavation reasonably free from water until the laying and jointing of the pipe, pouring of concrete and placing of bedding material has been completed, inspected and approved, and all danger of flotation and other damage is removed. Water pumped from the trench excavation shall be disposed of in a manner subject to the approval of the Engineer.

Excavated material from trenches located within paved areas shall be immediately loaded into trucks and hauled off and disposed of outside the public right-of-way. No excavated material shall be placed or stored within the public right-of-way unless otherwise allowed by the Engineer.

Surplus excavated material shall become the property of the Contractor and shall be disposed of outside the street right-of-way and water, sewer, or storm drain easements in accordance with the provisions in Section 7-1.13, "Disposal of Material Outside the Highway Right-of-Way," of the Standard Specifications. All excavated material shall be removed from the project site concurrent with the excavation operations. Hydrants under pressure, valve pit covers, valve boxes, curb stop boxes, fire and police call boxes, or other utility controls shall be left unobstructed and accessible until the work is completed. Gutters and drainage channels shall be kept clear at all times. All excavated material shall be piled in a manner which will not endanger the work and which will avoid obstructing sidewalks and driveways.

Excavation for pipes shall be by open trench and trenchless jack and bore methods unless otherwise specified, or shown on the plans, or permitted by the Engineer. No excavated material will be allowed to be stockpiled overnight in or adjacent to public right-of-way.

The Contractor shall make his own arrangements for a staging area for the temporary stockpiling of material and equipment storage. The Contractor will not be allowed to use public streets or property for such purpose.

Prior to using any private property, the Contractor shall submit to the Engineer a written release from the property owner absolving the City of any and all responsibility in connection with the use of such property in accordance with Section 7-1.13 "Disposal of Material Outside the Highway Right of Way" of Standard Specifications.

IX-A6-1.01 Trench Plates:

Trench Plates shall be used for temporary cover of trenches and other excavations.

When the backfilling of trenches and excavations cannot be completed in the same day within a paved parking lot section, trench plates shall be required and the following conditions shall apply:

- The plates shall be of steel construction capable of supporting H20 loading.
- The plates shall have a skid resistant surface.
- The plates must extend beyond the edge of trench wall to adequately support the traffic loads on it. In no case shall the plates extend less than twelve (12) inches beyond the trench wall.
- Each plate must be fully supported around the perimeter to prevent wobbling or rocking.
- The plates shall be secured to prevent any movement.
- Trenches and excavations shall be adequately shored and braced to withstand highway traffic loads.
- Temporary paving or cold-mix asphalt concrete (cutback) shall be placed and continuously maintained around all outside edges of the trench plates until removal of the plates.

IX-A6-2 Backfilling

Backfill material and compaction shall conform to requirements shown on the Trench Sections as shown on the Project Plans and as directed by Engineer. All backfill shall be placed as engineered fill and compacted. Backfill shall be replaced around exposed existing utilities to the same conditions as existed prior to excavation.

All potential imported fill must be reviewed and approved by the Engineer and geotechnical engineer prior to importation to the site. A minimum of five days will be required to evaluate and test the suitability of all planned imported materials. All imported materials should conform to the provisions of Section 19-3, "Structure Backfill," of the 2010 Caltrans Standard Specifications.

The imported materials should be non-expansive and have a Plasticity Index less than 15 percent and a Liquid Limit of 30 percent or less. The imported material shall be free of organic debris or contaminated materials.

Bedding material shall provide a uniform and continuous bearing and support for the pipe at every point between bell holes or joints unless otherwise shown on the plans, except that it will be permissible to disturb and otherwise damage the finished surface over a maximum length of eighteen inches near the middle of each length of pipe by the withdrawal of pipe slings or other lifting tackle. Any part of the bottom of the trench excavated below the specified grade shall be backfilled with approved material thoroughly compacted as directed by the Engineer. The finished grade of the bedding material shall be prepared accurately by means of hand tools.

Permanent pavement shall be placed to the finish grade on the same work day temporary pavement is removed. Testing, backfilling, compacting to the required relative compaction, and placing of temporary pavement shall be performed immediately after placing pipe.

IX-A6-2.01 Mechanically Compacted Backfill

Backfill shall be mechanically compacted by means of tamping rollers, sheepsfoot rollers, pneumatic tire roller, vibrating rollers, or other mechanical tampers. All such equipment shall be of a size and type approved by the Engineer. Impact-type pavement breakers (stampers) will not be permitted.

Permission to use specific compaction equipment shall not be construed as guaranteeing or implying that the use of such equipment will not result in damage to adjacent ground, existing improvements, or improvements installed. The Contractor shall make its own determination in this regard.

Material for mechanically compacted backfill shall be placed in lifts which, prior to compaction, shall not exceed 8 inches in thickness. The Contractor is responsible to achieve the required compaction in such a manner that the pipe is not damaged.

In the pipe zone where pipe embedment material is specified for trench backfill material, jetting or jetting and hand-directed mechanical compaction is required, with the maximum thickness of each layer of backfill not exceeding 6 inches before compaction.

Mechanically compacted backfill shall be placed in horizontal layers of thickness (not exceeding those specified above) compatible to the material being placed and the type of equipment being used. Each layer shall be evenly spread, moistened (or dried, if necessary) and then tampered or rolled until the specified relative compaction has been attained.

Relative compaction of trench backfill materials shall conform to the requirements shown on the "Typical Trench Sections" as shown on the plans and shall be done concurrently with pipe installation and placement of backfill materials.

Fill materials which do not meet the specified relative compaction and moisture content shall be ripped, moisture conditioned, and re-worked until the required relative compaction and moisture content are attained. For this rework, Contractor shall document all compaction testing and submit compaction testing documentation to Engineer for review and approval.

Testing for relative compaction shall be performed by the City as outlined in Section 6-3 "Testing" in the Standard Specifications. At least three tests will be performed for each run of new pipe construction between manholes. All testing is performed at Contractor's expense.

IX-A6-2.02 Backfill Material

IX-A6-2.02.1 Intermediate and Final Backfill Material

General

Intermediate and Final Backfill Material shall be Aggregate base Class 2 and shall conform to the provisions of Section 26, "Aggregate Bases", of the Caltrans Standard Specifications.

Requirements of the Special Provisions and other portions of the Contract Documents apply to the work of this Section as fully as though repeated herein.

A Certificate of Compliance shall be required for the aggregate provided.

See Special Conditions as they relate to work conditions.

Provide a minimum of 48 hours' notice to Owner before initiating work.

At all times, keep work open to inspection by Owner.

Aggregate Products

Provide materials as shown herein, and as described in Section 26 of the Caltrans Standard Specifications.

MATERIAL SIZE

	1-1/2" (37.5 mm) maximum		3/4" (19 mm) maximum	
(1) Sieve Size	Operating Range	Contract Compliance	Operating Range	Contract Compliance
2" (50.0 mm)	100	100	—	—
1-1/2"(37.5 mm)	90-100	87-100	—	—
1"(25.0 mm)	—	—	100	100
3/4" (19.0 mm)	50-85	45-90	90-100	87-100
3/16"(4.75 mm)	25-45	20-50	35-60	30-65
600 µm	10-25	6-29	10-30	5-35
75 µm	2-9	0-2	2-9	0-12

QUALITY REQUIREMENTS

(2) Tests	Operating Range	Contract Compliance
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Resistance (R-value)	—	78 min
Sand Equivalent	25 min.	22 mi.
Durability Index	—	35 min

*See Section 26-1.02A of the Caltrans Standard Specifications.

Placement of Aggregate

At the time aggregate base is spread it shall have a moisture content sufficient to obtain the required compaction. Aggregate shall be placed in 6" (15cm) lifts, to the thickness shown on the plans.

The relative compaction of each layer of compacted base material shall not be less than 95 percent.

IX-A6-2.02.2 Initial Backfill and Pipe Bedding Material

Initial Backfill and Pipe Bedding Material shall be 3/8" chips (drain rock) in accordance to ASTM C-33 Sieve Size #8 and conform to the requirements shown on the Typical Trench Sections" as shown on the plans.

Only virgin material shall be accepted. Recycled material shall be rejected.

IX-A7.SHEETING, SHORING AND BRACING

The Contractor shall design, furnish and install sufficient shoring, sheeting, and bracing to insure the safety of workmen and the public, protect the work, and protect existing facilities. Attention is directed to Section 5-1.02A, "Trench Excavation Safety Plans," and Section 7-1.01E, "Trench Safety," of the Standard Specifications, and to the applicable provisions of Sections 6422, 6423, and 6424 of the Labor Code of the State of California and these Specifications. The current CAL/OSHA trench shoring regulations and State of California, Department of Transportation, Trenching and Shoring Manual shall be used as a guide for minimum shoring requirements.

The Contractor shall be required to provide drawings and/or calculations by a registered engineer to the Engineer a minimum of five (5) working days prior to beginning excavation for specially designed bracing and shoring of an excavation where required by CAL/OSHA or the Contractor's Trench Safety Plan. The Contractor shall design, manage, install and remove all sheeting, shoring and bracing.

When close sheeting is required, it shall be so driven so as to prevent adjacent soil from entering the trench either below or through such sheeting. Where sheeting and bracing are used, the trench width shall be increased accordingly.

The Engineer reserves the right to order the sheeting driven to the full depth of the trench or to such additional depths as may be required for the protection of the work. Where the soil in the lower limits of a trench has the necessary stability, the Engineer, at his/her discretion, may permit the

Contractor to stop the driving of sheeting at some designated elevation above the trench bottom. However, the granting of permission by the Engineer shall not relieve the Contractor in any degree from his full responsibility for the work.

Sheeting and bracing which have been ordered left in place must be removed for a distance of three (3) feet below the established pavement grade or the existing pavement surface, whichever is lower. Trench bracing, except that which must be left in place, may be removed when the backfilling has reached the respective levels of such bracing. Sheeting, except that which has been left in place, may be removed after the backfilling has been completed or has been brought up to such an elevation as to permit its safe removal. Sheeting and bracing may be removed before jetting the trench, but only in such manner as will insure the adequate protection of the completed structures and adjacent underground or surface structures, and prevent the disturbance of the adjacent ground. If the trench shields or any other type of sheeting system is needed under current CAL-OSHA regulations, the Engineer reserves the right to require using and installing the trench shields or other type of shoring system for the protection and safety of the workers.

IX-A8. PAVEMENT REPLACEMENT AND TEMPORARY PAVEMENT

Pavement replacement and temporary pavement shall be "TYPE A" and shall conform to the provisions in Section 39 "Asphalt Concrete" of the Standard Specifications, Standard Details and these Specifications.

Asphalt concrete shall be produced from quality virgin materials. The spreading and compacting requirements in Sections 39-6.02, "Spreading," and 39-6.03, "Compacting," of the Standard Specifications will not apply.

The asphalt concrete shall conform to the following requirements:

- Asphalt concrete shall be produced at a central mixing plant.
- Aggregate shall conform to the 1/2 inch maximum, medium grading specified in Section 39-2.02, "Aggregate," of the Standard Specifications.
- The amount of asphalt binder to be mixed with the aggregate shall be between 4 percent and 7 percent by weight of the dry aggregate.
- Spreading and compacting shall be performed by methods that will produce an asphalt concrete surfacing of uniform smoothness, texture, and density.
- Asphalt concrete shall be compacted to relative compaction of not less than 95 percent.

IX-A8-1 Temporary Pavement

Temporary pavement 1" thick shall be placed in all trenches over compacted untreated base which is placed to 1" below finish pavement in the trench area at all locations where existing pavement has been removed and final pavement replacement is not done.

Temporary pavement and base in all trenches shall be removed before final pavement replacement.

Temporary Pavement shall be done as shown on the plans or as directed by the Engineer as incidental work and no additional payment will be made therefore.

IX-A8-2 Pavement Replacement

All asphalt concrete used for pavement replacement shall be Type "A" with 1/2" maximum medium aggregate grading, conforming to Section 39 of the Standard Specifications.

All aggregate base used in connection with replacement of flexible pavement shall be Class 2, 3/4-inch maximum conforming to Section 26 of the Standard Specifications.

After compaction of trench backfill has been approved by the Engineer, the Contractor shall square the edges of the existing pavement and apply paint binder in accordance with Section 39-4 of the Standard Specifications. Paint binder shall be applied to a distance of 3 inches outside the sawcut edge of asphalt. Emulsion materials (brown) must be allowed to cure (turn black) before placing asphalt. Asphalt Concrete shall then be installed to the depth and width shown on the plans. The finished surface shall be true to the existing grade and free from open cracks or joints. Asphalt concrete shall be compacted flush to existing grades and not "humped".

When the total compacted thickness of asphalt concrete is 3 inches or less, the asphalt concrete shall be spread and compacted in one layer unless otherwise shown on the Improvement Plans or directed by the Engineer. All other asphalt concrete thicker than 3 inches shall be spread and compacted in layers that are no more than 2 inches compacted thickness. All pavement repair and replacement shall conform with existing grades and ensure that overall drainage flowlines remain the same. If pavement replacement is within 5 feet from the lip of gutter, the pavement shall be replaced up to the lip of gutter or the end of grass/dirt employing a header board as shown in the Plans.

IX-A9. PAVEMENT DELINEATION

IX-A9-1 Thermoplastic Traffic Strips and Pavement Markings

Thermoplastic pavement markings shall conform to Sections 84-1 and 84-2 of the Standard Specifications. The Contractor will perform the required layout for all markings and shall be considered as incidental work with no additional compensation. All markings shall conform to the Caltrans Standard Drawings.

IX-A9-2 Pavement Markers

Pavement markers shall conform to Section 85 of the Standard Specifications and shall be installed in accordance with Caltrans Standard Drawings. The Contractor will perform the required layout for all pavement markers and shall be considered as incidental work with no additional compensation.

IX-A9-3 Temporary Reflective Overlay Pavement Markers

The lane lines, center lines, stop bars and pedestrian crossings shall be delineated with temporary reflective raised pavement markers placed at longitudinal intervals of not more than 24 feet apart after paving. Temporary pavement markers shall be the same color as the lane line center line, stop bars, pedestrian crossings and pavement markers to be replaced. Temporary reflective raised pavement markers shall be the following:

Temporary overlay markers (Types Y and W) manufactured by Davidson Plastics, 18726 East Valley Highway, Kent, Washington 98032, telephone (206) 251-8140, or equal.

Temporary pavement makers shall be placed in accordance with the manufacturer's instructions.

Temporary lane line or center line delineation consisting entirely of temporary pavement markers placed on longitudinal intervals of not more than 24 feet, shall be maintained by the Contractor until 14 days after the acceptance of the paving unless removal prior to that time is approved by the Engineer.

All temporary reflective overlay pavement markers shall be removed when, as determined by the Engineer, the temporary lane line and center line delineation conflicts with the permanent pavement delineation or with a new traffic pattern and is no longer required for the direction of public traffic.

Layout shall be performed by the Contractor and shall be considered incidental work with no additional compensation.

IX-A10. MINOR CONCRETE

Minor concrete and grout shall conform to the provisions in Section 51, "Concrete Structures," Section 52, "Reinforcement," Section 73, "Concrete Curbs and Sidewalks," and Section 90-10, "Minor Concrete," of the Standard Specifications, and these special provisions.

Aggregate for minor concrete shall conform to the grading specified for in aggregate in Section 90-3.03, "Fine Aggregate Grading," of the Standard Specifications. Aggregate for grout shall conform to the following grading:

<u>Sieve Sizes</u>	<u>Percentage Passing</u>
No. 4	100

No. 8	90 – 100
No. 16	60 – 100
No. 30	35 – 70
No. 50	15 – 35
No. 100	2 – 15

It is not anticipated that any curb-ramps will need replacing. However, should any curb ramps be damaged and need replacing - curb ramps shall be per Caltrans Standard A88A, Case C and vary in length (not to exceed 20 feet) with the different conditions of each site. Bidders should account accordingly and no additional compensation will be allowed therefore.

Removal and disposal of existing concrete curb, gutter, sidewalk and valley gutter shall be considered incidental work.

IX-A11. PIPE BURSTING

IX-A11-1 General

This section specifies the system, method, or process to include all labor materials, tools, equipment and incidentals necessary to provide for the complete rehabilitation/replacement of deteriorated pipe by the Pipe Bursting System. Pipe bursting is the construction technique of replacing an existing, underground pipe system in situ by simultaneously “bursting” the existing pipe and installing a new pipe in its place. The replacement pipe is either pulled or pushed into the bore. The method allows for the replacement pipe size on size from 2-inch through 36-inch and/or upsizing in varying increments up to 36 inches.

IX-A11-2 Quality Assurance

2.1 Certification:

The Contractor shall provide qualifications to the representative upon request evidence of competency and authority to perform pipe bursting. The qualifications shall at a minimum include the following:

2.2 Pipe Bursting Experience:

The Contractor shall have a minimum of two (2) years of experience in the pipe bursting business and a record of at least four (4) mile of pipe bursting using the hydraulic static pull method.

2.3 Personnel performing pipe bursting:

The Contractor/Personnel shall be certified by manufacturer of pipe bursting system having successfully completed training in:

- Operating bursting head

- Installing proposed replacement pipe
- Operation and maintenance of all equipment to be used

2.4 Personnel performing fusing of HDPE pipe and fittings:

The Contractor/Personnel shall be certified by manufacturer of fusing equipment having successfully completed training in:

- Handling replacement pipe materials
- Butt fusion of pipe joints, saddle fusion / electrofusion of fittings for service laterals
- Operation and maintenance of all equipment to be used

2.5 Certificate of Training:

Certificate of Training includes at a minimum: Installer's name, date of issuance, and process or product the person is certified to install.

2.6 Other:

- Contractor shall make available for inspection all information regarding production, delivery, handling, and storage aspects of replacement pipe.
- Contractor shall submit plan on proposed pipe bursting method
- Contractor shall internally inspect pre-bursting and post-bursting work
- Contractor shall make fully aware of the construction site
- Contractor shall ensure all underground utilities within the project site are located and marked.

IX-A11-3 Material Specifications

3.1 Pipe:

Pipe shall be high-density polyethylene (HDPE) with SDR 17 or as shown in the Project Plans rating and shall conform to Section IX-A1 of these specifications. The HDPE pipe shall be easily identifiable and shall be gray color for ease of viewing when televising.

3.2 Fittings:

Fittings shall conform to Section IX-A1 of these specifications. Fittings for pressure systems shall be ductile iron with a minimum working pressure rating of 100 psi using HDPE MJ adapters to transition from the HDPE pipe to the fitting. At locations where bends are required pre-cast thrust blocks shall be installed.

3.3 Stiffeners Inserts:

Stiffeners shall conform to Section IX-A1 of these specifications. Stainless steel stiffener inserts, ASTM 240, shall be used for all fittings and connections to I-IDPE pipe. Stiffeners shall be of SS 304, wedge-type design.

3.4 Service Connections:

Service Connection fittings shall conform to Section IX-A1 of these specifications. Heat fusion saddles and electrofusion saddles shall be made of polyethylene pipe compound following ASTM D3350 and suitable for fusion welding to polyethylene pipe.

IX-A11-4 Execution

4.1 Materials Handling:

No materials shall be dumped, dropped, pushed or rolled into a trench. Support stands and rollers shall be used when fusing and lowering pipe into the trench or bore hole. Pipe shall not be dragged on the ground or on paved surfaces. Support stands and rollers must be used at all times that the pipe is above paved surfaces and ground level. Pipe may be pulled longitudinally into the trench after fusion of the pipeline. Pulling of the main shall be accomplished by mechanical action during pipe bursting operations.

4.2 Pipe Bursting:

Prior to commencement of the construction, the Contractor shall submit to the City a pipe bursting plan which shall minimally include bursting method, pit locations and schedule, service line replacement, bursting distances and directions, and service outage and reinstatement schedule. In general, the bursting operation shall be as follows:

- Post notices of service interruption and outages as indicated in the pipe-bursting plan.
- Isolate the existing system and excavate launch, bursting, and service pipes as indicated in the pipe-bursting plan.
- Construct placement service lines.
- Set up the bursting equipment in the bursting pit and insert the bursting rods or cable through the host pipe.
- Connect the bursting head to the main and the bursting rods or cable in the launch pit.
- Burst the existing main.
- Install new service connection fittings and connect new service lines.
- Flush the new main then connect the new main to the existing system; and
- Continue this series of operation to complete the full scope of burstings.

4.3 Launching and Bursting Pit:

Pits shall be strategically located along the alignment of the pipe to be burst to minimize the quantity of pits. The Contractor shall prepare a pit location schematic illustrating the planned pit locations and schedule for pit excavation, backfilling and restoration.

The duration that pits are open shall be kept to a minimum. Pit locations shall consider locations of existing and proposed valves, hydrants, fittings, services, and isolating sections of the existing system to minimize service interruption to customers.

4.4 Service Pits:

Pits shall be required to install service connection fittings and reconnect services to the newly installed pipe.

4.5 Service Line Replacement:

The pipe-bursting plan shall include the schedule for replacing service lines and method for replacing lines (bursting existing service lines and/or moling new service lines) as shown on the project plans.

4.6 Bursting Distance and Directions:

The Contractor shall include in the pipe bursting plan distances and directions of the bursts to be performed. **For this Project, stamped pipe bursting calculations are not required.**

4.7 Service Outage and Reinstatement:

The contractor shall minimize service interruption to customer. Service outage shall be strictly limited to the hours of 9:00 AM to 5:00 PM, Monday through Friday. No service interruption shall be allowed from 5:00 PM to 9:00 AM, Monday through Friday or all on Saturdays, Sundays, or legal holidays. The pipe-bursting plan shall include the days and hours planned for service outage and reinstatement to each customer.

NOTE: If off hours bursting is anticipated, special permission must be obtained. The Contractor shall coordinate with the City and post notices to the customers a minimum of 48 hours prior to service interruption.

4.8 Pit Contamination Prevention:

Pits shall be kept as dry as possible and shall be excavated to at least one foot below the pipe invert to minimize the potential for contamination during connection of the new main valves, fittings, and services.

4.9 Pipe Jointing:

Sections of replacement pipe shall be assembled and joined on the job site above the ground. Jointing shall be accomplished by the heating and butt-fusion method in strict conformance with the manufacturer's printed instructions. The Butt-Fusion method for pipe jointing shall be carried out in the field by certified operators with prior experience in fusing pipe with similar equipment using prop jigs and tools per standard procedures outlined by the pipe manufacturer. These joints shall have a smooth, uniform; double rolled back bead made while applying the proper melt, pressure, and alignment. It shall be the sole responsibility of the Contractor to provide an acceptable butt-fusion joint. The replacement pipe shall be joined on the site in appropriate working lengths near the insertion pit.

Heat fusion joining is the process where mating surfaces are prepared for joining, heated until molten, joined together, and cooled under pressure. All fusion procedures require appropriate surface preparation tools, alignment tools, and temperature controlled heating irons with properly shaped, non-stick heater faces. An open flame cannot be used for heating because it oxidizes the surface and prevents bonding.

During joining, all heat fusion procedures require the mating components to be moved several inches apart to accommodate surface preparation and surface heating tools. All fusions shall be constructed in strict accordance with pipe and fitting manufacturers' recommendations. Contractors shall cut out and replace defective joints at no additional cost to the City.

Interior beads caused by pipe fusion shall be removed prior to installation.

4.10 Joining and Connections:

Before joining and before any special surface preparation, surfaces must be clean and dry. General dust and light soil may be removed by wiping the surfaces with clean, dry lint-free cloths. Heavier soil may be washed or scrubbed off with soap and water solutions, followed by thorough rinsing with clean water, and drying with dry, clean, lint-free cloths.

4.11 Cutting Pipe:

Joining methods for plain end pipe require square-cut ends. Pipe cutting is accomplished with guillotine shears, run around cutters, and saws.

4.12 Cutting Branch Outlet Holes:

Except for self-tapping saddle tees, hole cutting is required for field installed side outlet fittings. Polyethylene pipe hole saws shall be used.

4.13 Pipe Relaxation

It may take 12-24 hours for the newly installed pipe to cool down and settle back to its ambient temperature and ultimate length after pipe bursting. A minimum of two feet of pipe shall remain in upstream and downstream manhole after pipe bursting to ensure that the final tie-ins and connections are secure the day after pipe bursting.

4.14 Socket Fusion:

Socket fusion shall be used with ½ inch through four-inch pipe and fittings.

4.15 Saddle Fusion:

Saddle fusion outlets may be used for eight-inch and smaller outlets applied to twelve-inch and larger mains. Larger outlets for larger main sizes shall be factory fabricated.

4.16 Butt Fusion:

Butt fusion joints shall be field constructed between pipe and fittings.

4.17 Electrofusion:

Electrofusion is a heat fusion process where a coupling or saddle fitting contains an integral heating source. After surface preparations, the fitting is installed on the pipe, and the heating source is energized. During heating, the fitting and pipe materials melt, expand, and fuse together. Heating and cooling cycles are automatically controlled.

IX-A11-5 Record Drawings

Services, fittings, fire hydrants and all other reconnections to the replaced pipes shall be identified and marked in the construction drawings by the Contractor. The Contractor shall be responsible for

marking the construction drawings in reference to at least two fixed and easily found points. The Contractor shall submit to the City record drawings within 15 calendar days from the date of completion of the job

IX-A11-6 Gravity Lines Pipe Bursting

6.1 Pre-Installation Video Inspection:

It shall be the responsibility of the Contractor to video inspect the main prior to pipe bursting to assure that existing pipe conditions are acceptable for pipe bursting, and to locate all active service line connections. This inspection as well as the video inspection after the installation shall be incidental and paid for as per bid item. Contractor shall provide one copy of each video inspection to the City.

6.2 Post-Installation Video of Completed Sections:

The Contractor shall provide the City a color video tape taken by a pan and tilt camera that pans 275 degrees and rotates 360 degrees for close up view showing the completed work, including the condition of the restored service connections.

6.3 Sags in Line:

The Contractor will be provided pre-installation inspection report of the pipe to be replaced using pipe bursting. If pre-installation report reveals a sag in the existing sewer that is greater than one-half the diameter of the existing pipe, it shall be the Contractor's responsibility to install the replacement pipe at an acceptable grade without the sag, at no additional cost. The Contractor shall perform the necessary measures to eliminate these sags, as directed by the City. Pipe replacement, digging a sag elimination pit, and bringing the bottom of the pipe trench to a uniform grade in line with existing pipe invert or by other measures that shall be acceptable to the City.

6.4 Sealing and Benches in Manhole:

The replacement pipe shall be installed with a tight-fitting seal with the existing or new manhole as shown on the Project Plans. An approved Water Stop Gasket shall be placed circumferentially on the replacement pipe and encased with cementitious non-shrink grout to prevent inflow at the manhole. The top half of the pipe within the manhole shall be neatly cutoff and not broken or sheared off, at least four inches away from the manhole walls. The channel in the manhole shall be a smooth continuation of the pipe(s) and shall be merged with other lines or channels, if any. Channel cross-section shall be U-shaped with a minimum height of half pipe diameter to three-fourths of the pipe diameter for fifteen inches and larger. The side of the channels shall be built up with mortar/concrete, as specified, to provide benches at a maximum of one in 12 pitch towards the channel. Trough and Shelf Rehabilitation shall include removal of all loose grout and rubble, rebuild of trough and/or shelf by shaping and repairing trough and shelf slopes, and correcting alignment of inflow and outflow ports to prevent deposition of solids at transition points.

The replacement pipe in the manhole shall be sealed as specified above before proceeding on to the next manhole section and all manholes shall be individually inspected for replacement pipe outfalls, benches and sealing.

Where excavations for the insertion of the replacement pipe are made between two manholes, the ends of the pipe will be cut smooth and square to the axis so that it can be joined in a workman like manner such that both ends meet and touch uniformly and continuously. A full circle repair clamp shall be used. Minimum clamp length shall be 24 inches.

6.5 Sewer Service Laterals and Connections:

Existing service connections shall be located before initiating sewer main replacement operations. Service laterals shall be reconnected to the new sewer line after replacement and before video inspection is completed. Any services remaining off line for an extended period of time, or any connections as deemed necessary by the City to protect the customer, shall be bypass pumped until such time that they can be reconnected.

Connection of the new service lateral, gray color (HDPE SDR 17) to the new sewer main shall be accomplished by use of HDPE SDR17 fusion stub type saddle as shown on the plans. The service connection shall be specifically designed for connection to the HDPE sewer main being installed.

Surface materials to be removed for excavation purposes shall be replaced to the condition they were prior to excavation. Affected grassed area shall be sodded.

6.6 Documentation:

Contractor shall document condition of surfaces over the proposed pipe bursting alignment and adjacent structures within 10 feet of the alignment using video and photographs prior to initiating pipe bursting operations. Contractor shall temporarily mark or otherwise designate the alignment limits on the surface over the proposed pipe bursting alignment using chalk or other temporary marking material prior to documentation. Contractor shall identify and document any cracks in pavement wider than 1 inch, pavement bulges, mounds or other significant pavement irregularities. Contractor shall identify and document any cracks in adjacent foundations and walls wider than 0.5 inch. Contractor shall identify significant bulges and irregularities in lawn or soil. Contractor shall identify and document any existing damage to fences and fence footings within 10 feet of the alignment. Contractor shall submit a complete documentation package to the City and/or Engineer for approval prior to initiating pipe bursting activities.

IX-A11-7 Equipment

7.1 Hydraulic Bursting Unit

The hydraulically-operated bursting head and winching system shall provide smooth, vibration-free, controlled power to expand and break away existing pipe, pushing it into the surrounding soil. The bursting head shall open and close by hydraulic power to accomplish this task. The backside of the unit shall be firmly connected to the new sewer pipe to be pulled in place of the existing sewer. Passage of the pipe shall be controlled at approximately 2 to 3 feet per minute and shall be capable of achieving distances of up to 300 feet.

The design and shape of the head shall be such that the existing pipe will be broken into many small fragments. The method of connection of the replacement pipe to the unit shall be such that stresses transmitted to the replacement pipe are not damaging to the pipe, nor will they exceed the tensile capacity of the pipe.

Provisions shall be made in the equipment to remotely start and stop the unit should it become necessary to temporarily cease operations.

Measures shall be taken to ensure that the pipe does not become separated from the hydraulic bursting unit.

7.2 Winching or Pulling Unit

The winching or pulling unit shall be operated to provide constant pull to the hydraulic bursting unit in order that it may operate in an efficient manner with a minimum of recoil. It shall ensure directional stability in keeping the unit in line.

- a. The winch shall be of the constant load type but shall be fitted with a direct reading load gauge to measure the winching load. It shall also be fitted with a device to automatically disengage when loading exceeds a preset maximum load.
- b. Contractor shall supply sufficient cable in one continuous length so that the pull may be continuous between winching points.
- c. The winch, cable and cable drum shall be provided with safety cage and supports.
- d. The Contractor shall also provide a system of guide pulleys and bracing at each manhole to minimize contact of cable with the existing sewer between manholes.
- e. A nose cone shall be fixed to the first pipe or the head of the mole and shall be fitted with a swivel attachment to reduce the twist transmission between the winch cable and nose cone.
- f. Supports to the trench sheets in the insertion trench shall remain completely separate for the pipe support system and shall be so designed that neither the pipe nor the winch cable shall be in contact with them at any time.
- g. Proper clearance shall be provided below the existing pipe to allow for the proper use of winch.

7.3 Hydraulic Pipe Pushing Unit

At the option of the Contractor, a hydraulic pipe pushing machine may be used to overcome both the weight of the pipe and frictional forces of the surrounding soil during the insertion operation.

- a. The pushing machine shall allow the unit to work independently.
- b. The machine shall have static and moving jaws to grip the pipe alternately.
- c. Proper clearance shall be provided below the existing pipe to allow for the proper use of the pushing machine.

IX-A12. BYPASSING SEWAGE:

Contractor shall submit a sewage by pass plan including a site plan, calculations to support sizing (stamped by CA Civil or Mechanical PE), operations plan, and emergency plan in the event of a failure. The Contractor shall provide for continuous sewage flow around the section(s) of pipe designated at all times for pipe replacement. The pump bypass discharge lines shall be rigid of adequate capacity and size to handle flow, solid PVC with socket welds or HDPE butt-fused. Lay flat piping may be used when permitted by the City. Prior to disassembling the discharge piping, the piping shall be flushed with clean water in its entirety. The cost for flushing operations and water shall be incidental to the bypass piping.

When bypassing conditions require overnight or non-working days operation, a standby bypass pump of the same size as the primary pump shall be on-site ready for emergency use in the event that the primary pump fails. Contractor shall notify property owners of any interruption of sewer services 24 hours prior to any interruption of work on existing sewer pipes.

IX-A13. EMERGENCY REPAIRS TO DAMAGED UTILITIES**13.1. Known or Field Located Utilities:**

All existing utility mains for gas, water, and electricity shall be potholed where they cross the sanitary sewer line. It is the Contractor's responsibility to locate these utilities for potholing.

In the event that the Contractor or his Subcontractor during the execution of the work breaks any known or field located pressure or gravity main causing the disruption of service and/or an eminent hazard, it shall be the responsibility of the Contractor/Subcontractor to immediately notify PCU Operations at the designated emergency telephone number and immediately undertake measure to repair the damaged utility. To that effect the Contractor/Subcontractor shall ascertain prior to initiating the work that the necessary repair parts, tools, equipment, and labor are on ready and available onsite to complete the repair work without delays. Authorize City staff shall witness the repair work.

If the Contractor/Subcontractor estimates or determines that he is not going to be able to restore service within a less than two-hour period, the Contractor shall immediately contact the Engineer to initiate repair. City Collection System staff will undertake the repair work and will back charge the Contractor.

13.2 Unknown or Inaccurately Located Utilities

It is the Contractor's responsibility to locate all utilities that are adjacent to the project location.

Contractor/Subcontractor cause a line break during the execution of the work, the same notification procedure as above must be followed.

IX-A14. TRAFFIC CONTROL

A traffic control plan shall be submitted for review by the Engineer.

A traffic control system shall consist of closing travel lanes and groups of parking stalls within the parking lots and/or adjacent to work areas between the hours of 8:00 AM and 5:00 PM, Monday through Friday in accordance with the provisions of Section 12, "Construction Area Traffic Control Devices," of the Standard Specifications, the provisions under Maintaining Traffic elsewhere in these Special Provisions and these Special Provisions.

One Lane in each direction shall remain open at all times, if feasible. Attention is directed to Sections 7-1.08, "Public Convenience," 7-1.09, "Public Safety," and 12, "Construction Area Traffic Control Devices," of the Standard Specifications and to the section entitled Public Safety elsewhere in these Special Provisions and these Special Provisions.

The provisions in this section will not relieve the Contractor from his responsibility to provide such additional devices or take such measures as may be necessary to comply with the provisions in Section 7-1.09, "Public Safety," of the Standard Specifications.

Each vehicle used to place, maintain and remove components of a traffic control system shall be equipped with a Type II flashing arrow sign which shall be in operation when the vehicle is being used for placing, maintaining or removing said components. The sign shall be controllable by the operator of the vehicle while the vehicle is in motion. A separate flashing arrow sign shall be in place in both directions before lane closures.

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

Lane closures are to be made during work periods only, Monday to Friday, 9:00 AM to 5:00 PM. At the end of each work period, all components of the traffic control system, except portable delineators placed along open trenches or excavation adjacent to the traveled way shall be removed from the traveled way and shoulder. If the Contractor so elects, said components may be stored at selected central locations, approved by the Engineer, within the limits of the road right-of-way.

Portable changeable message signs shall be furnished, placed, operated and maintained at those locations shown on the plans in conformance with the provisions in Section 12, "Construction Area Traffic Control Devices" of the Standard Specifications and these special provisions.

Traffic control, satisfactorily done, complete in place, as shown on plans submitted by the contractor or as directed by the Engineer, including all work, materials and equipment incidental thereto as specified, shall be paid for as incidental cost or as otherwise indicated in these specifications.

IX-A15. TEMPORARY UTILITIES

15.1 Contractor's Temporary Utility Services:

The Contractor shall make its own arrangements for any utility services including but not limited to power, water, telephone and sanitation service that the Contractor will require for its operations during the life of this Project. All utility costs will be at the Contractor's expense.

15.2 Sanitation:

The Contractor shall provide chemical toilets and other sanitary facilities required for its employees and subcontractors.

IX-A16. DELAYS

16.1 Notice of Delays:

When Contractor foresees a delay in the prosecution of the Work and, in any event, immediately upon the occurrence of a delay, Contractor shall notify the City in writing of the probability of the occurrence and the estimated extent of the delay, and its cause. Contractor shall take immediate steps to prevent, if possible the occurrence or continuance of the delay. Contractor agrees that no claim shall be made for delays which are not called to the attention of the City at the time of their occurrence.

16.2 Non-excusable Delays:

Non-excusable delays in the prosecution of the Work shall include delays which could have been avoided by the exercise of care, prudence, foresight, and diligence on the part of Contractor or its subcontractors, at any tier level, or suppliers.

16.3 Excusable Delays:

Excusable delays in the prosecution or completion of the Work shall include delays which result from causes beyond the control of Contractor and City and which could not have been avoided by the exercise of care, prudence, foresight, and diligence on the part of Contractor or its subcontractors, at any tier level, or suppliers.

- a. Abnormal Delays - Delays caused by acts of God (other than inclement weather), fire, floods, tidal waves, earthquakes, strikes, labor disputes, freight embargoes, and shortages of materials shall be considered as excusable delays insofar as they prevent Contractor from proceeding with at least seventy-five (75) percent of the normal labor and equipment force for at least five (5) hours per day toward completion of the current critical activity item(s) on the latest favorably reviewed Construction Schedule, and Contractor could not have avoided the consequence of the event or circumstance through exercise of reasonable care.
- b. Should inclement weather conditions or the conditions resulting from weather prevent Contractor from proceeding with seventy-five (75) percent of the normal labor and equipment force engaged in the current critical activity item for a period of at least five

(5) hours per day toward completion of such operation or operations, and the crew is dismissed as a result thereof, it shall be a weather delay day. An allowance of three (3) working days of weather caused delay has been included in the time allowed for completion.

IX-A17. SUBSTANTIAL COMPLETION

Substantial completion of the Project requires that the following portions of the Work must be operational and ready for the City's continuous use as intended:

The following items of Work must be fully tested and functional for Project Substantial Completion to be attained:

1. All manholes
2. All sewer mains
3. All lateral connections to main

When Contractor considers that the Work is substantially complete, Contractor shall notify the City in writing. Upon receipt of the notification, the City and/or their authorized representatives will make inspection, to determine if the Work is sufficiently complete in accordance with the Contract Documents so City can occupy or utilize the Work for its intended use. If items are found which prevent such use or occupancy, the City shall notify Contractor in writing of such items by issuing a Corrective Work Item List.

Upon the completion of the items listed on the Corrective Work Item List, Contractor shall so notify the City in writing. The City shall inspect the Work to determine its acceptability for Substantial Completion and for determination of other items which do not meet the terms of the Contract. Upon verification that the Work is substantially complete the City shall issue a Certificate of Substantial Completion and a Punch List. The Certificate shall establish the date of Substantial Completion and the responsibilities of City and Contractor for security, maintenance, heat, utilities, damage to the Work and insurance, commencement of warranties required by the Contract Documents, and shall fix the time, not to exceed fifteen (15) days, within which Contractor shall finish all items on the Punch List accompanying the Certificate. When the preceding provisions have been approved by both City and Contractor, they shall sign the Certificate to acknowledge their written acceptance of the responsibilities assigned to them in such Certificate. By such acknowledgement, Contractor agrees to pay City's actual costs including, but not limited to, charges for engineering, inspection and administration incurred due to the failure to complete the Punch List within the time period provided in the Certificate of Substantial Completion.

IX-A18. NOTIFICATIONS

The Contractor will notify property owners and adjacent property owners of the work schedule and necessary access restrictions along with providing the property owners a notice of City inspection prior to completing the project.

SECTION X
TECHNICAL SPECIFICATIONS

COLLECTION SYSTEM PROJECTS FY 2020-21 SACRAMENTO EASEMENT (C005I)

1. **Traffic Control**

Measurement:

“Traffic Control” consists of furnishing all labor, materials, tools, equipment, and incidentals and for doing all the work involved with traffic control including providing all signage, personnel, and traffic control plans and all other incidental work required for traffic control. including but not limited to labor, materials and all other incidentals as shown on Project Plans and specified in these Contract Documents. Measurement for “Traffic Control” shall be on a lump sum basis based on percent complete.

Payment:

Payment includes furnishing all labor, materials, tools, equipment, and incidentals and for doing all the work involved with traffic control including creating a traffic control plan compliant with the latest version of the MUTCD; obtaining and setting up the appropriate signage with flagmen; notification of residents; and all other incidental work required for mobilization. All work and materials shall conform to the Project Plans and Contract Documents and Specifications, as described herein and as directed by the Inspector or Engineer, and for all the work needed for a safe and satisfactory completion of the project including but not limited to labor, materials and all other incidentals as shown on Project Plans and specified in these Contract Documents. Payment for “Traffic Control” shall be on a lump sum basis based on percent complete.

2. **Stormwater Pollution Prevention**

Measurement:

“Stormwater Pollution Prevention” consists of furnishing all labor, materials, tools, equipment, and incidentals and for doing all the work involved with preventing runoff of dust and sediment into the storm drain system including but not limited to installing inlet capture bags, fiber rolls, and straw wattles and all other incidental work required for mobilization. All work and materials shall conform to the Project Plans and Contract Documents and Specifications and as described herein and as directed by the City, Inspector, or Engineer. Measurement and payment for “Stormwater Pollution Prevention” shall be on a lump sum basis based on percent complete.

Payment:

The contract lump sum price paid for Stormwater Pollution Prevention shall include full compensation for furnishing all labor, materials (including dust palliative binder), tools, equipment, and incidentals and for doing all the work involved in Stormwater Pollution Prevention, complete in place, including inlet protection, installing fiber roll and silt fence along the perimeter of the limits of work, installing stabilized construction entrance

and exits, removal of nonhazardous material and waste management, hazardous material/waste management, spill prevention, vehicle / equipment inspection and cleaning, concrete truck / equipment wash out, paint cleanup, street sweeping, recycling, controlling dust resulting from the Contractor's operations, public traffic, wind, or other conditions at all times including Saturdays, Sundays, holidays, and when directed by the City, as specified in Laws and Regulations and the technical specifications, and no additional payment shall be made therefore, and all other work as shown on the plans, as specified in the Standard Specifications, the special provisions, and the technical specifications, and as directed by the Engineer. In addition, storm drainage inlets directly affected by construction shall be protected per Association of Bay Area Governments (ABAG) requirements and this item shall include full compensation for furnishing all labor, materials, tools, equipment, and incidentals in accordance with such requirements. Payment for this item shall be based on the pro rata share of the work completed.

3. Sheeting, Shoring and Bracing

Measurement:

“Sheeting, Shoring & Bracing” consists of full compensation for furnishing all labor, materials, tools, equipment, and incidentals for doing all the work involved to provide sheeting, shoring and bracing, complete in place, including design, installation and removal of sheeting, shoring, bracing and other excavation supports necessary to complete all work in compliance with the California Occupational Safety and Health (CAL-OSHA) standards. All work and materials shall conform to the Contract Documents including the Project Plans and Specifications, as described herein and as directed by the WWTP Inspector or Engineer. Measurement and payment for “Sheeting, Shoring & Bracing” shall be on a lump sum basis based on percent complete.

Payment

Payment for “Sheeting, Shoring & Bracing” shall be on a lump sum basis based on percent complete. Payment includes but not limited to full compensation for furnishing all labor, materials, tools, equipment, and incidentals for doing all the work involved to provide sheeting, shoring and bracing, complete in place, including design stamped by a California Professional Civil or Structural Engineer, installation and removal of sheeting, shoring, bracing and other excavation supports, labor, materials and all other incidentals necessary to complete all work in compliance with the California Occupational Safety and Health (CAL-OSHA) standards and as described with in the Contract Documents including the Project Plans and Specifications. All work and materials shall conform to the Contract Documents including the Project Plans and Specifications, as described herein and as directed by the WWTP Inspector or Engineer.

4. PotholingMeasurement:

“Potholing” consists of full compensation for furnishing all labor, materials, tools, equipment, and incidentals, including submission of a potholing plan, for doing all the work involved to investigate buried and overhead utilities and other utilities and structures that may impact project construction. All work and materials shall conform to the Project Plans and Contract Documents and Specifications. Measurement and payment for “Potholing” shall be on a lump sum basis based on percent complete.

Payment

Payment for “Potholing” shall be on a lump sum basis based on percent complete. Payment includes but not limited to full compensation for furnishing all labor, materials, tools, equipment, and incidentals for doing all the work involved to provide potholing.

5. Pipe Burst 6” VCP and Replace with 8” HDPE (DR 17)Measurement

“Pipe Burst 6” VCP and replace with 8” HDPE (DR17)” consists of furnishing all labor, materials, tools, equipment, and incidentals to replace (E) 6” VCP mainline with (N) 8” HDPE (DR17) by pipe bursting and widen the (E) manhole base pipe penetration and troughs to serve the (N) pipe and provide unimpeded flow; properly disposing existing pipe, pavement, curb, gutter and sidewalk in the way of the new pipe; installing in-kind improvements such as but not limited to pavement, pavement delineation and markings, City monuments, curb and gutter, sidewalk, lawn, driveway that have been disturbed or damaged; connecting to manholes and lateral; trenching, and bypass pumping (if necessary). All work and materials shall conform to the Project Plans and Contract Documents and Specifications, as described herein and as directed by the WWTP Inspector or Engineer. Measurement of the items for “Pipe Burst 6” VCP and replace with 8” HDPE (DR17)” shall be by Linear Foot measured horizontally along centerline of main from center of manhole to center of manhole.

Payment:

Payment includes but not limited to replacing (E) 6” VCP mainline with (N) 8” HDPE (DR17) as shown in the Plans by pipe bursting; properly disposing existing pipe, pavement, curb, gutter and sidewalk in the way of the new pipe; installing in-kind improvements such as but not limited to pavement, pavement delineation and markings, City monuments, curb and gutter, sidewalk, lawn, driveway that have been disturbed or damaged; connecting to manholes and laterals; trenching, and bypass pumping (if necessary); pre and post-installation video inspection, testing, cleaning, and preparation of record drawings; labor, materials and all other incidentals as shown on plans and

specified in these specifications, and for all the work needed for a satisfactory completion of the project.

This bid item also includes rehabilitating the manhole trough and shelf to allow unimpeded flow across the manhole base. Trough and Shelf Rehabilitation shall include removal of all loose grout and rubble, rebuild of trough and/or shelf by shaping and repairing trough and shelf slopes, and correcting alignment of inflow and outflow ports to prevent deposition of solids at transition points.

This bid item also includes incidentals and for doing all the work involved with mobilization including obtaining all bonds, insurance and permits, moving on to the site, moving off of the site; removing, storing and rebuilding fences and protective barriers; construction signage, notification of residents, and all other incidental work required for mobilization including but not limited to labor, materials and all other incidentals as shown on Project Plans and specified in these Contract Documents, and for all the work needed for a satisfactory completion of the project.

6. Bid Item 6 - Open Trench 6" VCP Replace with 8" PVC (SDR 26)

Measurement:

"Open Trench 6" VCP Replace with 8" PVC (SDR 26)" consists of furnishing all labor, materials, tools, equipment, and incidentals to replace the (E) 6" VCP mainline with (N) 8" PVC by open trench and connecting (N) pipe to (N) manhole and (E) 6" VCP mainline. Measurement of the item "Open Trench 6" VCP Replace with 8" PVC (SDR 26)" shall be by Linear Foot measured horizontally along centerline of main to manhole center or connection to existing main. As noted in the Schedule of Bid Prices, the last 5-lineal feet of new open cut sewer downstream of MH SPI3 shall be 6" diameter for connecting to the existing 6" VCP. Note that this 5-lineal feet of 6" diameter PVC SDR 26 shall be compensated for at the unit price of the new 8" diameter pipe.

Payment:

Payment includes full compensation for furnishing all labor, materials, tools, equipment, and incidentals for doing all the work associated with this item including; properly disposing of existing pipe, pavement, curb, gutter and sidewalk in the way of the new pipe; replacing in-kind improvements such as but not limited to pavement, pavement delineation and markings, City monuments, curb and gutter, sidewalk, lawn, driveway that have been disturbed or damaged; cutting and connecting to remaining PVC; connecting to manholes, connecting to service laterals, sag repair, trenching, bypass pumping (if necessary), potholing and surface restoration, post-installation video inspection, testing, cleaning, storm water pollution prevention and preparation of record drawings; labor, materials and all other incidentals as shown on plans and specified in these specifications, and for all the work needed for a satisfactory completion of the project. All work and materials shall conform to the Project Plans and Contract

Documents and Specifications, as described herein and as directed by the WWTP Inspector or Engineer. As noted in the Schedule of Bid Prices, the last 5-lineal feet of new open cut sewer downstream of MH SPI3 shall be 6” diameter for connecting to the existing 6” VCP. Note that this 5-lineal feet of 6” diameter PVC SDR 26 shall be compensated for at the unit price of the new 8” diameter pipe.

This bid item also includes rehabilitating the manhole trough and shelf to allow unimpeded flow across the manhole base. Trough and Shelf Rehabilitation shall include removal of all loose grout and rubble, rebuild of trough and/or shelf by shaping and repairing trough and shelf slopes, and correcting alignment of inflow and outflow ports to prevent deposition of solids at transition points.

This bid item also includes incidentals and for doing all the work involved with mobilization including obtaining all bonds, insurance and permits, moving on to the site, moving off of the site; removing, storing and rebuilding fences and protective barriers; construction signage, notification of residents, and all other incidental work required for mobilization including but not limited to labor, materials and all other incidentals as shown on Project Plans and specified in these Contract Documents, and for all the work needed for a satisfactory completion of the project.

7. **Manhole Replacement**

Measurement:

“Manhole Replacement” consists of replacing existing manholes with new manholes including frame and cover, precast sections, preformed flexible plastic gaskets, cast-in-place base and connection to (N) or (E) pipe as shown on the plans. Measurement of “Manhole Replacement” shall be by each installation as shown on the Project Plans.

Payment:

Payment includes full compensation for furnishing all labor, materials, tools, equipment, and incidentals for doing all the work associated with this item including properly patching the pavement, curb, gutter and sidewalk; replacing in-kind improvements such as but not limited to pavement, pavement delineation and markings, City monuments, curb and gutter, sidewalk, lawn, landscape, driveway that have been disturbed or damaged; labor, materials and all other incidentals as shown on plans and specified in these specifications, and for all the work needed for a satisfactory completion of the project including testing. All work and materials shall conform to the Project Plans and Contract Documents and Specifications, as described herein and as directed by the WWTP Inspector or Engineer. **Existing manhole cover shall be returned to City at a location directed by the WWTP Inspector or Engineer.**

8. **Manhole I& I Reseal**

Measurement:

“Manhole I&I Reseal” consists of applying an epoxy liner to the inside of the manhole as specified in specification 02550. Measurement of “Manhole I&I Reseal” shall be by each as shown on the plans.

Payment:

Payment includes full compensation for furnishing all labor, materials, tools, equipment, and incidentals for doing all the work associated with this item including bypassing and rerouting; interior manhole cleaning; furnish and install manhole rehabilitation materials; testing and cleaning; protecting and reinstating pipe ends in structures; including furnishing all equipment, materials and personnel associated therewith, and shall conform to the Project Plans and Contract Documents and Specifications.

9. Connect (E) Lateral to (N) MainlineMeasurement

“Connect (E) Lateral to (N) Mainline” consists of installing 4” pipe, couplings, wye, electrofusion as shown on plans; properly disposing existing lateral, pavement; installing necessary couplings and fittings as shown on plans; installing in-kind improvements such as but not limited to pavement, pavement delineation and markings, City monuments, curb and gutter, sidewalk, lawn, driveway that have been disturbed or damaged; trenching, bypass pumping (if necessary) and traffic control. All work and materials shall conform to the Project Plans and Contract Documents and Specifications, as described herein and as directed by the WWTP Inspector or Engineer. Measurement of “Connect (E) Lateral to (N) Mainline” shall be by each as listed in the schedule of bid prices.

Payment:

Payment includes but not limited to installing 4” pipe, couplings, wye, electrofusion as shown on plans; properly disposing existing lateral, pavement; installing necessary couplings and fittings as shown on plans; installing in-kind improvements such as but not limited to pavement, pavement delineation and markings, City monuments, curb and gutter, sidewalk, lawn, driveway that have been disturbed or damaged; trenching, bypass pumping (if necessary); post-installation video inspection, testing, cleaning, and preparation of record drawings; labor, materials and all other incidentals as shown on plans and specified in these specifications, and for all the work needed for a satisfactory completion of the project.

10. 8” Lamp HoleMeasurement

“8” Lamp Hole” consists of replacing the existing 6” lamp hole with an 8” lamp hole with all appurtenances (45-degree bend, riser, etc.) as shown on the plans. Measurement of “8” Lamp Hole” shall be by each installation as shown on the Project Plans.

Payment:

Payment includes full compensation for furnishing all labor, materials, tools, equipment, incidentals, and appurtenances for doing all the work associated with this item including properly patching the pavement, curb, gutter and sidewalk; installing in-kind improvements such as but not limited to pavement, pavement delineation and markings, City monuments, curb and gutter, sidewalk, lawn, landscape, driveway that have been disturbed or damaged; labor, materials and all other incidentals as shown on plans and specified in these specifications, and for all the work needed for a satisfactory completion of the project. All work and materials shall conform to the Project Plans and Contract Documents and Specifications, as described herein and as directed by the WWTP Inspector or Engineer. Installation shall conform to manufacturer’s recommendation.

**MANHOLE
REHABILITATION
SPECIFICATION**

SECTION 02550

MANHOLE REHABILITATION

PART 1 – GENERAL

1.01 SUMMARY

- A. This section covers the work necessary to furnish, prepare surfaces, and install a lining system for rehabilitation of concrete and/or brick sanitary sewer manholes.
- B. Sanitary sewer manholes shall be rehabilitated using the following method:
 - 1. Epoxy lining
- C. Lining material shall be applied to all concrete and/or brick and mortar surfaces within the manhole, including the cone, walls, shelf, base, and invert.
- D. Where replacement of the manhole frame and cover is required, the frame and cover shall be replaced prior to lining operations.
- E. Reference is made to the “Applicator” throughout this specification. Applicator shall be the Contractor or subcontractor who is applying the manhole lining.
- F. ***IF REQUIRED***, Note that Section 2.01 Infiltration Control Materials, hydraulic cement; and Section 2.02 Repair Materials shall be the basis for constructing manhole seal improvements called out in the tables on the Design Drawings. These improvements shall be installed as specified in Section 3 of this specification.

1.02 RELATED SECTIONS

1.03 REFERENCE SPECIFICATIONS

ASTM C 94	Standard Specification for Ready-Mixed Concrete
ASTM C 109	Standard Test Method for Compressive Strength of Hydraulic Cement Mortars
ASTM C 157	Standard Test Method for Length Change of Hardened Hydraulic-Cement Mortar and Concrete
ASTM C 234	Standard Test Method for Comparing Concretes on the Basis of the Bond Developed with Reinforcing Steel
ASTM C 267	Standard Test Methods for Chemical Resistance of Mortars, Grouts, and Monolithic Surfacing and Polymer Concretes
ASTM C 348	Standard Test Method for Flexural Strength of Hydraulic-Cement Mortars

ASTM C 469	Standard Test Method for Static Modulus of Elasticity and Poisson's Ratio of Concrete in Compression
ASTM C 496	Standard Test Method for Splitting Tensile Strength of Cylindrical Concrete Specimens
ASTM C 642	Standard Test Method for Density, Absorption, and Voids in Hardened Concrete
ASTM C 666	Standard Test Method for Resistance of Concrete to Rapid Freezing and Thawing
ASTM C 882	Standard Test Method for Bond Strength of Epoxy-Resin Systems Used With Concrete By Slant Shear

1.04 EXPERIENCE REQUIREMENTS

- A. The applicator shall be certified by the lining manufacturer as specified herein.

1.05 SUBMITTALS

- A. The Contractor shall provide submittals for items specified herein to the City for review and approval prior to ordering materials.
- B. The following items shall be submitted:
 1. Technical data sheet on each product used, including independent third-party ASTM test results indicating the product conforms to and is suitable for its intended use per these specifications.
 2. Material Safety Data Sheets (MSDS) for each product used.
 3. Project specific guidelines and recommendations.
 4. Qualification of Applicator:
 - a. Manufacturer certification that Applicator has been trained and approved in the handling, mixing and application of the products to be used.
 - b. Certification by the protective lining manufacturer that the equipment to be used for applying the products has been approved and Applicator personnel have been trained and certified for proper use of the equipment.
 - c. Five (5) recent references of Applicator indicating successful application of the manhole lining material specified herein.

5. Design details for any additional ancillary systems and equipment to be used in site and surface preparation, application and testing.
6. Contractor and Manufacturer Warranty information.

1.06 QUALITY ASSURANCE

- A. Applicator shall initiate and enforce quality control procedures consistent with applicable ASTM, NACE, and SSPC standards and the protective lining manufacturer's recommendations.

1.07 DELIVERY, STORAGE, AND HANDLING

- A. Materials are to be kept dry, protected from weather and stored under cover.
- B. Protective lining materials are to be stored between 50 degrees F and 90 degrees F. Do not store near flame, heat or strong oxidants.
- C. Protective lining materials are to be handled according to their material safety data sheets.
- D. Materials shall be manufactured within 6 months of application.

1.08 SITE CONDITIONS

- A. Applicator shall conform with all local, state and federal regulations including those set forth by OSHA, RCRA and the EPA and any other applicable authorities.
- B. For manholes that have not been inspected by the City or its appointed Representative, as indicated in the Drawings, the Contractor shall inspect the manholes and alert the City or its appointed Representative immediately if the specified rehabilitation methods are not feasible, or if the frame and cover requires replacement/resetting, and/or the manhole channel and base requires repair. Frame and cover and channel and base repairs not shown in the Drawings shall be performed where directed by the City.

1.09 WARRANTY

- A. The Contractor and the Manufacturer shall provide a guarantee of workmanship, materials, installation and completed product for a period of ten (10) years from the date of substantial completion of the project. The Contractor and Manufacturer shall, within a reasonable time after receipt of written notice thereof, repair defects in materials or workmanship which may develop during said ten (10) year period, and any damage to other work caused by such defects or the repairing of same, at his own expense and without cost to the City.

PART 2 – PRODUCTS

2.01 INFILTRATION CONTROL MATERIALS

- A. Prior to applying repair materials, all leaks present in the manhole shall be stopped by the use of either chemical foam grout injection or a quick setting hydraulic cement specifically formulated for leak control.
1. Chemical foam grout injection shall be Avanti 202, or approved equal.
 2. Hydraulic cement shall meet the following requirements:

Hydraulic Cement Minimum Requirements		
Compressive Strength	ASTM C109	>1000 psi, 1hr. >2500 psi, 24 hrs.
Sulfate Resistance	ASTM C267	No weight loss after 15 cycles @ 2000 ppm
Freeze/Thaw	ASTM C666 "Method A"	100 cycles
Pull Out Strength	ASTM C234	14,000 lbs.
Set Time	<1.0 minute	

2.02 REPAIR MATERIALS

- A. Repair materials shall be used to fill voids, structurally reinforce and/or rebuild surfaces, as determined necessary by the City or its appointed Representative and lining applicator. Repair materials must be compatible with the specified manhole lining and shall be applied in accordance with the manufacturer's recommendations.
- B. Repair materials shall be used to return manhole to its original inside diameter.
- C. The following products may be accepted and approved as compatible repair basecoat materials for lining rehabilitation as specified herein:
1. 100% solids, solvent-free epoxy grout compatible with the lining system. The epoxy grout manufacturer shall provide instructions for trowel or spray application and for epoxy toplining procedures.
 2. Factory blended, rapid setting, high early strength, non-shrink repair mortar that can be troweled or pneumatically spray applied. Such repair mortars should not be used unless their manufacturer provides information as to its compatibility with the lining material. Project specific submittals should be provided including application, cure time and surface preparation procedures which permit optimum bond strength with the lining system.

2.03 WATER

- A. Water used to mix product shall be clean and potable. Questionable water shall be tested by a laboratory per ASTM C94 procedure. Potable water need not be tested.

2.04 LINING MATERIAL

- B. Method 1: Not used

- C. Method 2: Epoxy Lining

1. Epoxy lining material shall be manufactured by Raven Lining Systems, Raven 405 epoxy system with Raven 155 primer, or approved equal.
2. Epoxy lining system shall be a 100 percent solids, solventless two-component epoxy resin system thixotropic in nature and filled with select fillers to minimize permeability and provide sag resistance acceptable to these specifications.

Epoxy Liner Properties

Product type	Amine cured epoxy
Color	Light Blue - standard
Solids Content (vol %)	100
Mix Ratio, Part A, resin. Part B,hardener	3:1 by volume
Compressive Strength, psi	18,000
Tensile Strength, psi	7,600
Tensile Elongation, %	1.5
Flexural Strength psi	13,000
Hardness, Type D	80
Bond Strength - Concrete	>Tensile Strength of Concrete
Chemical Resistance to:	
Sulfuric Acid, 10%	Immersion Service
Sodium Hydroxide, 20%	Immersion Service
MEK	Incidental Contact

3. Epoxy lining system shall be applied to minimum and average wet film thicknesses of 125 mils.

2.05 PROTECTIVE LINING APPLICATION EQUIPMENT

- A. Application equipment shall be specifically designed, or approved for use by the protective lining manufacturer.

PART 3 – EXECUTION

3.01 ACCEPTABLE APPLICATORS

- A. Repair mortar applicators should be trained to properly apply the cementitious mortar according to manufacturer’s recommendations.

- B. Lining material must be applied by a Certified Applicator of the protective lining manufacturer and according to manufacturer specifications.

3.02 EXAMINATION

- A. Appropriate actions shall be taken to comply with local, state and federal regulatory and other applicable agencies with regard to environment, health and safety.
- B. Manhole lining material shall be installed after all manhole modifications are completed.
- C. Installation of the protective lining shall not commence until the concrete substrate has properly cured and been prepared in accordance with these specifications.
- D. Temperature of the surface to be coated should be in accordance with the manufacturer's recommendations.

3.03 SURFACE PREPARATION

- A. Applicator shall inspect all surfaces specified to receive a protective lining prior to surface preparation. Applicator shall notify City or its appointed Representative of any noticeable disparity in the surfaces which may interfere with the proper preparation on application of the repair mortar and protective lining.
- B. Any leaks or infiltration shall be stopped using infiltration control materials in accordance with manufacturer's recommendations.
- C. Any existing ladder rungs/steps inside the manhole shall be cut and removed flush with the existing wall prior to application of repair materials.
- D. Surface preparation method(s) should be based upon the conditions of the substrate and the requirements of the protective liner to be applied.
- E. All surfaces shall be repaired as required by the manhole protective lining system in the intended service condition.
- F. Surfaces to receive protective liner shall be cleaned and abraded to produce a sound concrete surface with adequate profile and porosity to provide a strong bond between the protective lining and the substrate. This may be achieved with a high pressure water cleaning using equipment capable of 5,000 psi at 4 gpm. Other methods such as high pressure water jetting (refer to NACE Standard No. 5/SSPC-SP12), abrasive blasting, shotblasting, grinding, scarifying or acid etching may also be used. Detergent water cleaning and hot water blasting may be necessary to remove oils, grease or other hydrocarbon residues from the concrete. Whichever method(s) are used, they shall be performed in a manner that provides a uniform, sound clean neutralized surface that is not excessively damaged.
- G. A mild chlorine solution may be used to neutralize the surface to diminish

microbiological bacteria growth prior to final rinse and lining.

- H. The Applicator shall test the pH of the prepared surfaces after cleaning but prior to application of the lining to verify that it is in accordance with the recommendations of the lining manufacturer. If it is not, then the Applicator shall perform additional surface preparation per the manufacturer's recommendations until the pH is within the manufacturer's recommended range.
- I. The moisture content of the prepared surface shall be in accordance with the lining manufacturer's recommendations. The Applicator shall add water or dry the surface as required.
- J. All surfaces shall be inspected during surface prep and before the repair mortar is applied.

3.04 APPLICATION OF REPAIR MATERIALS

- A. Repair materials shall meet the specifications contained herein. The materials shall be trowel or spray applied utilizing proper equipment on to specified surfaces. The material thickness shall be such that the new material surface matches the manholes original inside diameter, or as specified by the City or its appointed Representative according to manufacturer's recommendations.
- B. Cementitious repair materials shall be troweled to provide a smooth surface with an average profile equivalent to coarse sandpaper to optimally receive the protective lining. No bugholes or honeycomb surfaces should remain after the final trowel procedure of the repair mortar.
- C. The repair materials shall be permitted to cure according to manufacturer recommendations.
- D. Application of the repair materials, if not performed by the lining certified applicator should be inspected by the protective lining manufacturer's representative or certified applicator to ensure proper finishing for suitability to receive the specified lining.
- E. After abrasive blast has been performed, all surfaces shall be inspected for remaining laitance prior to protective lining application. Any evidence of remaining contamination or laitance shall be removed by additional abrasive blast, shotblast or other approved method. If repair materials are used, refer to these specifications for surface preparation. Areas to be coated must also be prepared in accordance with these specifications after receiving a cementitious repair mortar and prior to application of the manhole lining material.
- F. All surfaces should be inspected during and after preparation and before the protective lining is applied.

3.05 INVERT/BENCH REPAIR:

- A. After all preparations have been completed, remove all loose material and wash wall again.
- B. Any bench, invert, or service line repairs shall be made at this time using the quick setting patching mix and shall be used per manufacturer's recommendations.
- C. Invert repair shall be performed on all inverts with visible damage or where infiltration is present or when vacuum testing is specified. After blocking flow through manhole and thoroughly cleaning invert, the quick setting patch material shall be applied to the invert in an expeditious manner. The material shall be troweled uniformly onto the damaged invert at a minimum thickness of ½ inch at the invert extending out onto the bench of the manhole sufficiently to tie into the structural monolithic liner to be spray applied. The finished invert surfaces shall be smooth and free of ridges. Repair material shall allow for the flow to be re-established in the manhole within 30 minutes after placement of the material.

3.06 APPLICATION OF LINING

- A. Application procedures shall conform to the recommendations of the protective lining manufacturer, including material handling, mixing, environmental controls during application, safety, and equipment.
- B. Where spray equipment is required, the spray equipment shall be specifically designed to accurately ratio and apply the specified protective lining materials and shall be regularly maintained and in proper working order.

3.07 TESTING AND INSPECTION

- A. Not Used
- B. Epoxy Lining System:
 - 1. During application a wet film thickness gage, such as those available through Paul N. Gardner Company, Inc. meeting ASTM D4414, Standard Practice for Measurement of Wet Film Thickness of Organic Linings by Notched Gages, shall be used to ensure a monolithic lining and uniform thickness during application.
 - 2. For epoxy lining systems, after the protective lining has set hard to the touch it shall be inspected with high-voltage holiday detection equipment. An induced holiday shall be made on to the coated concrete surface and shall serve to determine the minimum/maximum voltage to be used to test the lining for holidays at that particular area. The spark tester shall be initially set at 100 volts per 1 mil (25 microns) of film thickness applied but may be adjusted as necessary to detect the induced holiday. All detected holidays shall be marked and repaired by abrading the lining surface with grit disk paper or other hand tooling method. After abrading and cleaning,

additional protective lining material can be hand applied to the repair area. All touch-up/repair procedures shall follow the protective lining manufacturer's recommendations.

3. Measurement of bond strength of the protective lining to the substrate shall be made at one (1) out of every five (5) manholes where protective lining is installed. Bond strength shall be measured in accordance with ASTM D4541 and ASTM D7234. Pull tests with results between a minimum 150 psi and 200 psi shall be acceptable if more than 50% of the subsurface is adhered to the back of the dolly. A test result can be discarded, as determined by the City or its appointed Representative, if there is a valid non-statistical reason for discarding the test results as directed by Sections 8.4 and 8.5 of ASTM D4541 and ASTM 7234. If any test fails, a minimum of three additional locations in the section of the failure shall be tested, as directed by the City or its appointed Representative. If any of the retests fail, all loosely adhered or un-adhered liner in the failed area, as determined by the City or its appointed Representative, shall be removed and replaced at the Contractor's expense. Repairs shall be made by Applicator in strict accordance with manufacturer's recommendations.
- C. A final visual inspection shall be made by the City or its appointed Representative. Any deficiencies in the finished lining shall be marked and repaired according to the lining manufacturer's written directions.
- D. The manhole may be put into service no sooner than recommended by the lining manufacturer.

3.08 SAFETY

1. When working inside manholes and sewer lines, exercise caution and comply with CAL/OSHA requirements when working in the presence of hydrogen sulfide. Contractor is warned that the existing sewers and the structures associated with the project contain high levels of hydrogen sulfide gas, a natural gaseous by-product of sanitary sewage. Take all the necessary precautions, such as portable hydrogen sulfide detectors per CAL/OSHA requirements, to ensure that the environment is safe for those at the work site.

*****END OF SECTION*****

SECTION XI
PROJECT PLANS

CITY OF PACIFICA

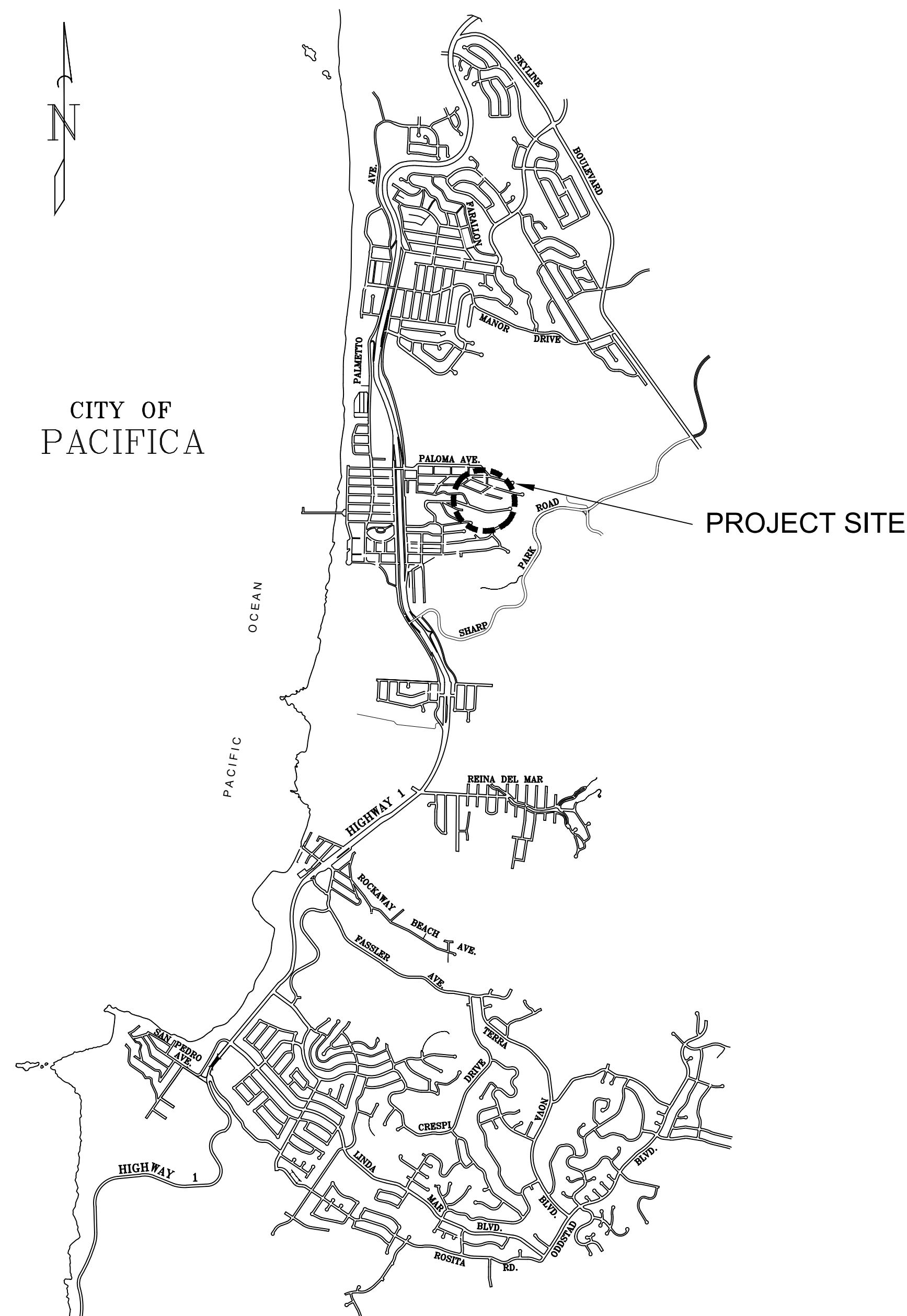
DEPARTMENT OF PUBLIC WORKS

WASTEWATER DIVISION

COLLECTION SYSTEM PROJECTS FY 2020-21

SACRAMENTO EASEMENT (C005I)

LOCATION MAP



INDEX OF DRAWINGS

SHEET NO.	SHEET CONTENT
1	TITLE SHEET
2	GENERAL NOTES
3	LAYOUT PLAN
4	DETAILS 1
5	DETAILS 2
6	CONSTRUCTION BEST MANAGEMENT PRACTICES (SAN MATEO COUNTY)



4-30-21

GENERAL NOTES:

1. THE CONTRACTOR AGREES THAT, IN ACCORDANCE WITH GENERALLY ACCEPTED CONSTRUCTION PRACTICES, THE CONTRACTOR WILL BE REQUIRED TO ASSUME SOLE AND COMPLETE RESPONSIBILITY FOR JOB SITE CONDITIONS DURING THE COURSE OF CONSTRUCTION OF THE PROJECT, INCLUDING SAFETY OF ALL PERSONS AND PROPERTIES. THIS REQUIREMENT SHALL BE MADE TO APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS. THE CONTRACTOR FURTHER AGREES TO DEFEND, INDEMNIFY AND HOLD OWNER AND ENGINEER HARMLESS FROM ANY AND ALL LIABILITY, REAL OR ALLEGED, IN CONNECTION WITH THE PERFORMANCE OF WORK ON THIS PROJECT.
2. EXCAVATIONS SHALL BE ADEQUATELY SHORED, BRACED AND SHEETED SO THAT THE EARTH WILL NOT SLIDE OR SETTLE AND SO THAT ALL EXISTING IMPROVEMENTS OF ANY KIND WILL BE FULLY PROTECTED FROM DAMAGE. ANY DAMAGE RESULTING FROM A LACK OF ADEQUATE SHORING, BRACING AND SHEETING SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR AND HE SHALL EFFECT NECESSARY REPAIRS OR RECONSTRUCTION AT HIS OWN EXPENSE. WHERE THE EXCAVATION FOR A CONDUIT TRENCH, AND/OR STRUCTURE IS FIVE FEET OR MORE IN DEPTH, THE CONTRACTOR SHALL PROVIDE ADEQUATE SHEETING, SHORING AND BRACING OR EQUIVALENT METHOD, FOR THE PROTECTION OF LIFE, OR LIMB, WHICH SHALL CONFORM TO THE APPLICABLE CONSTRUCTION SAFETY ORDERS OF THE DIVISION OF INDUSTRIAL SAFETY OF THE STATE OF CALIFORNIA. THE CONTRACTOR SHALL ALWAYS COMPLY WITH OSHA REQUIREMENTS.
3. THE CONTRACTOR SHALL TAKE EFFECTIVE ACTION TO PREVENT THE FORMATION OF AIRBORNE DUST NUISANCE AND SHALL BE RESPONSIBLE FOR ANY DAMAGE RESULTING FROM HIS FAILURE TO DO SO.
4. THE CONTRACTOR SHALL PROVIDE ALL INGRESS AND EGRESS FOR PRIVATE/PUBLIC PROPERTY ADJACENT TO WORK THROUGHOUT THE PERIOD OF CONSTRUCTION. THE CONTRACTOR SHALL CONSTRUCT AND ADEQUATELY MAINTAIN SUITABLE AND SAFE CROSSINGS OVER TRENCHES, DRIVEWAY ACCESS AND SUCH DETOURS AS ARE NECESSARY TO CARE FOR PUBLIC DRIVING AND PEDESTRIAN TRAFFIC THROUGHOUT THE PERFORMANCE OF THE PROJECT
5. THE CONTRACTOR SHALL PROVIDE ALL LIGHTS, SIGNS, BARRICADES, FLAGGERS OR OTHER DEVICES NECESSARY TO PROVIDE SAFETY.
6. THE CONTRACTOR SHALL POST EMERGENCY TELEPHONE NUMBER FOR POLICE, FIRE, AMBULANCE, AND THOSE AGENCIES RESPONSIBLE FOR MAINTENANCE OF UTILITIES IN THE VICINITY OF THE JOB SITE.
7. EXISTING UNDERGROUND UTILITIES AND IMPROVEMENTS ARE SHOWN IN THEIR APPROXIMATE LOCATIONS BASED UPON RECORD INFORMATION AVAILABLE TO THE ENGINEER AT THE TIME OF PREPARATION OF THESE PLANS. LOCATIONS MAY NOT HAVE BEEN VERIFIED IN THE FIELD AND NO GUARANTEE IS MADE AS TO THE ACCURACY OR COMPLETENESS OF THE INFORMATION SHOWN. THE CONTRACTOR SHALL NOTIFY UTILITY COMPANIES AT LEAST 2 WORKING DAYS IN ADVANCE OF CONSTRUCTION TO FIELD LOCATE UTILITIES. CALL UNDERGROUND SERVICE ALERT (U.S.A.) AT 800-227-2800. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO DETERMINE THE EXISTENCE AND LOCATION OF THOSE UTILITIES SHOWN ON THESE PLANS, INDICATED IN THE FIELD BY LOCATING SERVICES, OR EVIDENCED BY FACILITIES VISIBLE AT OR ADJACENT TO THE JOB SITE. ANY ADDITIONAL COSTS INCURRED AS A RESULT OF CONTRACTOR'S FAILURE TO VERIFY LOCATIONS OF EXISTING UTILITIES PRIOR TO BEGINNING CONSTRUCTION IN THEIR VICINITY SHALL BE BORNE BY THE CONTRACTOR AND ASSUMED INCLUDED AND MERGED IN THE CONTRACT UNIT PRICE.
8. ALL EXISTING UTILITIES AND IMPROVEMENTS INCLUDING BUT NOT LIMITED TO PIPING (NOT IDENTIFIED FOR REPLACEMENT), LANDSCAPING, DRIVEWAYS, CURB, GUTTER, SIDEWALK, CULVERTS, DRAINS, STRIPING, SIGNS, AND MONUMENTS SHALL BE PROTECTED IN PLACE OR RESTORED TO THE CONDITION IN WHICH THEY WERE OR BETTER BEFORE THE EXCAVATION OR WORK WAS PERFORMED, AND SHALL BE RESTORED TO THE SATISFACTION OF THE ENGINEER AND THE OWNER THEREOF, AT THE CONTRACTOR'S SOLE EXPENSE.
9. THE CONSTRUCTION OF GRAVITY UNDERGROUND LINES (SANITARY SEWER AND STORM DRAINS) SHALL BEGIN AT THE MOST DOWNSTREAM END, UNLESS OTHERWISE SPECIFICALLY APPROVED BY THE ENGINEER OR THE COLLECTION SYSTEM MANAGER.
10. THE CONTRACTOR SHALL COMPLY WITH AND FOLLOW ALL NPDES REQUIREMENTS IN EFFECT AT THE TIME OF CONSTRUCTION TO PREVENT SANITARY SEWER OVERFLOWS.
11. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO COMPENSATE FOR ANY DAMAGE CAUSED BY THE WORK TO PUBLIC OR PRIVATE PROPERTIES. TO PREVENT ANY DISPUTES DUE TO A DAMAGE CLAIM, IT IS RECOMMENDED THAT CONTRACTOR DOCUMENT THE EXISTING CONDITION OF THE WORK AREA PRIOR TO INITIATING ANY WORK. THE DOCUMENTATION MAY INCLUDE DATE STAMPED FIELD NOTES AND PHOTOGRAPHS. IN CASE OF ANY DAMAGE TO ANY PROPERTIES, CONTRACTOR MUST IMMEDIATELY NOTIFY INSPECTOR OR PROJECT MANAGER
12. PROPERTY LINES OR EASEMENTS SHOWN ARE FOR INFORMATION ONLY AND ARE APPROXIMATE THROUGH WHICH MAY NOT SHOW THE CURRENT CONFIGURATIONS.
13. FOR PIPEBURSTING WORK, ANY POINT REPAIRS (MATERIAL(S) AND APPROXIMATE LOCATION(S)) TO BE VERIFIED BY CONTRACTOR AND REPORTED TO CITY PRIOR TO COMMENCING WORK.


PROJECT NOTES:

- 1A. OWNER: CITY OF PACIFICA
- 1B. ENGINEER: NELSON SCHLATER, P.E.
- 1C. COLLECTION SYSTEM INSPECTOR: DOUGLAS TRADE OR BRIAN MARTINEZ OR AUTHORIZED REPRESENTATIVE
2. THE CONTRACTOR IS RESPONSIBLE FOR MATCHING EXISTING STREETS, SURROUNDING LANDSCAPE AND OTHER IMPROVEMENTS WITH A SMOOTH TRANSITION IN PAVING, CURBS, GUTTERS, SIDEWALKS, GRADING, ETC. AND TO AVOID ANY ABRUPT OR APPARENT CHANGES IN GRADES OR CROSS SLOPES, LOW SPOTS OR HAZARDOUS CONDITIONS.
3. ALL WORK SHALL BE DONE BETWEEN THE HOURS OF 8:00 AM AND 5:00 PM, MONDAY THROUGH FRIDAY, UNLESS APPROVED IN WRITING BY THE ENGINEER. NO CONSTRUCTION SHALL BE PERMITTED ON FEDERAL HOLIDAYS.
4. CONTRACTOR SHALL BE RESPONSIBLE FOR REQUIRED INSPECTIONS AND SHALL NOTIFY THE APPROPRIATE INDIVIDUAL OR AGENCY TWO (2) WORKING DAYS PRIOR TO THE TIME THAT THE CONTRACTOR WISHES THE INSPECTION TO BE MADE.
5. AN ENCROACHMENT PERMIT IS REQUIRED. SUCH PERMIT WILL BE OBTAINED BY THE CONTRACTOR.
6. SURVEY WAS NOT PERFORMED FOR THIS PROJECT. EXISTING AN NEW SEWER ALIGNMENT ARE APPROXIMATE. FINAL OPEN CUT SEWER ALIGNMENT SHALL BE CONFIRMED IN FIELD WITH CITY.

CONSTRUCTION NOTES:

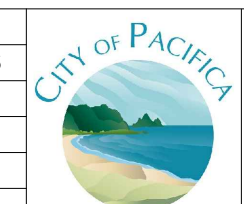
1. ALL CONSTRUCTION MATERIALS AND METHODS SHALL COMPLY WITH THE ORDINANCES, SPECIFICATIONS, AND STANDARDS OF THE CITY OF PACIFICA.
2. TRAFFIC CONTROL MAINTENANCE AND OPERATION SHALL COMPLY WITH THE FOLLOWING STATE STANDARD SPECIFICATIONS: SECTION 7-1.09 "PUBLIC SAFETY", 7-1.08 "PUBLIC CONVENIENCE", AND SECTION 12, "CONSTRUCTION AREA TRAFFIC CONTROL DEVICES".
3. EXISTING CURB, SIDEWALK, DRIVEWAY, LANDSCAPE OR OTHER IMPROVEMENTS THAT ARE DAMAGED OR DISPLACED, EVEN THOUGH THEY WERE NOT TO BE REMOVED, SHALL BE REPAIRED OR REPLACED EVEN IF DAMAGE OR DISPLACEMENT OCCURRED PRIOR TO ANY WORK PERFORMED BY THE CONTRACTOR.
4. MANHOLES, WATER VALVE BOXES, AND CLEANOUT FRAMES AND COVERS SHALL BE BROUGHT TO FINISH GRADE BY THE CONTRACTOR AFTER PAVING IS COMPLETED.
5. CONTRACTOR IS RESPONSIBLE TO HAVE A REGISTERED LAND SURVEYOR IN RESETTling EXISTING MONUMENTS THAT ARE DISPLACED DURING CONSTRUCTION.
6. REPLACE ALL EXISTING SIGNS AND STRIPING DAMAGED BY CONSTRUCTION IN KIND AT THE EXACT LOCATION OF THE EXISTING SIGN OR STRIPING PER THE CITY OF PACIFIC GENERAL AND TECHNICAL SPECIFICATIONS.
7. CONTRACTOR SHALL SUBMIT A TRAFFIC CONTROL PLAN TO THE CITY OF PACIFICA PRIOR TO COMMENCING WORK.
8. CONTRACTOR SHALL NOTIFY THE POLICE AND FIRE DEPARTMENTS IF SEGMENT OF A ROAD WILL BE TEMPORARILY CLOSED.
9. SANITARY SEWERS AND APPURTENANCES SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE PROJECT PLANS, SPECIFICATIONS AND CITY OF PACIFICA STANDARD DRAWINGS.
10. WHENEVER SEWER LINES (TRUNK, INTERCEPTOR, MAIN OR LATERAL) CROSS STORM OR WATER MAIN LINES, CLASS 51 POLYETHYLENE LINED DUCTILE IRON PIPE WILL BE REQUIRED FOR SEWER LINE AS FOLLOWS:
 - A. WHENEVER CLEARANCE BETWEEN SANITARY SEWER PIPE AND ANY UTILITY PIPE (EXCEPT WATER MAIN) IS 6" OR LESS.
 - B. WHENEVER CLEARANCE BETWEEN SANITARY SEWER PIPE AND WATER MAIN IS LESS THAN 12"; HOWEVER, CLEARANCE SHALL NEVER BE LESS THAN 4" THE CENTERLINE. 51 D.I.P. SHALL BE ONE CONTINUOUS LENGTH SUFFICIENTLY LONG TO SPAN THE OPPOSING TRENCH AND EXTEND A MINIMUM OF TWO FEET (2') BEYOND ON EACH SIDE.
11. EXISTING SERVICE CONNECTIONS SHALL BE LOCATED BEFORE INITIATING SEWER MAIN REPLACEMENT OPERATIONS. SERVICE LATERAL SHALL BE RECONNECTED TO THE NEW SEWER LINE AFTER REPLACEMENT AND BEFORE VIDEO INSPECTION IS COMPLETED. ANY SERVICES REMAINING OFF LINE FOR AN EXTENDED PERIOD OF TIME, OR ANY CONNECTIONS AS DEEMED NECESSARY BY THE CITY TO PROTECT THE CUSTOMER, SHALL BE BYPASS PUMPED UNTIL SUCH TIME THAT THEY CAN BE RECONNECTED.
12. ALL FUSING BEADS SHALL BE REMOVED FROM THE INTERIOR OF THE PIPE.
13. CONTRACTOR SHALL BE RESPONSIBLE FOR LOCATING AND GETTING PERMISSION FOR STAGING AREA.
14. CONTRACTOR SHALL BE RESPONSIBLE FOR LOCATING EXISTING LATERAL CONNECTIONS.
15. PRIOR TO THE START OF SEWER CONSTRUCTION, THE CONTRACTOR SHALL PERFORM BYPASSING OPERATIONS. CONSTRUCTION CAN NOT BEGIN UNTIL BYPASSING OPERATIONS ARE APPROVED BY THE CITY OF PACIFICA.
16. ANY SAGS THAT ARE INTRODUCED BY THE INSTALLATION OF SANITARY SEWER LINES BY TRENCHLESS METHODS SHALL BE REPAIRED BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE CITY.
17. ALL DUMPSTERS OR OTHER TRASH STORAGE ENCLOSURES SHALL BE UTILIZED SOLELY FOR NON-HAZARDOUS MATERIALS AND INCLUDE A LOCKAGE LID.
18. CONTRACTOR SHALL NOT STAGE MATERIALS OR EQUIPMENT OVER IMPROVEMENTS INCLUDING REPLACED PAVEMENTS.
19. CONTRACTOR SHALL REPLACE IN KIND ANY PROPERTY FENCING DAMAGED AS A RESULT OF THE WORK AT NO ADDITIONAL COST TO THE CITY.
20. ALL EROSION CONTROL MEASURES SHALL BE MAINTAINED, THROUGHOUT THE PROJECT DURATION AND RETAINED ON SITE UNTIL CONSTRUCTION HAS BEEN COMPLETED. CHANGES MADE TO SUIT FIELD CONDITIONS SHALL BE BROUGHT TO THE IMMEDIATE ATTENTION OF THE CITY FOR APPROVAL..
21. ALL EROSION CONTROL FACILITIES SHALL BE INSPECTED AND REPAIRED AT THE END OF EACH WORKING DAY OR DAILY DURING THE RAINY SEASON.
22. IF SIGNIFICANT SEDIMENT OR OTHER VISUAL SYMPTOMS OF IMPURITIES ARE NOTICED IN THE STORM WATER, MITIGATE THE CONDITION CAUSING IMPURITIES IN THE STORM WATER, AND CONTACT THE CITY IMMEDIATELY.
23. CONTRACTOR IS RESPONSIBLE FOR INSTALLATION, INSPECTION AND RESTORATION OF ALL ASPECTS OF THE EROSION CONTROL PLAN. SEDIMENT ON THE SIDEWALKS AND GUTTERS SHALL BE REMOVED BY SHOVEL OR BROOM AND DISPOSED OF APPROPRIATELY.
24. ALL EMPLOYEES, CONTRACTORS, AND SUBCONTRACTORS ARE RESPONSIBLE FOR CONFORMING TO THIS PLAN AND RELATED DOCUMENTS.
25. CONTRACTOR TO EMPLOY APPLICABLE BEST MANAGEMENT PRACTICES (BMP'S) IN ACCORDANCE WITH CONSTRUCTION BEST MANAGEMENT PRACTICES, SAN MATEO COUNTY PER THE SHEET IN THE PLAN SET.
26. ALL PAVED AREAS SHALL BE KEPT CLEAR OF EARTH MATERIAL AND DEBRIS. THE SITE SHALL BE MAINTAINED SO THAT SEDIMENT-LADEN RUNOFF DOES NOT ENTER THE STORM DRAIN SYSTEM. THESE PLANS SHALL REMAIN IN EFFECT UNTIL THE IMPROVEMENTS ARE ACCEPTED BY THE CITY.
27. IF APPROVED BY CITY, STOCKPILED SOILS AND OTHER MATERIALS SHALL BE PLACED AND COVERED WITH PLASTIC OR A TARP. THAT IS APPROPRIATELY ANCHORED TO NOT BLOW OFF AND EXPOSE STOCKPILE. PLASTIC SHALL BE HDPE AND OF SUFFICIENT THICKNESS TO NOT TEAR DURING PERFORMANCE OF PROJECT.
28. USE FILTRATION OR OTHER APPROVED MEASURES TO REMOVE SEDIMENT FROM DEWATERING EFFLUENT, IF AND WHERE DEWATERING IS REQUIRED
29. NO CLEANING, FUELING OR MAINTAINING VEHICLES ON SITE SHALL BE PERMITTED TO ALLOW DELETERIOUS MATERIALS FROM ENTERING THE CATCH BASINS, STORM DRAINAGE, OR ENTER SITE RUNOFF.
30. INLET SEDIMENTATION TRAPS SHALL BE INSTALLED WITHIN ALL STORM INLETS WITHIN LIMIT OF WORK/LAYDOWN AREA AND ADJACENT AREAS INCLUDING STORM INLETS NOT SHOWN ON THE PLANS.
31. NLET SEDIMENTATION TRAPS SHOULD BE CONSTRUCTED BEFORE STOCKPILING OF FILL MATERIAL AND BEFORE CONSTRUCTION BEGINS. ALL INLET SEDIMENTATION TRAPS ARE TO BE REMOVED IMMEDIATELY AFTER CITY REPRESENTATIVE ACCEPTANCE OF COMPLETED PROJECT.
32. STOCKPILES OF SOILS AND OTHER ERODIBLE MATERIALS SHALL BE STABILIZED OR PROTECTED WITH SEDIMENT TRAPPING MEASURES. THE CONTRACTOR IS RESPONSIBLE FOR THE PROTECTION AND STABILIZATION OF STOCKPILES ON SITE AS WELL AS MATERIALS TRANSPORTED TO OR FROM THE SITE.

DATE: 2-26-21
 SCALE: NTS
 DRAWN BY: RAM
 DESIGNED BY: NJS
 CHECKED BY: NJS

APPROVED BY: 
 LOUIS C. SUN, P.E.
 DEPUTY DIRECTOR OF PUBLIC WORKS

DATE: 4/30/21

NO.	DATE	REVISION	BY
1	APR 21	100% SUBMITTAL	RM/NS

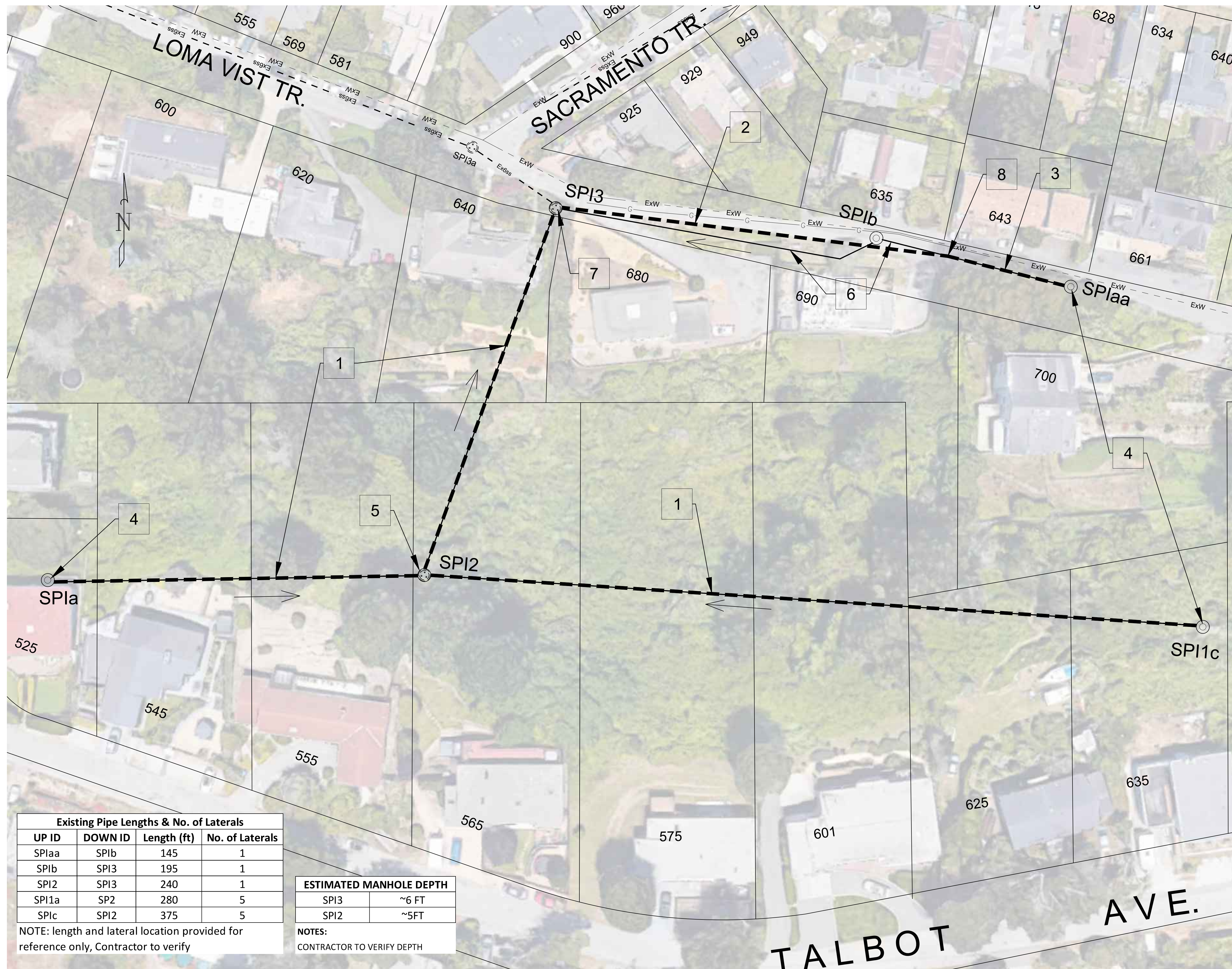


CITY OF PACIFICA
 WASTEWATER DIVISION
 700 COAST HIGHWAY
 PACIFICA CALIFORNIA 94044

COLLECTION SYSTEM PROJECTS FY 2020-21 SACRAMENTO EASEMENT (C005I)
GENERAL NOTES

SHEET **2**
 OF 6 SHEETS





LEGEND

	EXISTING 6" SS
	NEW 6" PVC SDR 26 OPEN CUT HDPE DR17 PIPEBURSTING
	MANHOLE
	LAMPHOLE / CLEANOUT

- KEYNOTES**
- 1 REPLACE EXISTING 6" PIPE WITH 8" HDPE PIPE BY PIPE BURSTING METHOD
 - 2 INSTALL NEW 8" PVC SDR 26 BY OPEN TRENCH METHOD IN NEW TRENCH WHOSE ALIGNMENT GOES FROM EXISTING SS AT POTHOLE TO CENTER OF SPI3. SEE NOTE 11 BELOW.
 - 3 REPLACE EXISTING 6" PIPE WITH NEW 8" PVC SDR 26 BY OPEN TRENCH METHOD IN EXISTING TRENCH FROM POTHOLE TO SPI1a. NOTE THAT (E) ALIGNMENT GOES BETWEEN GAS LINES.
 - 4 REPLACE LAMPHOLE IN KIND.
 - 5 1 & I MANHOLE RESEAL PER SPEC.
 - 6 ABANDON LINE PER SPEC.
 - 7 REPLACE EXISTING MANHOLE WITH NEW 4-FT DIA. MANHOLE. INSTALL 5 LINEAL FEET OF NEW 6-IN PVC SDR 26 DOWNSTREAM FROM MANHOLE AND CONNECT TO EXISTING 6-IN VCP WITH COUPLING (SEE SPECS.)
 - 8 OWNER POTHOLE SEWER AND GAS LINE APPROX. 30-LF UPGRADE FROM SPIb. CONTRACTOR TO VERIFY LOCATION.

- NOTES**
1. EXISTING SS PIPE IS LIKELY VCP BUT COULD BE OTHER MATERIALS IF SPOT REPAIRS WERE PERFORMED IN THE PAST. PRIOR TO PIPEBURSTING METHOD, CONTRACTOR SHALL VERIFY EX SS MATERIAL VIA CCTV AND POTHOLE. CONTRACTOR SHALL BE PREPARED TO PIPEBURST VCP, PVC, HDPE, OR OTHER PLASTIC PIPE. INSERTION AND RECEIVING PITS SHALL BE DETERMINED AND INSTALLED BY THE CONTRACTOR. CLOSEST PIT EDGE TO NEAREST EXISTING UTILITY OR SURFACE FEATURE SHALL BE NO CLOSER THAN 5'.
 2. PIPE LENGTHS ARE MEASURED FROM CENTER OF MANHOLE TO CENTER OF MANHOLE.
 3. PIPEBURSTING SHALL USE NEW HDPE SDR17. OPEN CUT SHALL USE NEW PVC SDR 26.
 4. PIT DEWATERING MAY BE NEEDED. CONTRACTOR SHALL REPORT DEPTH OF FIRST ENCOUNTERED GROUNDWATER TO CITY REPRESENTATIVE FOR EACH PIT EXCAVATION SEGMENT.
 5. SOIL TYPES WILL VARY ALONG THE PROPOSED PIPELINE ALIGNMENT AND TEMPORARY EXCAVATIONS SHALL BE SHORED OR SLOPED BACK TO MEET CAL-OHSA TRENCH EXCAVATION REQUIREMENTS.
 6. PRIOR TO PIPE BURSTING OR EXCAVATING A PIT, ALL UTILITIES CROSSING MUST BE EXPOSED BY POTHOLING. PER THE SPECIFICATIONS, CONTRACTOR SHALL SUBMIT A POTHOLE REPORT TO THE ENGINEER DOCUMENTING THE LOCATION, DEPTH, SIZE AND MATERIAL OF THE UTILITIES FOUND.
 7. PROTECT EXISTING MANHOLES, METERS AND ALL OTHER EXISTING UTILITIES IN PLACE, AS WELL AS SURFACE FEATURES SUCH AS ASPHALT, CONCRETE, LANDSCAPING, AND TREES..
 8. CONTRACTOR SHALL RECONNECT EXISTING SANITARY SEWER LATERAL TO NEW SANITARY SEWER MAIN OR NEW MANHOLE. CONTRACTOR SHALL CCTV EXISTING MAIN TO LOCATE LATERALS. GENERALLY, SANITARY SEWER LATERALS ARE NOT SHOWN ON PLANS. WHERE SHOWN, LOCATION OF SANITARY SEWER LATERALS ARE APPROXIMATE AND SHALL BE VIF. CITY REPRESENTATIVE SHALL BE PRESENT WHEN LATERAL CONNECTIONS ARE EXPOSED.
 9. ALL UTILITY LOCATIONS AND PROPERTY BOUNDARIES ARE APPROXIMATED. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO LOCATE UTILITIES.
 10. INSTALL HEADER BOARD TO FACILITATE ASPHALT WORK ON SOUTH SIDE OF LOMA VISTA TERR. FROM DRIVEWAY AT HOUSE ADDRESS 690 WEST TO WHERE DRIVEWAY FROM HOUSE ADDRESS 680 CONNECTS TO LOMA VISTA TERR..

Existing Pipe Lengths & No. of Laterals

UP ID	DOWN ID	Length (ft)	No. of Laterals
SPI1a	SPIb	145	1
SPIb	SPI3	195	1
SPI2	SPI3	240	1
SPI1a	SP2	280	5
SPIc	SPI2	375	5

ESTIMATED MANHOLE DEPTH

SPI3	~6 FT
SPI2	~5FT

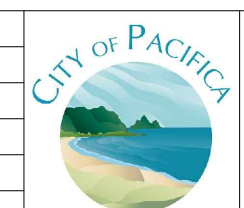
NOTE: length and lateral location provided for reference only, Contractor to verify

NOTES:
CONTRACTOR TO VERIFY DEPTH

DATE: 2-26-21
SCALE: NTS
DRAWN BY: RAM
DESIGNED BY: NUS
CHECKED BY: NUS

APPROVED BY:
LOUIS C. SUN, P.E.
DEPUTY DIRECTOR OF PUBLIC WORKS
DATE: 4/30/21

NO.	DATE	REVISION	BY
1	APR 21	100% SUBMITTAL	



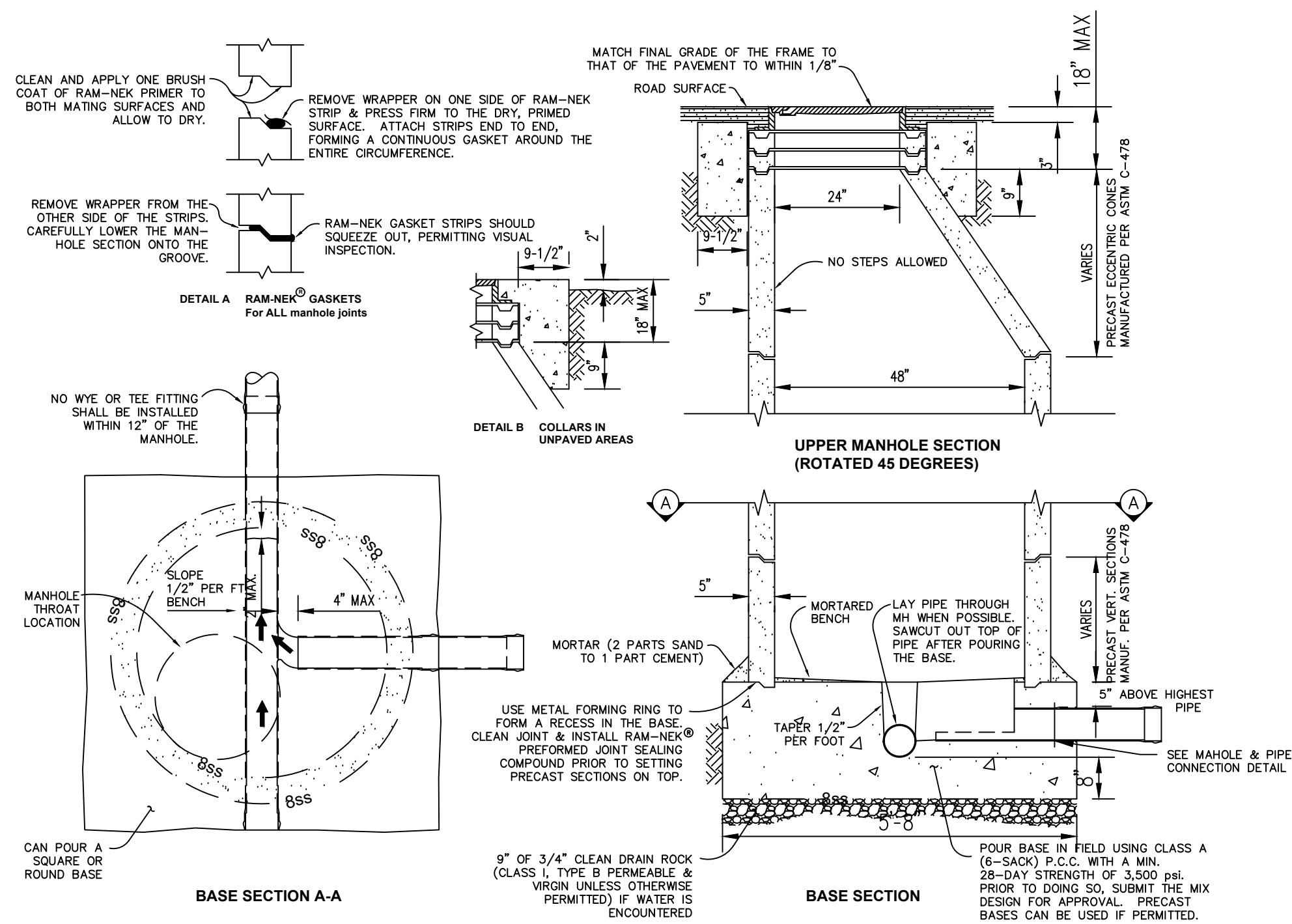
CITY OF PACIFICA
WASTEWATER DIVISION
700 COAST HIGHWAY
PACIFICA CALIFORNIA 94044

COLLECTION SYSTEM PROJECTS FY 2020-21 SACRAMENTO EASEMENT (C0051)
LAYOUT PLAN



4-30-21

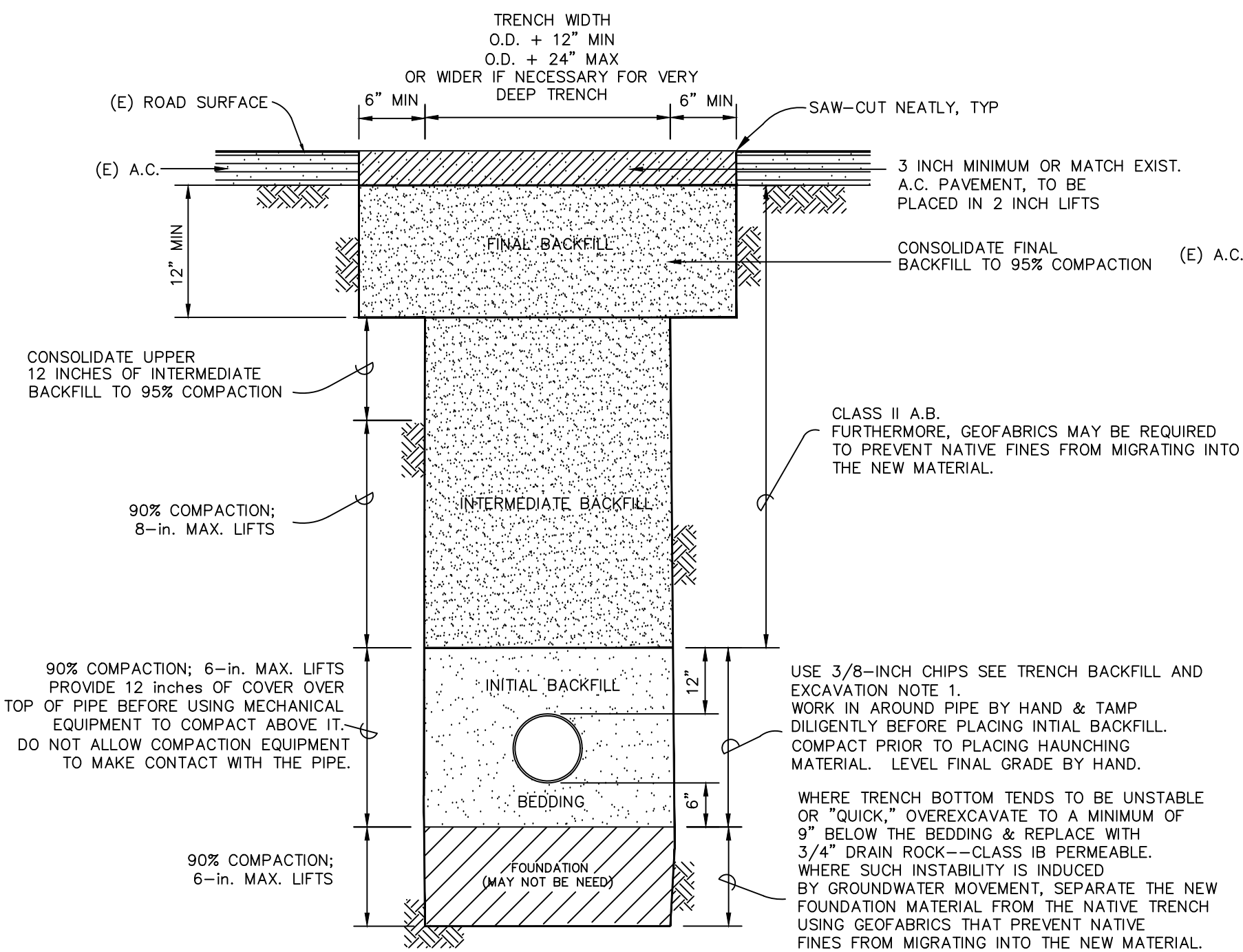
SHEET **3**
OF 6 SHEETS



STANDARD MANHOLE

MAHOLE NOTES:

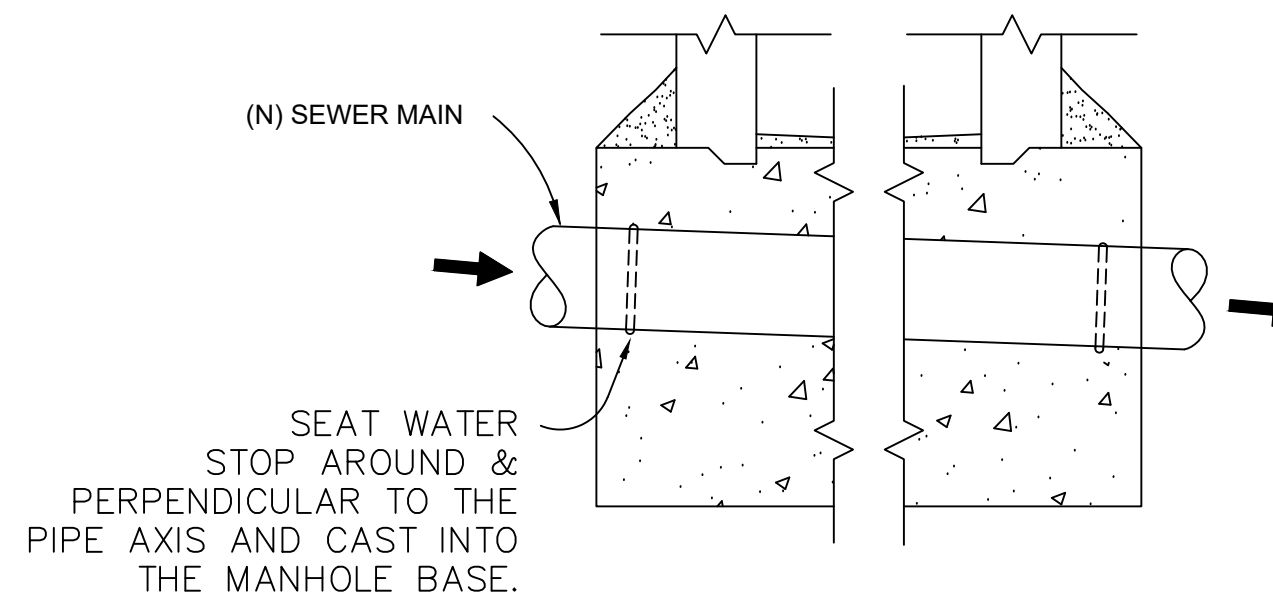
- MANHOLE BASES SHALL BE PLACED ON IMPORTED BEDDING MATERIAL COMPACTED TO 95% RELATIVE COMPACTION.



TYPICAL TRENCH DETAIL IN PAVED AREA

NOTES:

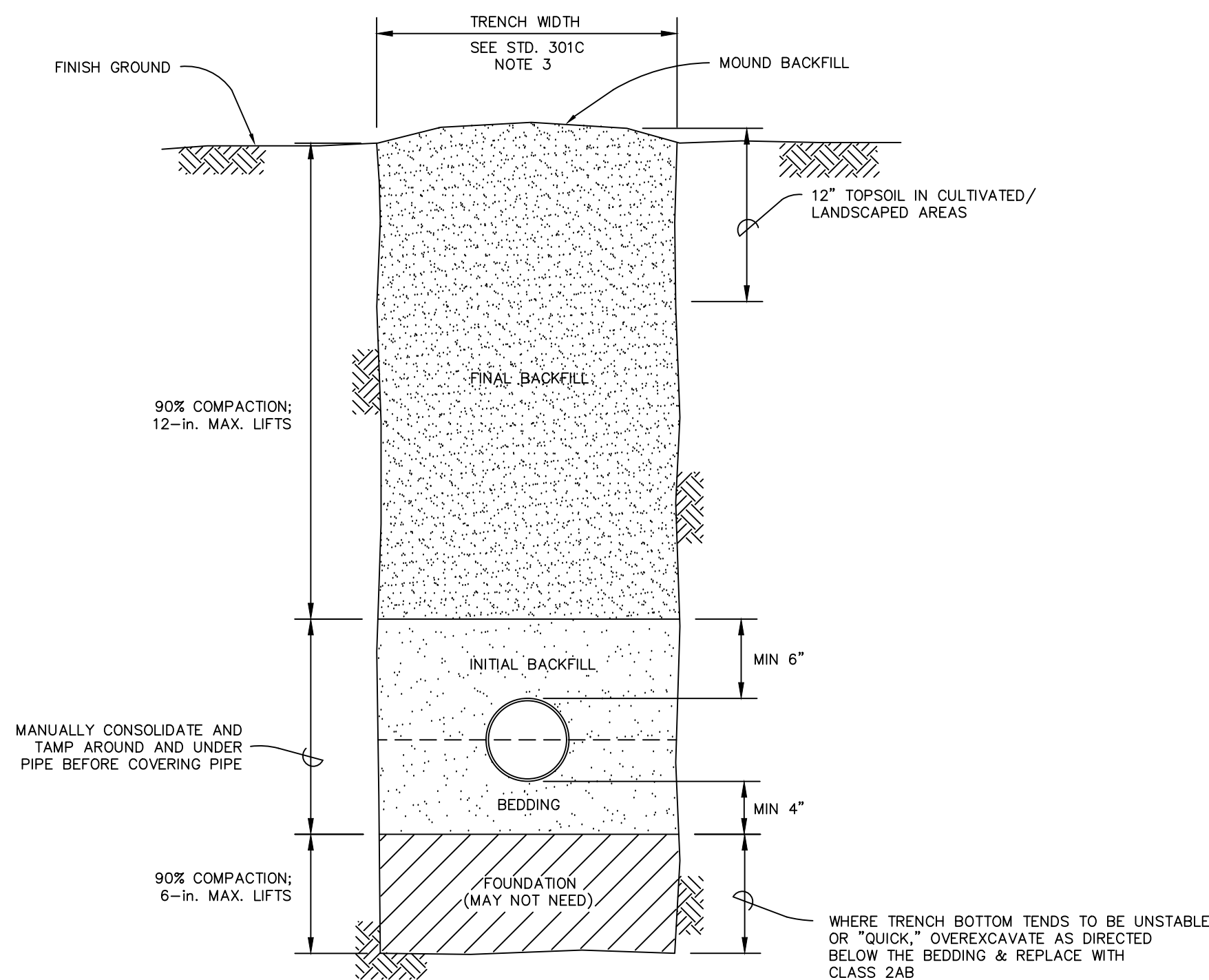
- SEE PROJECT'S GENERAL AND TECHNICAL SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.
- MORTAR SHALL BE COMMERCIAL STRENGTH NON-SHRINK GROUT.
- WATERSTOP SHALL CONFORM TO ASTM C 923. CONTRACTOR TO SUBMIT WATERSTOP SAMPLE PRIOR TO INSTALLATION.
- SEALING OF MANHOLES SHALL CONFORM TO ASTM F2414. CONTRACTOR TO SUBMIT TYPE OF SEALANT TO BE USED PRIOR TO INSTALLATION.



MANHOLE AND PIPE CONNECTION

- INITIAL BACKFILL AND BEDDING MATERIAL SHALL CONFORM TO REQUIREMENTS OF UTILITY HAVING JURISDICTION OVER THE INSTALLATION AND SHALL ALSO MEET THE FOLLOWING MINIMUM REQUIREMENTS:
 - AT LEAST 90% PASSING 3/8 INCH SIEVE 1.
 - NOT MORE THAN 15% PASSING NO. 200 SIEVE,
 - SAND EQUIVALENT OF AT LEAST 30,
 - AND MINIMUM RELATIVE COMPACTION OF 90%.
- IF PAVEMENT HAVING A STRUCTURAL SECTION GREATER THAN 15 INCHES IS CUT, ADDITIONAL BASE MATERIAL MAY BE REQUIRED BY THE DIRECTOR OF PUBLIC WORKS. BASE SHALL BE PLACED AND COMPACTED PRIOR TO PLACING OF TEMPORARY PAVING.
- FILLS SHALL BE PLACED IN LOOSE LIFTS NOT EXCEEDING 8 INCHES IN THICKNESS BEFORE COMPACTION.
- WHERE SUITABLE MATERIAL IS USED, INTERMEDIATE BACKFILL MAY BE COMPACTED BY MEANS OF JETTING. PROVIDED THAT THE MATERIAL IS COMPACTED IN LAYERS NO MORE THAN 3 FEET IN DEPTH, THE JET PIPE IS AT LEAST 1 1/2 INCHES IN DIAMETER AND 4 FEET LONG, THE WATER SUPPLY HAS A PRESSURE OF AT LEAST 40 POUNDS PER SQUARE INCH AND ADEQUATE DRAINAGE OF FREE WATER CAN BE MAINTAINED.
- ADEQUATE PROVISIONS MUST BE MADE TO DRAIN OFF WATER COLLECTED IN THE TRENCH.
- TESTING OF MATERIALS AND PERFORMANCE SHALL BE IN CONFORMANCE WITH THE METHODS STATED IN THE LATEST EDITION OF THE STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION MATERIALS MANUAL. TESTING FOR RELATIVE COMPACTION SHALL BE PERFORMED BY THE CITY. EXCEPT THAT RELATIVE COMPACTION SHALL BE TESTED BY ASSHTO METHOD TL 80-57C.x. ADDITIONAL THICKNESS AND LIFTS OF ASPHALT CONCRETE MAY BE REQUIRED TO MATCH EXISTING STRUCTURAL SECTION ON MAJOR ROADS.

COMPACTION AND BACKFILL REQUIREMENTS



TYPICAL TRENCH DETAIL IN UNPAVED AREA

NOTES:

- CALL CITY WASTE WATER DIVISION (650-738-7472) 24 HOURS PRIOR TO SEWER PIPE INSTALLATION.
- CALL ENGINEERING (650-738-3767) 24 HOURS PRIOR TO PLACING BACKFILL
- FOR BEDDING AND BACKFILL MATERIALS SEE DETAIL 300A

- Initial backfill material (see Dwg. 301A & Dwg. 301B) shall conform to requirements of the utility having jurisdiction over the installation. For sewer and storm drain pipes, initial fill shall be 3/8" (minus) clean, fractured rock chips.
- The material to be used for intermediate backfill (see Dwg. 301A & Dwg. 301B) is dependent upon the location of the excavation and the type of native soil at that location:
 - In unpaved areas, suitable native soil (relatively dry, granular material, as approved by the Engineer) may be replaced if it can be recompacted to at least 95% of its original density (not more than 5% leftover). In planted areas the topsoil must be stockpiled separately from the subsoil, and should be replaced last.
 - In paved areas over uncemented (loose) sand, clean native material may be replaced. It can be mechanically-compacted or jetted (see below). If the trench sides begin to slough and expose voids under the pavement, the pavement must be cut further back to allow full compaction of those areas all the way up to the pavement.
 - In paved areas with anything other than uncemented sand, the intermediate fill must be Caltrans Class II Aggregate Base (3/4" maximum); see section 26 of the Caltrans Standard Specifications. It shall be compacted to approximately 95% of maximum density.
- Fills shall be placed in loose lifts not exceeding 8 inches in thickness before compaction.
- See Dwg. 300B for more information on compacting backfill.
- In lieu of compacted granular material, trenches may be backfilled with Controlled-Density Fill (CDF or sand-cement slurry); plastic pipes must be sufficiently anchored to prevent floating between anchors.
- Testing of materials and performance shall be in conformance with the methods stated in the latest edition of the State of California Department of Transportation Standard Specifications.
- Additional thickness and lifts of asphalt concrete may be required to match existing structural section on major roads.
- A T-cut is required around all trenches or pits in paved areas. It consists of a widening of the excavation near the top. At a level 12" below the underside of the pavement (generally at least 16" below the pavement surface) there shall be a horizontal ledge 6" wide all around the excavation.

NOTES:

- CONTRACTOR WILL SHORE ALL TRENCHES IN CONFORMANCE WITH STATE SAFETY STANDARDS (especially Dept. of Industrial Relations, Division of Industrial Safety, Construction Safety Orders, Article 6: Excavations).
- EDGES OF EXCAVATIONS IN PAVED AREAS SHALL BE SAW-CUT PARALLEL AND/OR PERPENDICULAR TO PAVEMENT EDGE (CURB LINE). PATCHES WITHIN 12 INCHES OF PAVEMENT EDGE SHALL BE EXTENDED TO THE PAVEMENT EDGE. IF THERE IS A CONCRETE GUTTER AT THE PAVEMENT EDGE, THE NEW ASPHALT CONCRETE SHALL FINISH 1/4" HIGHER THAN THE CONCRETE
- VERTICAL FACES OF PAVEMENT AND CONCRETE SHALL BE THOROUGHLY PAINTED WITH APPROVED TACK-COAT MATERIAL PRIOR TO PLACING NEW HOT MIX ASPHALT AGAINST THEM. EMULSION MATERIALS (BROWN) MUST BE ALLOWED TO CURE (TURN BLACK) BEFORE PLACING THE ASPHALT.

DETAIL 300 A - GENERAL TRENCH NOTES

DATE: 2-26-21
SCALE: N/A
DRAWN BY: RAM
DESIGNED BY: NJS
CHECKED BY: NJS

APPROVED BY: *[Signature]*
LOUIS C. SUN, P.E.
DEPUTY DIRECTOR OF PUBLIC WORKS

DATE 4/30/21

NO.	DATE	REVISION
1	APR 21	100% SUBMITTAL

BY RM/MS

CITY OF PACIFICA

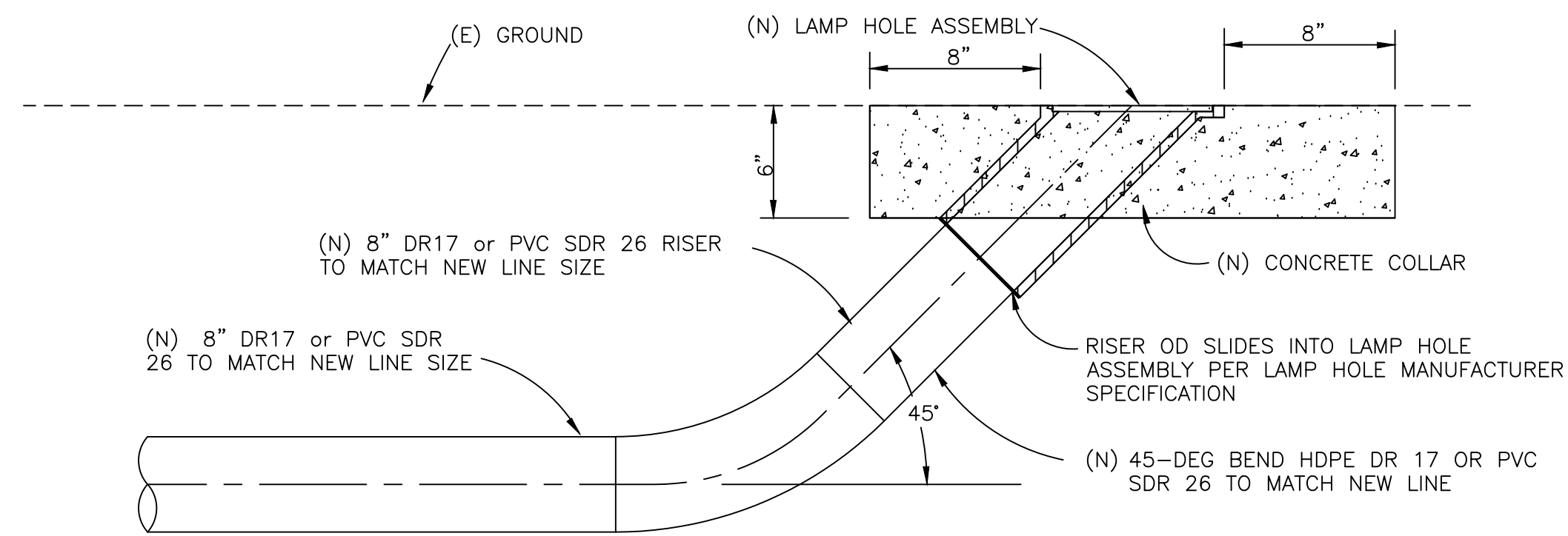
CITY OF PACIFICA
WASTEWATER DIVISION
700 COAST HIGHWAY
PACIFICA CALIFORNIA 94044

COLLECTION SYSTEM PROJECTS FY 2020-21 SACRAMENTO EASEMENT (C005I)
DETAILS 1



4-30-21

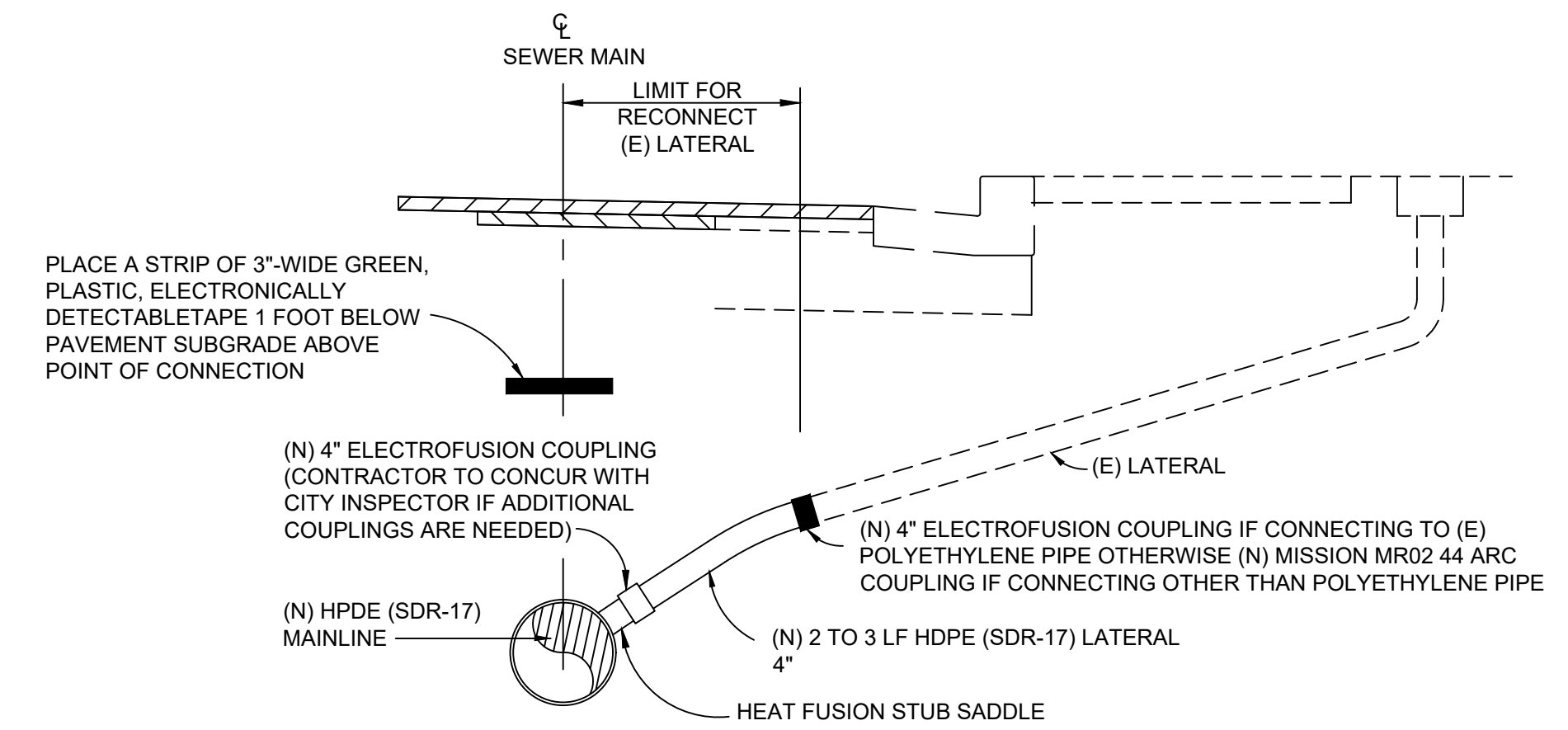
SHEET 4
OF 6 SHEETS



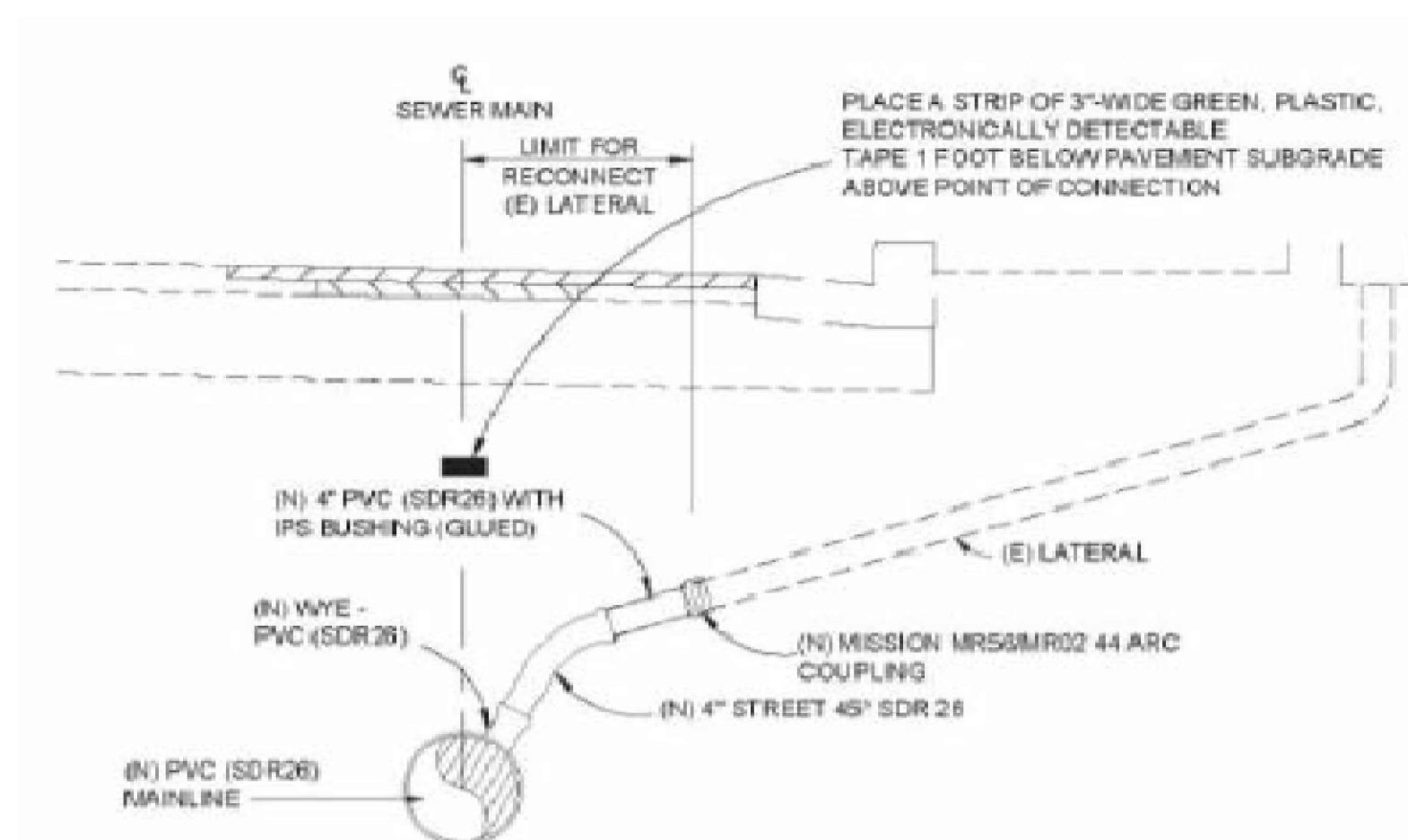
NOTES:

1. CURB & GUTTER, LANDSCAPING, DRIVEWAY AND OTHER IMPROVEMENTS DISPLACED/DAMAGED DURING CONSTRUCTION SHALL BE RESTORED IN KIND AND SHALL BE THE CONTRACTOR'S RESPONSIBILITY.
2. CONTRACTOR SHALL NOTIFY NORTH COAST COUNTY WATER DISTRICT & PG&E 48 HOURS PRIOR TO EXPOSING WATER OR GAS LINE.
3. CURB, GUTTER, SIDEWALK, AND DRIVEWAYS SHALL BE REPAIRED TO MATCH EXISTING ACCORDING TO CITY STANDARD DETAILS.

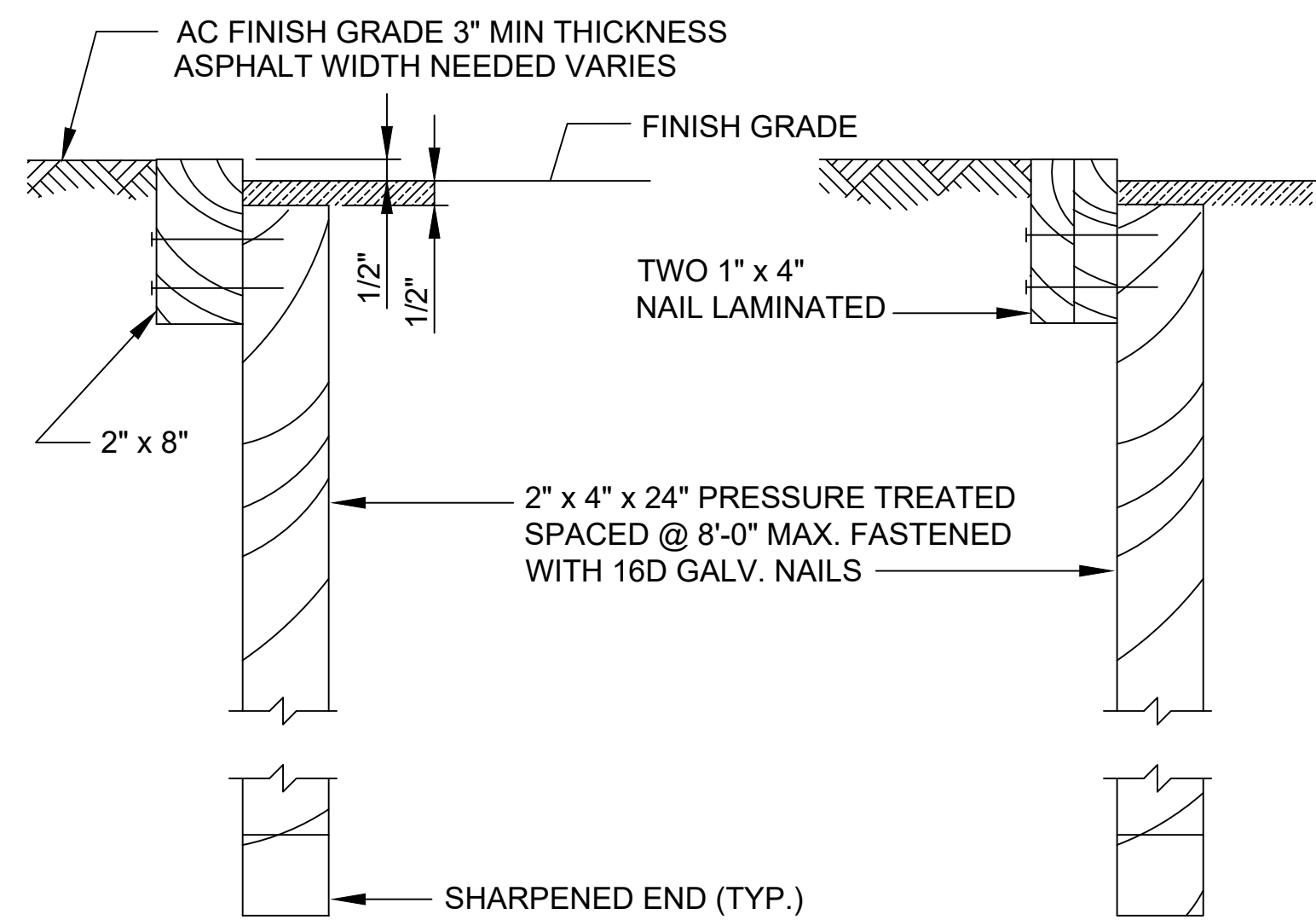
STANDARD LAMPHOLE



**RECONNECT (E) LATERAL
(PIPE BURSTING INSTALLATION OF MAINLINE)**



**RECONNECT (E) LATERAL TO (N) MAINLINE
(OPEN TRENCH INSTALLATION OF MAINLINE)**



STRAIGHT SECTION

CURVED SECTION

TYPICAL HEADER BOARD DETAIL

LATERAL CONNECTION NOTES (BOTH)

1. PAYMENT FOR RECONNECT (E) LATERAL TO (N) MAINLINE SHALL BE PER EACH CONNECTION AS LISTED IN THE BID TAB, AND SHALL INCLUDE BUT NOT LIMITED TO: TRENCHING AND PAVEMENT RESTORATION, (N) ELECTROFUSION COUPLINGS, MISSION ARC COUPLINGS, HDPE (SDR-17) PIPES, PVC (SDR-26) PIPES, HEAT FUSION STUB SADDLE, CONNECTION TO MAINLINE, MANHOLE OR LAMPHOLE. NO EXTRA PAYMENT WILL BE MADE FOR ADDITIONAL COUPLINGS USED.
2. CURB & GUTTER, LANDSCAPING, DRIVEWAY AND OTHER IMPROVEMENTS DISPLACED/DAMAGED DURING CONSTRUCTION SHALL BE RESTORED IN KIND AND SHALL BE THE CONTRACTOR'S RESPONSIBILITY.
3. WHERE AN EXISTING UTILITY IS EXPOSED, CONTRACTOR SHALL NOTIFY UTILITY PROVIDER WHEN UTILITY IS EXPOSED PRIOR TO BACKFILLING.
4. SEWER LATERAL BACKFILL SHALL BE IN ACCORDANCE WITH TRENCH DETAIL FOR PAVED AREA OR TRENCH DETAIL FOR UNPAVED AREA.

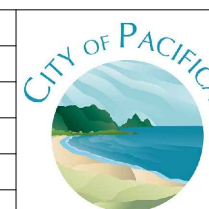


4-30-21

DATE: 2-26-21
 SCALE: N/A
 DRAWN BY: RAM
 DESIGNED BY: NJS
 CHECKED BY: NJS

APPROVED BY: DATE: 4/30/21
 LOUIS C. SUN, P.E.
 DEPUTY DIRECTOR OF PUBLIC WORKS

NO.	DATE	REVISION	BY
1	APR 21	100% SUBMITTAL	RM/MS



CITY OF PACIFICA
 WASTEWATER DIVISION
 700 COAST HIGHWAY
 PACIFICA CALIFORNIA 94044

**COLLECTION SYSTEM PROJECTS FY 2020-21 SACRAMENTO EASEMENT (C0051)
 DETAILS 2**

SHEET **5**
 OF 6 SHEETS

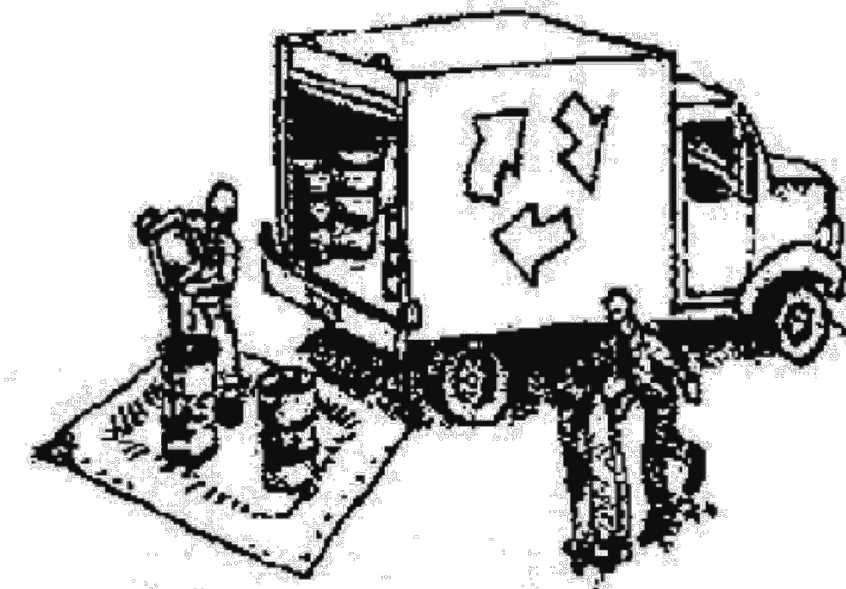


SAN MATEO COUNTYWIDE
Water Pollution Prevention Program
 Clean Water. Healthy Community.

Construction Best Management Practices (BMPs)

Construction projects are required to implement the stormwater best management practices (BMP) on this page, as they apply to your project, all year long.

Materials & Waste Management



Non-Hazardous Materials

- ❑ Berm and cover stockpiles of sand, dirt or other construction material with tarps when rain is forecast or if not actively being used within 14 days.
- ❑ Use (but don't overuse) reclaimed water for dust control.

Hazardous Materials

- ❑ Label all hazardous materials and hazardous wastes (such as pesticides, paints, thinners, solvents, fuel, oil, and antifreeze) in accordance with city, county, state and federal regulations.
- ❑ Store hazardous materials and wastes in water tight containers, store in appropriate secondary containment, and cover them at the end of every work day or during wet weather or when rain is forecast.
- ❑ Follow manufacturer's application instructions for hazardous materials and be careful not to use more than necessary. Do not apply chemicals outdoors when rain is forecast within 24 hours.
- ❑ Arrange for appropriate disposal of all hazardous wastes.

Waste Management

- ❑ Cover waste disposal containers securely with tarps at the end of every work day and during wet weather.
- ❑ Check waste disposal containers frequently for leaks and to make sure they are not overfilled. Never hose down a dumpster on the construction site.
- ❑ Clean or replace portable toilets, and inspect them frequently for leaks and spills.
- ❑ Dispose of all wastes and debris properly. Recycle materials and wastes that can be recycled (such as asphalt, concrete, aggregate base materials, wood, gyp board, pipe, etc.)
- ❑ Dispose of liquid residues from paints, thinners, solvents, glues, and cleaning fluids as hazardous waste.

Construction Entrances and Perimeter

- ❑ Establish and maintain effective perimeter controls and stabilize all construction entrances and exits to sufficiently control erosion and sediment discharges from site and tracking off site.
- ❑ Sweep or vacuum any street tracking immediately and secure sediment source to prevent further tracking. Never hose down streets to clean up tracking.

Equipment Management & Spill Control



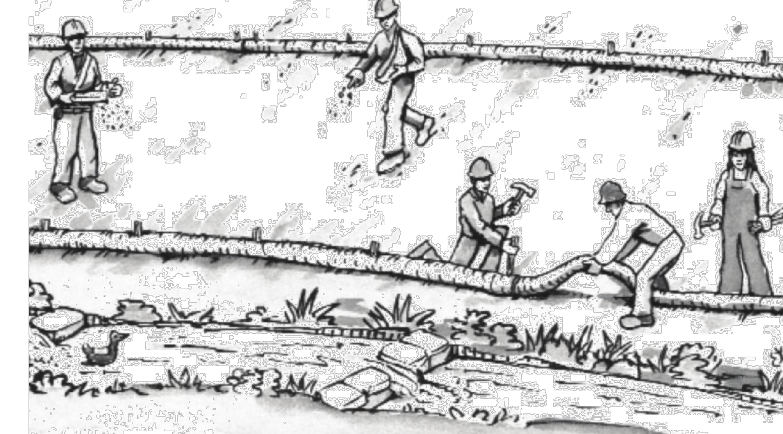
Maintenance and Parking

- ❑ Designate an area, fitted with appropriate BMPs, for vehicle and equipment parking and storage.
- ❑ Perform major maintenance, repair jobs, and vehicle and equipment washing off site.
- ❑ If refueling or vehicle maintenance must be done onsite, work in a bermed area away from storm drains and over a drip pan or drop cloths big enough to collect fluids. Recycle or dispose of fluids as hazardous waste.
- ❑ If vehicle or equipment cleaning must be done onsite, clean with water only in a bermed area that will not allow rinse water to run into gutters, streets, storm drains, or surface waters.
- ❑ Do not clean vehicle or equipment onsite using soaps, solvents, degreasers, or steam cleaning equipment.

Spill Prevention and Control

- ❑ Keep spill cleanup materials (e.g., rags, absorbents and cat litter) available at the construction site at all times.
- ❑ Inspect vehicles and equipment frequently for and repair leaks promptly. Use drip pans to catch leaks until repairs are made.
- ❑ Clean up spills or leaks immediately and dispose of cleanup materials properly.
- ❑ Do not hose down surfaces where fluids have spilled. Use dry cleanup methods (absorbent materials, cat litter, and/or rags).
- ❑ Sweep up spilled dry materials immediately. Do not try to wash them away with water, or bury them.
- ❑ Clean up spills on dirt areas by digging up and properly disposing of contaminated soil.
- ❑ Report significant spills immediately. You are required by law to report all significant releases of hazardous materials, including oil. To report a spill: 1) Dial 911 or your local emergency response number, 2) Call the Governor's Office of Emergency Services Warning Center, (800) 852-7550 (24 hours).

Earthmoving



- ❑ Schedule grading and excavation work during dry weather.
- ❑ Stabilize all denuded areas, install and maintain temporary erosion controls (such as erosion control fabric or bonded fiber matrix) until vegetation is established.
- ❑ Remove existing vegetation only when absolutely necessary, and seed or plant vegetation for erosion control on slopes or where construction is not immediately planned.
- ❑ Prevent sediment from migrating offsite and protect storm drain inlets, gutters, ditches, and drainage courses by installing and maintaining appropriate BMPs, such as fiber rolls, silt fences, sediment basins, gravel bags, berms, etc.
- ❑ Keep excavated soil on site and transfer it to dump trucks on site, not in the streets.

Contaminated Soils

- ❑ If any of the following conditions are observed, test for contamination and contact the Regional Water Quality Control Board:
 - Unusual soil conditions, discoloration, or odor.
 - Abandoned underground tanks.
 - Abandoned wells
 - Buried barrels, debris, or trash.

Paving/Asphalt Work

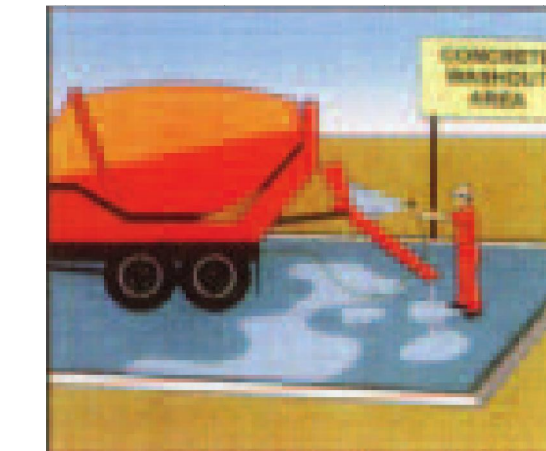


- ❑ Avoid paving and seal coating in wet weather or when rain is forecast, to prevent materials that have not cured from contacting stormwater runoff.
- ❑ Cover storm drain inlets and manholes when applying seal coat, tack coat, slurry seal, fog seal, etc.
- ❑ Collect and recycle or appropriately dispose of excess abrasive gravel or sand. Do NOT sweep or wash it into gutters.
- ❑ Do not use water to wash down fresh asphalt concrete pavement.

Sawcutting & Asphalt/Concrete Removal

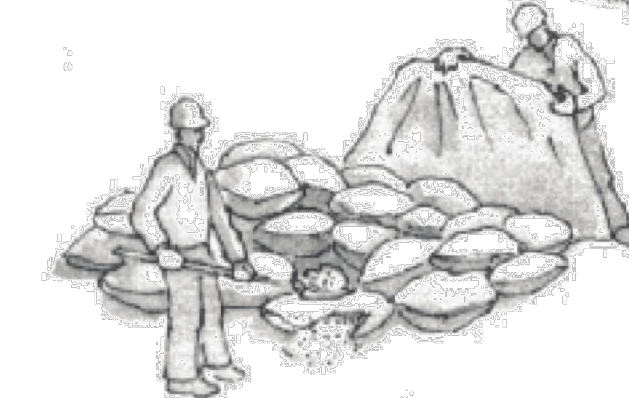
- ❑ Protect nearby storm drain inlets when saw cutting. Use filter fabric, catch basin inlet filters, or gravel bags to keep slurry out of the storm drain system.
- ❑ Shovel, absorb, or vacuum saw-cut slurry and dispose of all waste as soon as you are finished in one location or at the end of each work day (whichever is sooner!).
- ❑ If sawcut slurry enters a catch basin, clean it up immediately.

Concrete, Grout & Mortar Application



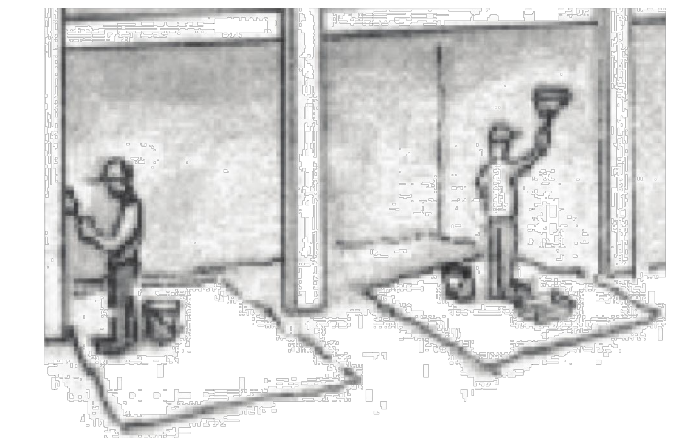
- ❑ Store concrete, grout, and mortar away from storm drains or waterways, and on pallets under cover to protect them from rain, runoff, and wind.
- ❑ Wash out concrete equipment/trucks offsite or in a designated washout area, where the water will flow into a temporary waste pit, and in a manner that will prevent leaching into the underlying soil or onto surrounding areas. Let concrete harden and dispose of as garbage.
- ❑ When washing exposed aggregate, prevent washwater from entering storm drains. Block any inlets and vacuum gutters, hose washwater onto dirt areas, or drain onto a bermed surface to be pumped and disposed of properly.

Landscaping



- ❑ Protect stockpiled landscaping materials from wind and rain by storing them under tarps all year-round.
- ❑ Stack bagged material on pallets and under cover.
- ❑ Discontinue application of any erodible landscape material within 2 days before a forecast rain event or during wet weather.

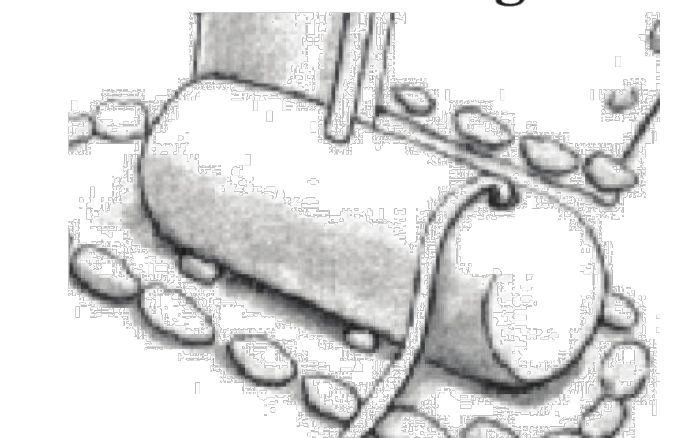
Painting & Paint Removal



Painting Cleanup and Removal

- ❑ Never clean brushes or rinse paint containers into a street, gutter, storm drain, or stream.
- ❑ For water-based paints, paint out brushes to the extent possible, and rinse into a drain that goes to the sanitary sewer. Never pour paint down a storm drain.
- ❑ For oil-based paints, paint out brushes to the extent possible and clean with thinner or solvent in a proper container. Filter and reuse thinners and solvents. Dispose of excess liquids as hazardous waste.
- ❑ Paint chips and dust from non-hazardous dry stripping and sand blasting may be swept up or collected in plastic drop cloths and disposed of as trash.
- ❑ Chemical paint stripping residue and chips and dust from marine paints or paints containing lead, mercury, or tributyltin must be disposed of as hazardous waste. Lead based paint removal requires a state-certified contractor.

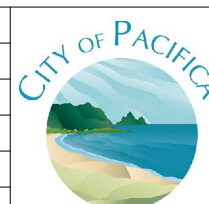
Dewatering



- ❑ Discharges of groundwater or captured runoff from dewatering operations must be properly managed and disposed. When possible send dewatering discharge to landscaped area or sanitary sewer. If discharging to the sanitary sewer call your local wastewater treatment plant.
- ❑ Divert run-on water from offsite away from all disturbed areas.
- ❑ When dewatering, notify and obtain approval from the local municipality before discharging water to a street gutter or storm drain. Filtration or diversion through a basin, tank, or sediment trap may be required.
- ❑ In areas of known or suspected contamination, call your local agency to determine whether the ground water must be tested. Pumped groundwater may need to be collected and hauled off-site for treatment and proper disposal.

Storm drain polluters may be liable for fines of up to \$10,000 per day!

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CITY OF PACIFICA
 WASTEWATER DIVISION
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**COLLECTION SYSTEM PROJECTS FY 2020-21 SACRAMENTO EASEMENT (C0051)
 CONSTRUCTION BEST MANAGEMENT PRACTICES (SAN MATEO COUNTY)**



4-30-21

SHEET 6

OF 6 SHEETS